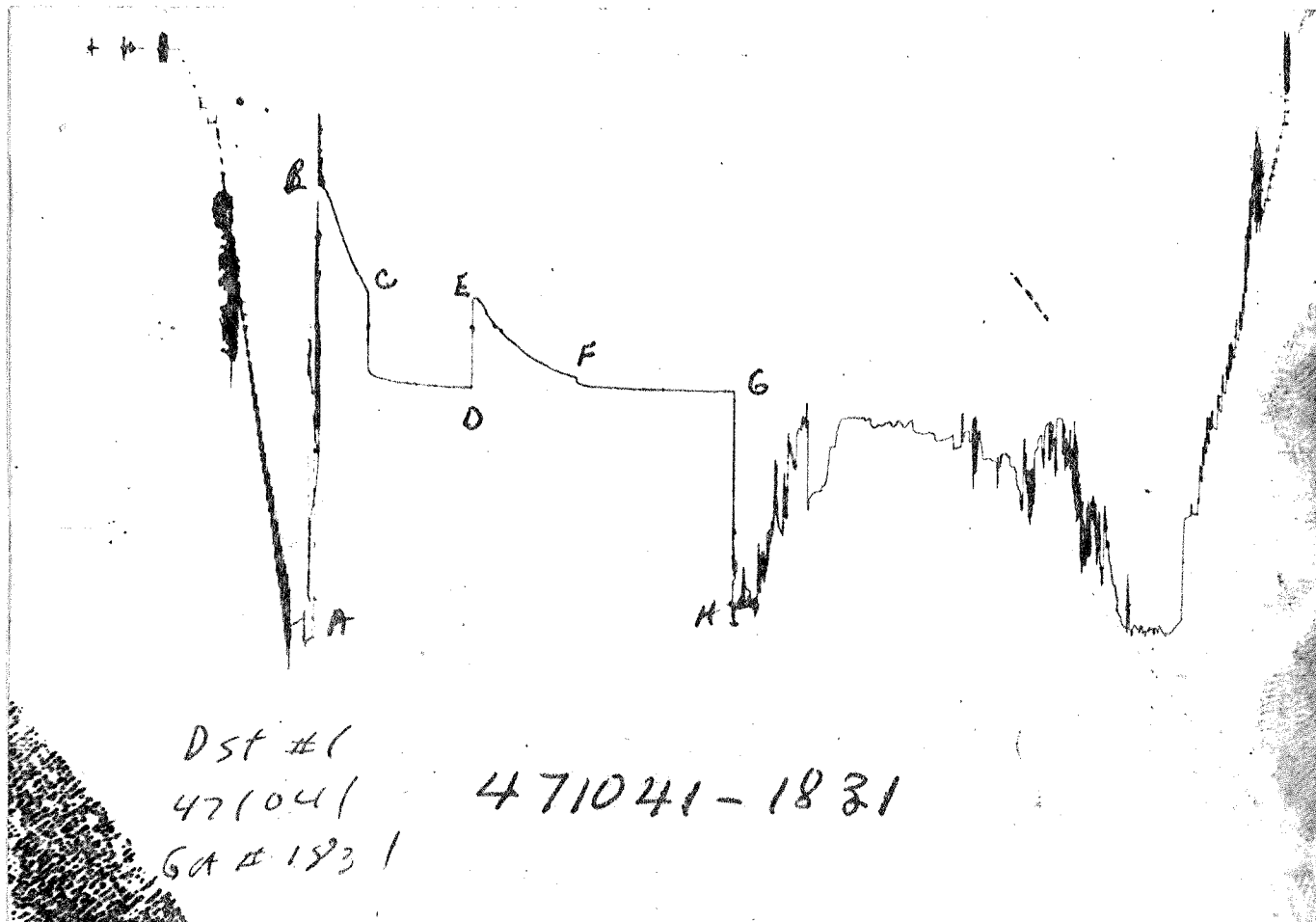




TICKET NO. 47104100
10-MAR-83
PRATT

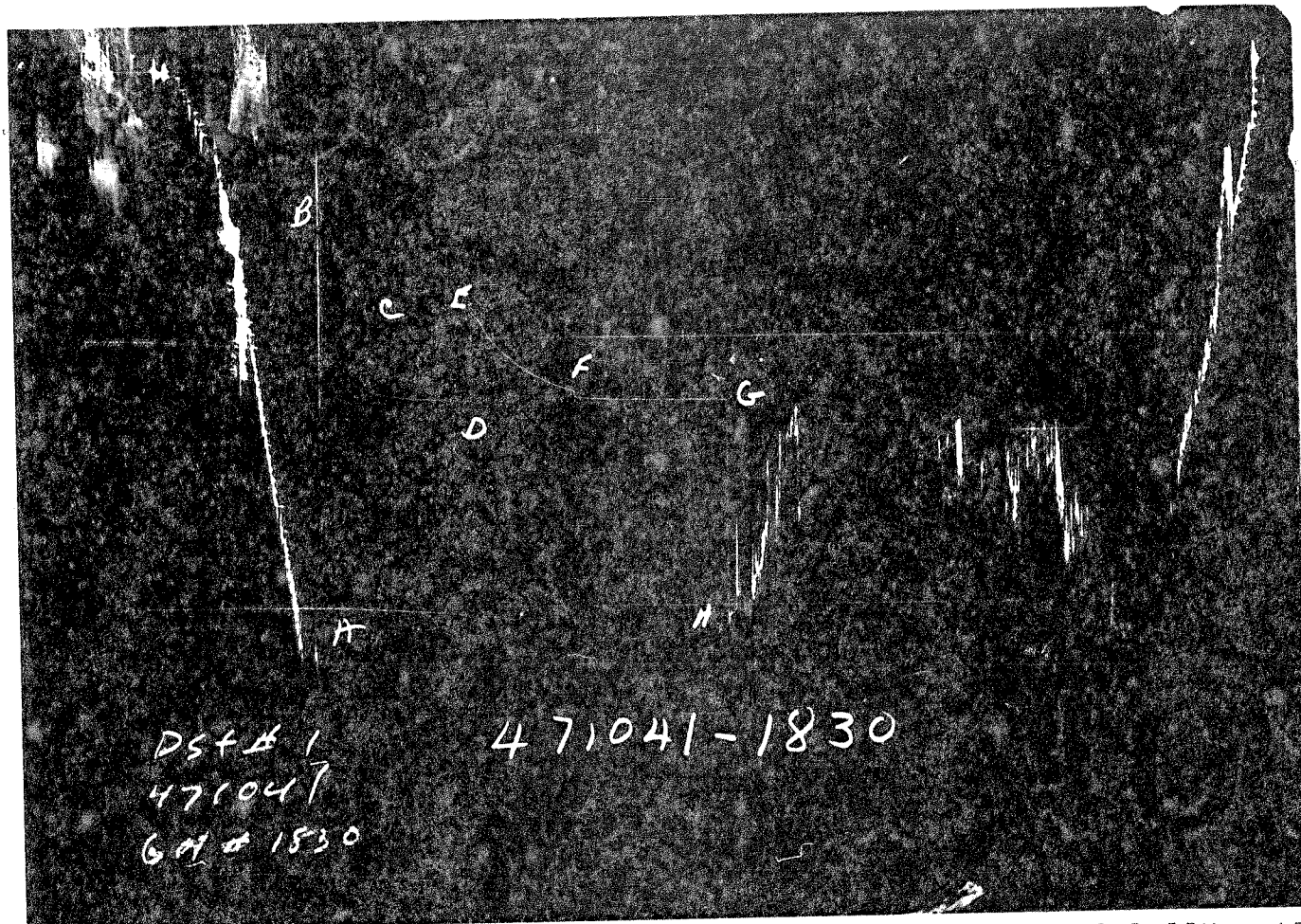
FORMATION TESTING SERVICE REPORT

BARBY	7-23	1							
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/CUSTOMER					
LEGAL LOCATION SEC. - TWP. - RMC.	23-34-21W	FIELD AREA	COUNTY	CLARK	STATE	KANSAS	ORBC		



GAUGE NO: 1831 DEPTH: 4273.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2076.8			
B	INITIAL FIRST FLOW		402.9			
C	FINAL FIRST FLOW		883.3	30.0	29.5	F
C	INITIAL FIRST CLOSED-IN		883.3			
D	FINAL FIRST CLOSED-IN		1223.5	60.0	60.3	C
E	INITIAL SECOND FLOW		897.0			
F	FINAL SECOND FLOW		1182.9	60.0	59.6	F
F	INITIAL SECOND CLOSED-IN		1182.9			
G	FINAL SECOND CLOSED-IN		1226.5	90.0	90.6	C
H	FINAL HYDROSTATIC		1998.3			



DSH 1
471041
GA # 1830

471041-1830

GAUGE NO: 1830 DEPTH: 4319.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2085	2097.1			
B	INITIAL FIRST FLOW	471	274.3			
C	FINAL FIRST FLOW	904	913.4	30.0	29.5	F
C	INITIAL FIRST CLOSED-IN	904	913.4			
D	FINAL FIRST CLOSED-IN	1234	1237.2	60.0	60.3	C
E	INITIAL SECOND FLOW	904	916.6			
F	FINAL SECOND FLOW	1198	1204.5	60.0	59.6	F
F	INITIAL SECOND CLOSED-IN	1198	1204.5			
G	FINAL SECOND CLOSED-IN	1234	1238.8	90.0	90.6	C
H	FINAL HYDROSTATIC	2029	2016.8			

EQUIPMENT & HOLE DATA

FORMATION TESTED: TORONTO
NET PAY (ft): 12.0
GROSS TESTED FOOTAGE: 28.0
ALL DEPTHS MEASURED FROM: KB
CASING PERFS. (ft): _____
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 1796
TOTAL DEPTH (ft): 4322.0
PACKER DEPTH(S) (ft): 4288, 4294
FINAL SURFACE CHOKE (in): 2.000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.10
MUD VISCOSITY (sec): 38
ESTIMATED HOLE TEMP. (°F): 113
ACTUAL HOLE TEMP. (°F): 0 @ _____ ft

TICKET NUMBER: 47104100

DATE: 3-5-83 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP:
PRATT

TESTER: ROLF

WITNESS: YOUNG

DRILLING CONTRACTOR:
RINE DRILLING COMPANY RIG #8

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	0 °F	36000 ppm
TOP OF TOOL	0.060 @ 75 °F	90045 ppm
LAST FLOWLINE	0.050 @ 74 °F	126787 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Pstg AT SURFACE: _____
cu.ft. OF GAS: _____
cc OF OIL: _____
cc OF WATER: _____
cc OF MUD: _____
TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 35.0 @ 60°F
GAS/OIL RATIO (cu.ft. per bbl): _____
GAS GRAVITY: _____

CUSHION DATA

TYPE AMOUNT WEIGHT

RECOVERED:

3500' OF FLUID (80% OIL AND 20% WATER & MUD)

MEASURED FROM
TESTER VALVE

REMARKS:

CHARTS INDICATE MINOR PLUGGING OF TOOLS DURING THE EARLY PORTION OF THE FIRST FLOW.

TOP OF TOOL ANALYSIS: SPECIFIC GRAVITY=1.1046; PH=6.0; CA=9448 MPL; MG=2872 MPL; AND SULFATES=HEAVY.

LAST FLOWLINE ANALYSIS: SPECIFIC GRAVITY=1.151; PH=5.64; CA=17715 MPL; MG=1795 MPL; SULFATES=HEAVY AND IRON=MODERATE.

SEE PRODUCTION TEST DATA SHEET FOR RECOVERY GRINDOUTS.

TYPE & SIZE MEASURING DEVICE: _____					TICKET NO: 47104100
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
3-5-83					
1820					CALLED OUT
2130					ON LOCATION, RIG PULLED PIPE
2245					STARTED CLOCKS
2305					STARTED PICKING UP TOOL
2330					TOOL MADE UP AND IN TABLE
3-6-83					
0100					TOOL OPENED. SLID 3'. HAD A
					STRONG BLOW TO BOTTOM OF BUCKET
					IN ONE MINUTE.
0106					OPENED FLOOR VALVE. BLOW DIED
					OUT FLOWLINE IN 3 MINUTES.
0109					CLOSED FLOOR VALVE. BLOW BUILT
					BACK TO BOTTOM OF BUCKET IN 3
					MINUTES. NO GAS TO SURFACE.
0130					CLOSED TOOL
0230					OPENED TOOL WITH A STRONG BLOW
					TO BOTTOM OF BUCKET IMMEDIATELY
0232					OPENED FLOOR VALVE. GAS TO
					SURFACE, TOO SMALL TO MEASURE.
0330					CLOSED TOOL
0500					TOOL OFF BOTTOM
0530					GAS IN PIPE 7 STANDS OUT.
					STARTED OUT OF HOLE USING WET
					CAP
0545					HEAVY OIL CUT AND GAS CUT MUD
					AT ELEVEN STANDS. HOOKED PIPE
					TO FLOWLINE. LET HANG UNTIL
					DAYLIGHT.
3-7-83					
0530					STARTED OUT WITH WET CAP. GAS
					IN PIPE.
0711					HIT FLUID, DROPPED BAR.
0930					FLUID REVERSED OUT, STARTED OUT
					OF HOLE.

TICKET NO: 47104100

[illegible]

TICKET NO: 47104100

CLOCK NO: 26740 HOUR: 12


HALLIBURTON
SERVICES

GAUGE NO: 1831

DEPTH: 4273.0

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	402.9			
2	5.0	512.7	109.9		
3	10.0	600.7	88.0		
4	15.0	694.0	93.3		
5	20.0	769.7	75.7		
6	25.0	830.5	60.8		
C 7	29.5	883.3	52.8		
FIRST CLOSED-IN					
C 1	0.0	883.3			
2	1.0	1171.9	288.6	1.0	1.473
3	2.0	1177.5	294.2	1.9	1.201
4	3.0	1182.4	299.1	2.7	1.031
5	4.0	1185.7	302.4	3.5	0.925
6	5.0	1187.6	304.3	4.3	0.838
7	6.0	1189.7	306.4	5.0	0.772
8	7.0	1191.6	308.3	5.7	0.718
9	8.0	1193.9	310.6	6.3	0.672
10	9.0	1195.8	312.5	6.9	0.631
11	10.0	1197.0	313.7	7.5	0.596
12	12.0	1200.2	316.9	8.5	0.539
13	14.0	1202.9	319.6	9.5	0.493
14	16.0	1206.1	322.8	10.4	0.454
15	18.0	1208.1	324.8	11.2	0.421
16	20.0	1208.1	324.8	11.9	0.394
17	22.0	1209.1	325.8	12.6	0.369
18	24.0	1211.3	328.0	13.2	0.348
19	26.0	1211.3	328.0	13.8	0.329
20	28.0	1213.3	330.0	14.4	0.313
21	30.0	1214.2	330.9	14.9	0.297
22	35.0	1216.9	333.6	16.0	0.265
23	40.0	1217.9	334.6	17.0	0.240
24	45.0	1221.3	338.0	17.8	0.219
25	50.0	1221.3	338.0	18.6	0.201
26	55.0	1222.6	339.3	19.2	0.187
D 27	60.3	1223.5	340.2	19.8	0.173
SECOND FLOW					
E 1	0.0	897.0			
2	10.0	965.4	68.4		
3	20.0	1042.2	76.8		
4	30.0	1096.7	54.5		
5	40.0	1132.7	36.0		
6	50.0	1163.0	30.4		
F 7	59.6	1182.9	19.9		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F 1	0.0	1182.9			
2	1.0	1202.5	19.6	1.0	1.951
3	2.0	1205.4	22.5	2.0	1.658
4	3.0	1207.5	24.5	2.9	1.492
5	4.0	1209.6	26.7	3.8	1.368
6	5.0	1210.1	27.2	4.8	1.271
7	6.0	1211.6	28.7	5.6	1.199
8	7.0	1213.2	30.3	6.5	1.139
9	8.0	1214.2	31.3	7.4	1.083
10	9.0	1215.0	32.1	8.2	1.036
11	10.0	1215.0	32.1	9.0	0.995
12	12.0	1215.0	32.1	10.6	0.925
13	14.0	1215.0	32.1	12.1	0.867
14	16.0	1216.1	33.1	13.6	0.817
15	18.0	1217.0	34.0	15.0	0.774
16	20.0	1217.0	34.0	16.3	0.737
17	22.0	1217.0	34.0	17.7	0.703
18	24.0	1219.4	36.4	18.9	0.674
19	26.0	1219.4	36.4	20.1	0.646
20	28.0	1219.4	36.4	21.3	0.622
21	30.0	1220.7	37.7	22.4	0.599
22	35.0	1222.3	39.4	25.1	0.549
23	40.0	1222.3	39.4	27.6	0.509
24	45.0	1222.5	39.6	29.9	0.474
25	50.0	1223.1	40.1	32.0	0.444
26	55.0	1223.8	40.9	34.0	0.418
27	60.0	1223.8	40.9	35.9	0.395
28	70.0	1225.5	42.5	39.2	0.357
29	80.0	1226.7	43.7	42.2	0.325
G 30	90.6	1226.5	43.5	44.9	0.297

REMARKS:

TICKET NO: 47104100

CLOCK NO: 2476 HOUR: 12



GAUGE NO: 1830

DEPTH: 4319.0

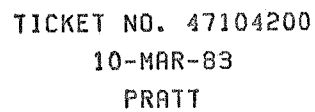
REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	274.3			
2	5.0	574.6	300.3		
3	10.0	645.3	70.7		
4	15.0	730.1	84.7		
5	20.0	796.7	66.6		
6	25.0	858.3	61.6		
C 7	29.5	913.4	55.1		
FIRST CLOSED-IN					
C 1	0.0	913.4			
2	1.0	1197.8	284.4	0.9	1.495
3	2.0	1201.9	288.5	1.8	1.204
4	3.0	1204.8	291.4	2.7	1.037
5	4.0	1207.5	294.1	3.5	0.924
6	5.0	1209.1	295.7	4.3	0.841
7	6.0	1210.8	297.4	5.0	0.773
8	7.0	1212.1	298.7	5.6	0.719
9	8.0	1213.2	299.8	6.3	0.672
10	9.0	1215.0	301.6	6.9	0.631
11	10.0	1216.5	303.0	7.5	0.596
12	12.0	1218.9	305.5	8.5	0.539
13	14.0	1220.8	307.4	9.5	0.493
14	16.0	1221.5	308.1	10.4	0.454
15	18.0	1223.9	310.5	11.2	0.421
16	20.0	1226.3	312.9	11.9	0.394
17	22.0	1226.3	312.9	12.6	0.370
18	24.0	1227.5	314.1	13.2	0.348
19	26.0	1228.9	315.4	13.8	0.330
20	28.0	1230.2	316.8	14.4	0.312
21	30.0	1230.7	317.3	14.9	0.297
22	35.0	1232.6	319.2	16.0	0.266
23	40.0	1234.1	320.7	17.0	0.240
24	45.0	1234.6	321.1	17.8	0.219
25	50.0	1237.1	323.7	18.6	0.202
26	55.0	1237.1	323.7	19.2	0.187
D 27	60.3	1237.2	323.8	19.8	0.173
SECOND FLOW					
E 1	0.0	916.6			
2	10.0	998.3	81.7		
3	20.0	1066.5	68.1		
4	30.0	1118.6	52.1		
5	40.0	1155.1	36.5		
6	50.0	1183.7	28.7		
F 7	59.6	1204.5	20.8		

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F 1	0.0	1204.5			
2	1.0	1226.3	21.8	1.0	1.946
3	2.0	1227.3	22.8	2.0	1.656
4	3.0	1228.2	23.7	2.9	1.485
5	4.0	1228.3	23.8	3.8	1.366
6	5.0	1228.3	23.8	4.7	1.274
7	6.0	1230.2	25.7	5.6	1.199
8	7.0	1230.3	25.8	6.5	1.137
9	8.0	1230.3	25.8	7.4	1.083
10	9.0	1231.3	26.7	8.2	1.036
11	10.0	1231.3	26.7	9.0	0.997
12	12.0	1231.3	26.7	10.6	0.925
13	14.0	1232.6	28.1	12.1	0.868
14	16.0	1232.6	28.1	13.6	0.817
15	18.0	1233.2	28.7	15.0	0.775
16	20.0	1234.2	29.7	16.3	0.737
17	22.0	1234.2	29.7	17.7	0.703
18	24.0	1234.6	30.1	18.9	0.673
19	26.0	1234.6	30.1	20.1	0.646
20	28.0	1234.6	30.1	21.3	0.622
21	30.0	1234.6	30.1	22.4	0.599
22	35.0	1236.0	31.5	25.1	0.550
23	40.0	1236.0	31.5	27.6	0.509
24	45.0	1237.4	32.9	29.9	0.474
25	50.0	1237.4	32.9	32.0	0.444
26	55.0	1237.4	32.9	34.0	0.418
27	60.0	1237.4	32.9	35.9	0.395
28	70.0	1237.4	32.9	39.2	0.357
29	80.0	1238.7	34.2	42.1	0.325
G 30	90.6	1238.8	34.3	44.9	0.297

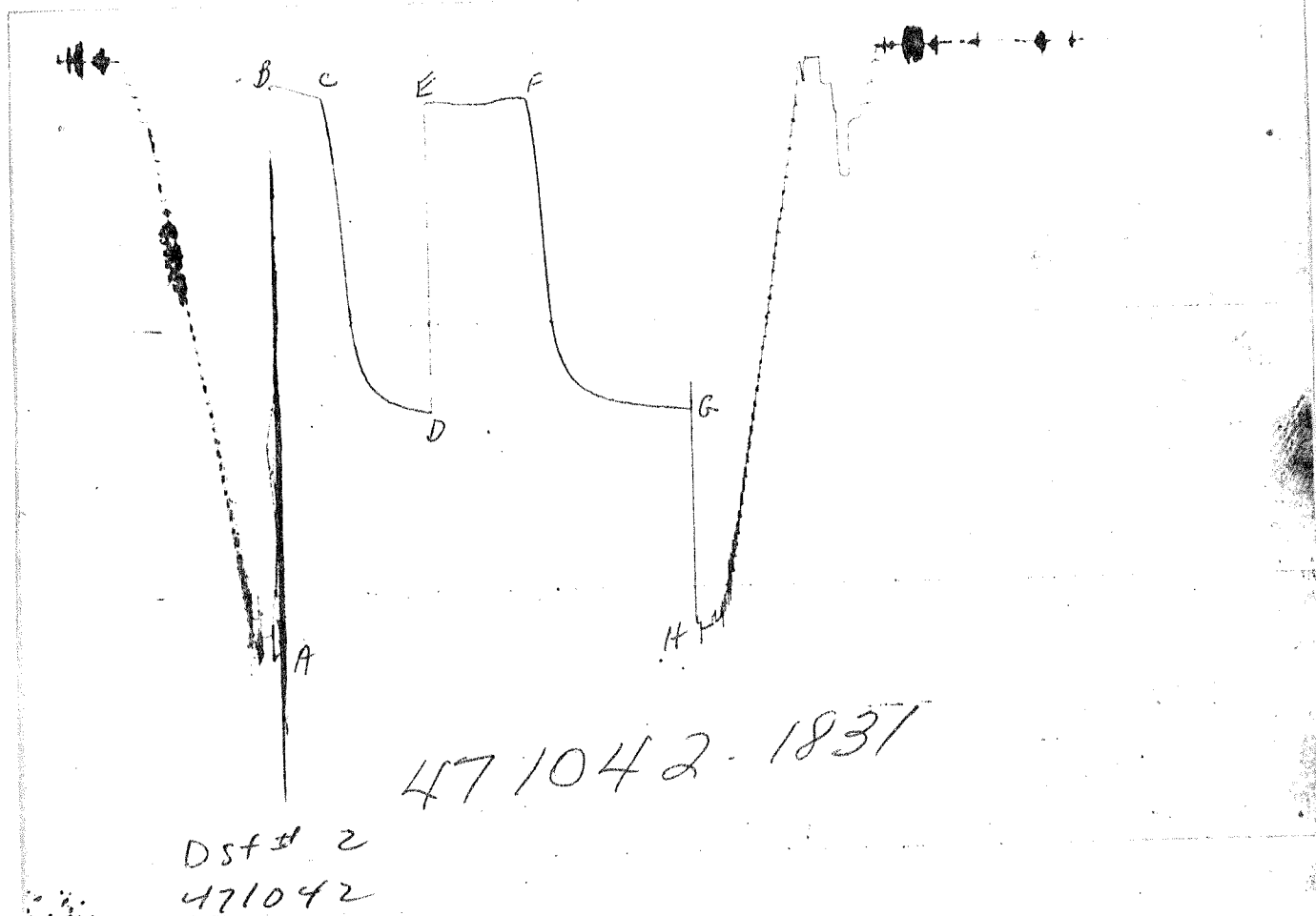
REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	3779.0	
3		DRILL COLLARS.....	6.250	2.250	387.0	
50		IMPACT REVERSING SUB.....	5.750	2.750	1.0	4166.0
3		DRILL COLLARS.....	6.250	2.250	93.0	
5		CROSSOVER.....	5.750	2.750	1.0	
12		DUAL CIP VALVE.....	5.030	0.870	6.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	4271.0
80		AP RUNNING CASE.....	5.000	3.060	4.0	4273.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	4288.0
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	4294.0
20		FLUSH JOINT ANCHOR.....	5.000	3.840	22.0	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0	4319.0
TOTAL DEPTH					4322.0	

EQUIPMENT DATA

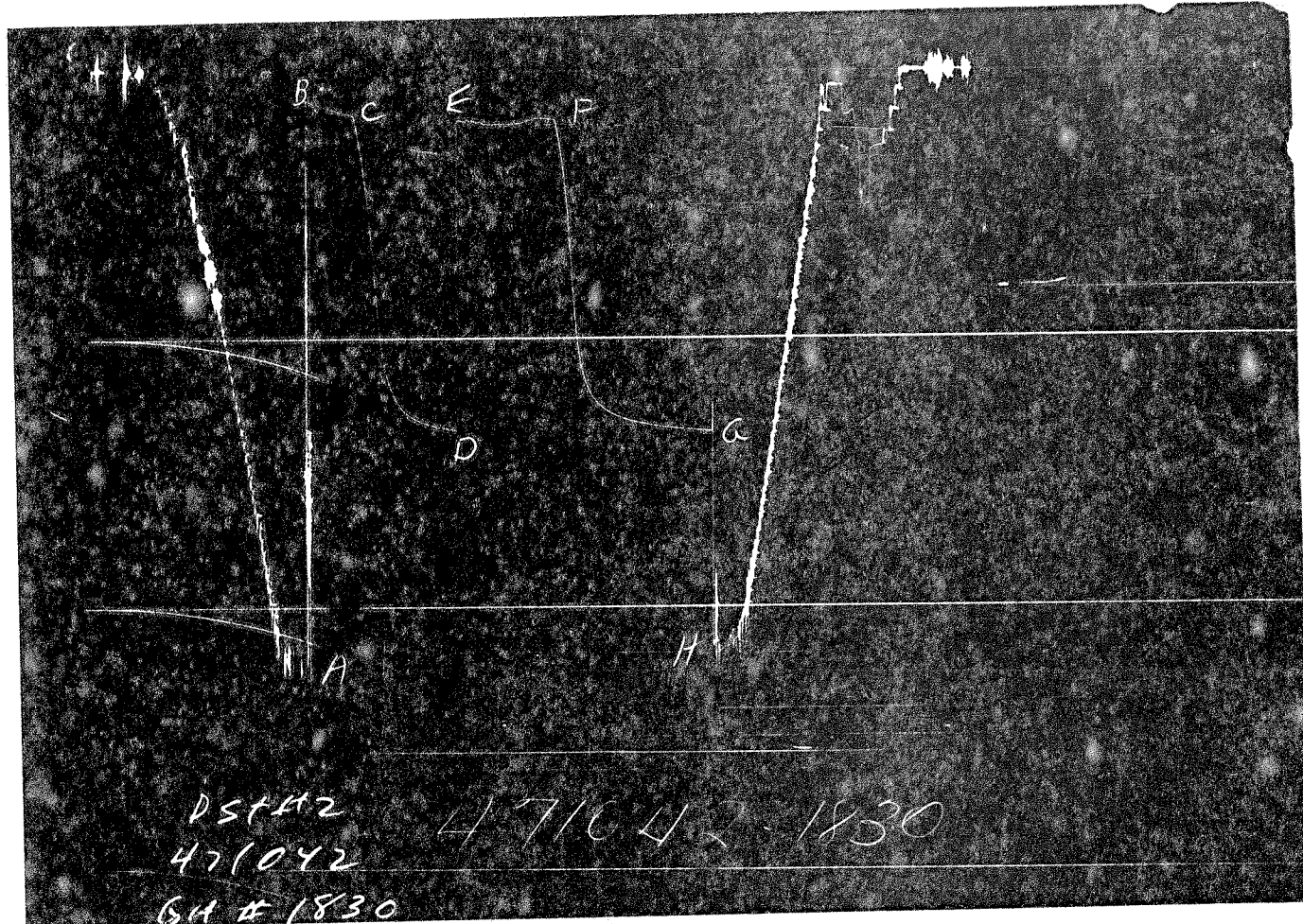


LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNG.	23 - 34 - 21 W	FIELD AREA	COUNTY	CLARK STATE KANSAS SW/PW



GAUGE NO: 1831 DEPTH: 4301.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2153.1				
B	INITIAL FIRST FLOW		109.9			
C	FINAL FIRST FLOW		152.7	30.0	28.4	F
C	INITIAL FIRST CLOSED-IN		152.7			
D	FINAL FIRST CLOSED-IN		1330.0	60.0	60.9	C
E	INITIAL SECOND FLOW		184.1			
F	FINAL SECOND FLOW		171.2	60.0	57.8	F
F	INITIAL SECOND CLOSED-IN		171.2			
G	FINAL SECOND CLOSED-IN		1336.9	90.0	92.9	C
H	FINAL HYDROSTATIC	2139.6				



GAUGE NO: 1830 DEPTH: 4347.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2141	2162.8			
B	INITIAL FIRST FLOW	120	112.3			
C	FINAL FIRST FLOW	166	168.1	30.0	28.4	F
C	INITIAL FIRST CLOSED-IN	166	168.1			
D	FINAL FIRST CLOSED-IN	1345	1345.7	60.0	60.9	C
E	INITIAL SECOND FLOW	185	191.8			
F	FINAL SECOND FLOW	185	184.0	60.0	57.8	F
F	INITIAL SECOND CLOSED-IN	185	184.0			
G	FINAL SECOND CLOSED-IN	1345	1349.4	90.0	92.9	C
H	FINAL HYDROSTATIC	2141	2156.3			

EQUIPMENT & HOLE DATA

FORMATION TESTED: TORONTO
 NET PAY (ft): 6.0
 GROSS TESTED FOOTAGE: 28.0
 ALL DEPTHS MEASURED FROM: KELLY BUSHING
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 7.875
 ELEVATION (ft): 1796
 TOTAL DEPTH (ft): 4350.0
 PACKER DEPTH(S) (ft): 4316, 4322
 FINAL SURFACE CHOKE (in): 0.250
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 9.10
 MUD VISCOSITY (sec): 38
 ESTIMATED HOLE TEMP. (°F): 113
 ACTUAL HOLE TEMP. (°F): @ _____ ft

TICKET NUMBER: 47104200

DATE: 3-6-83 TEST NO: 2

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: ROLF

WITNESS: JERRY YOUNG

DRILLING CONTRACTOR: RINE DRILLING COMPANY

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>@</u> _____ °F	<u>36000</u> ppm
<u>BOTTOM RECOVERY</u>	<u>0.070</u> @ <u>75</u> °F	<u>97290</u> ppm
_____	<u>@</u> _____ °F	_____ ppm
_____	<u>@</u> _____ °F	_____ ppm
_____	<u>@</u> _____ °F	_____ ppm
_____	<u>@</u> _____ °F	_____ ppm

SAMPLER DATA

Pstg AT SURFACE: _____
 cu.ft. OF GAS: _____
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: _____
 TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

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

CUSHION DATA

TYPE AMOUNT WEIGHT

RECOVERED:

93 FEET OF MUD
 478 FEET OF HEAVY OIL AND GAS CUT MUD
 10 FEET OF WATER

MEASURED FROM
TESTER VALVE

REMARKS:

BOTTOM RECOVERY ANALYSIS: SP. GRAVITY = 1.1; PH = 60; CA = 10,038 MPL;
 MG = 2154 MPL; SULFATES = HEAVY;
 IRON = MODERATE.

TOP RECOVERY GRINDOUT: 100% MUD
 MIDDLE RECOVERY GRINDOUT: 9% MUD - 31% WATER - 60% OIL

TICKET NO: 47104200

CLOCK NO: 26740 HOUR: 12


HALLIBURTON
SERVICES

GAUGE NO: 1831

DEPTH: 4301.0

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	109.9			
2	5.0	107.3	-2.6		
3	10.0	116.1	8.9		
4	15.0	127.2	11.1		
5	20.0	137.5	10.2		
6	25.0	147.1	9.7		
C 7	28.4	152.7	5.5		
FIRST CLOSED-IN					
C 1	0.0	152.7			
2	1.0	163.4	10.7	1.0	1.457
3	2.0	192.4	39.8	1.9	1.182
4	3.0	225.2	72.5	2.7	1.020
5	4.0	262.1	109.4	3.5	0.913
6	5.0	300.0	147.3	4.2	0.826
7	6.0	348.2	195.6	5.0	0.758
8	7.0	401.9	249.3	5.6	0.704
9	8.0	459.5	306.8	6.3	0.657
10	9.0	525.9	373.2	6.9	0.617
11	10.0	599.0	446.3	7.4	0.584
12	12.0	775.3	622.6	8.4	0.528
13	14.0	934.1	781.5	9.4	0.481
14	16.0	1043.8	891.1	10.2	0.444
15	18.0	1109.6	956.9	11.0	0.411
16	20.0	1153.2	1000.6	11.7	0.384
17	22.0	1185.5	1032.8	12.4	0.360
18	24.0	1212.5	1059.8	13.0	0.339
19	26.0	1231.2	1078.5	13.6	0.321
20	28.0	1245.7	1093.0	14.1	0.305
21	30.0	1256.2	1103.5	14.6	0.290
22	35.0	1282.0	1129.3	15.7	0.258
23	40.0	1296.6	1143.9	16.6	0.233
24	45.0	1310.2	1157.6	17.4	0.212
25	50.0	1317.8	1165.1	18.1	0.195
26	55.0	1325.4	1172.7	18.7	0.181
D 27	60.9	1330.0	1177.3	19.4	0.166
SECOND FLOW					
E 1	0.0	184.1			
2	10.0	178.5	-5.6		
3	20.0	188.7	10.2		
4	30.0	189.3	0.6		
5	40.0	182.6	-6.7		
6	50.0	168.1	-14.5		
F 7	57.8	171.2	3.1		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F 1	0.0	171.2			
2	1.0	189.8	18.5	1.0	1.942
3	2.0	221.2	50.0	2.0	1.640
4	3.0	261.6	90.4	2.9	1.475
5	4.0	312.4	141.1	3.9	1.348
6	5.0	354.9	183.7	4.7	1.262
7	6.0	423.8	252.6	5.6	1.185
8	7.0	488.8	317.6	6.4	1.126
9	8.0	580.2	408.9	7.3	1.072
10	9.0	673.7	502.5	8.1	1.025
11	10.0	773.5	602.3	9.0	0.983
12	12.0	932.5	761.3	10.5	0.914
13	14.0	1042.9	871.7	12.0	0.855
14	16.0	1107.2	936.0	13.5	0.804
15	18.0	1142.9	971.7	14.9	0.762
16	20.0	1171.5	1000.3	16.2	0.725
17	22.0	1195.3	1024.1	17.5	0.692
18	24.0	1214.9	1043.7	18.8	0.662
19	26.0	1229.2	1058.0	20.0	0.635
20	28.0	1241.2	1070.0	21.1	0.611
21	30.0	1251.7	1080.4	22.3	0.588
22	35.0	1269.1	1097.9	24.9	0.539
23	40.0	1284.2	1113.0	27.3	0.499
24	45.0	1297.2	1126.0	29.6	0.465
25	50.0	1305.4	1134.1	31.6	0.435
26	55.0	1310.2	1139.0	33.6	0.409
27	60.0	1316.0	1144.7	35.4	0.387
28	70.0	1324.7	1153.5	38.6	0.349
29	80.0	1330.4	1159.1	41.5	0.318
30	90.0	1336.3	1165.0	44.0	0.292
G 31	92.9	1336.9	1165.7	44.7	0.285

REMARKS:

TICKET NO: 47104200

CLOCK NO: 2476 HOUR: 12


HALLIBURTON
SERVICES

GAUGE NO: 1830

DEPTH: 4347.0

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	112.3			
2	5.0	123.4	11.1		
3	10.0	133.9	10.5		
4	15.0	144.5	10.6		
5	20.0	153.7	9.1		
6	25.0	162.6	8.9		
C 7	28.4	168.1	5.5		
FIRST CLOSED-IN					
C 1	0.0	168.1			
2	1.0	195.7	27.5	0.9	1.479
3	2.0	230.6	62.5	1.9	1.177
4	3.0	265.3	97.2	2.7	1.018
5	4.0	302.7	134.6	3.5	0.909
6	5.0	348.3	180.2	4.3	0.824
7	6.0	395.1	227.0	5.0	0.758
8	7.0	448.1	279.9	5.6	0.705
9	8.0	503.7	335.6	6.2	0.658
10	9.0	566.8	398.7	6.9	0.617
11	10.0	641.9	473.8	7.4	0.585
12	12.0	806.6	638.5	8.4	0.527
13	14.0	952.1	784.0	9.4	0.482
14	16.0	1057.1	889.0	10.2	0.443
15	18.0	1127.7	959.6	11.0	0.412
16	20.0	1173.3	1005.1	11.7	0.384
17	22.0	1207.6	1039.5	12.4	0.360
18	24.0	1234.0	1065.9	13.0	0.339
19	26.0	1254.6	1086.5	13.6	0.321
20	28.0	1270.1	1102.0	14.1	0.304
21	30.0	1283.2	1115.1	14.6	0.289
22	35.0	1304.0	1135.9	15.7	0.258
23	40.0	1317.8	1149.7	16.6	0.233
24	45.0	1328.4	1160.3	17.4	0.212
25	50.0	1335.5	1167.4	18.1	0.195
26	55.0	1340.7	1172.6	18.7	0.181
D 27	60.9	1345.7	1177.6	19.4	0.166
SECOND FLOW					
E 1	0.0	191.8			
2	10.0	189.8	-1.9		
3	20.0	200.6	10.7		
4	30.0	201.8	1.2		
5	40.0	189.5	-12.3		
6	50.0	178.6	-10.9		
F 7	57.8	184.0	5.5		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F 1	0.0	184.0			
2	1.0	214.0	29.9	1.0	1.932
3	2.0	249.8	65.8	2.0	1.639
4	3.0	284.7	100.6	2.9	1.477
5	4.0	330.0	146.0	3.8	1.351
6	5.0	384.8	200.7	4.8	1.259
7	6.0	443.2	259.1	5.6	1.185
8	7.0	519.2	335.2	6.5	1.122
9	8.0	604.0	419.9	7.3	1.071
10	9.0	696.7	512.7	8.1	1.025
11	10.0	810.0	626.0	9.0	0.982
12	12.0	976.6	792.6	10.6	0.912
13	14.0	1081.3	897.2	12.1	0.854
14	16.0	1139.3	955.3	13.5	0.805
15	18.0	1175.9	991.9	14.9	0.762
16	20.0	1203.6	1019.6	16.2	0.725
17	22.0	1224.1	1040.1	17.5	0.692
18	24.0	1240.3	1056.2	18.8	0.662
19	26.0	1253.5	1069.5	20.0	0.635
20	28.0	1264.2	1080.2	21.1	0.611
21	30.0	1273.8	1089.8	22.3	0.588
22	35.0	1290.8	1106.8	24.9	0.540
23	40.0	1303.1	1119.1	27.3	0.499
24	45.0	1313.1	1129.1	29.6	0.464
25	50.0	1320.3	1136.3	31.6	0.435
26	55.0	1326.3	1142.3	33.6	0.409
27	60.0	1331.3	1147.2	35.4	0.387
28	70.0	1338.7	1154.7	38.6	0.349
29	80.0	1344.6	1160.6	41.5	0.318
30	90.0	1349.2	1165.2	44.0	0.292
G 31	92.9	1349.4	1165.3	44.7	0.285

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH
1		4.500	3.826	3807.0	
3		6.250	2.250	387.0	
50		5.750	2.750	1.0	4194.0
3		6.250	2.250	93.0	
5		5.750	2.750	1.0	
12		5.030	0.870	6.0	
60		5.000	0.750	5.0	4299.0
80		5.000	3.060	4.0	4301.0
15		5.000	1.750	5.0	
16		5.000	1.000	3.0	
70		6.750	1.530	6.0	4316.0
70		6.750	1.530	6.0	4322.0
20		5.000	3.840	22.0	
81		5.000		4.0	4347.0
TOTAL DEPTH					4350.0

EQUIPMENT DATA