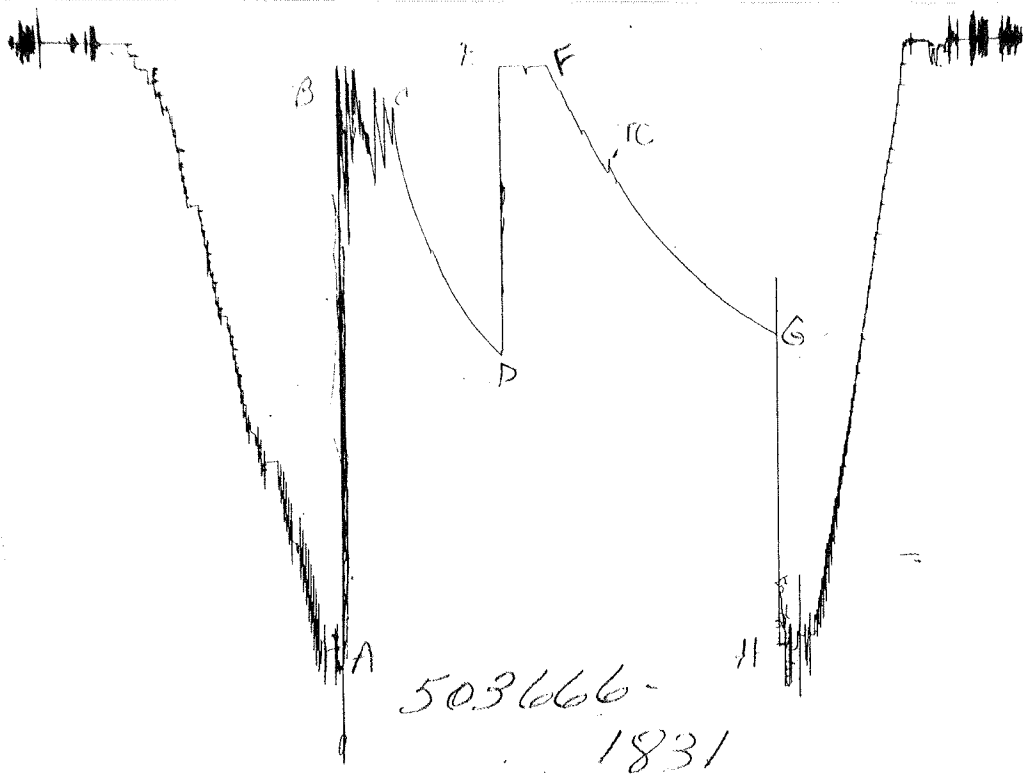


TICKET NO. 50366600  
 19-AUG-83  
 PRATT

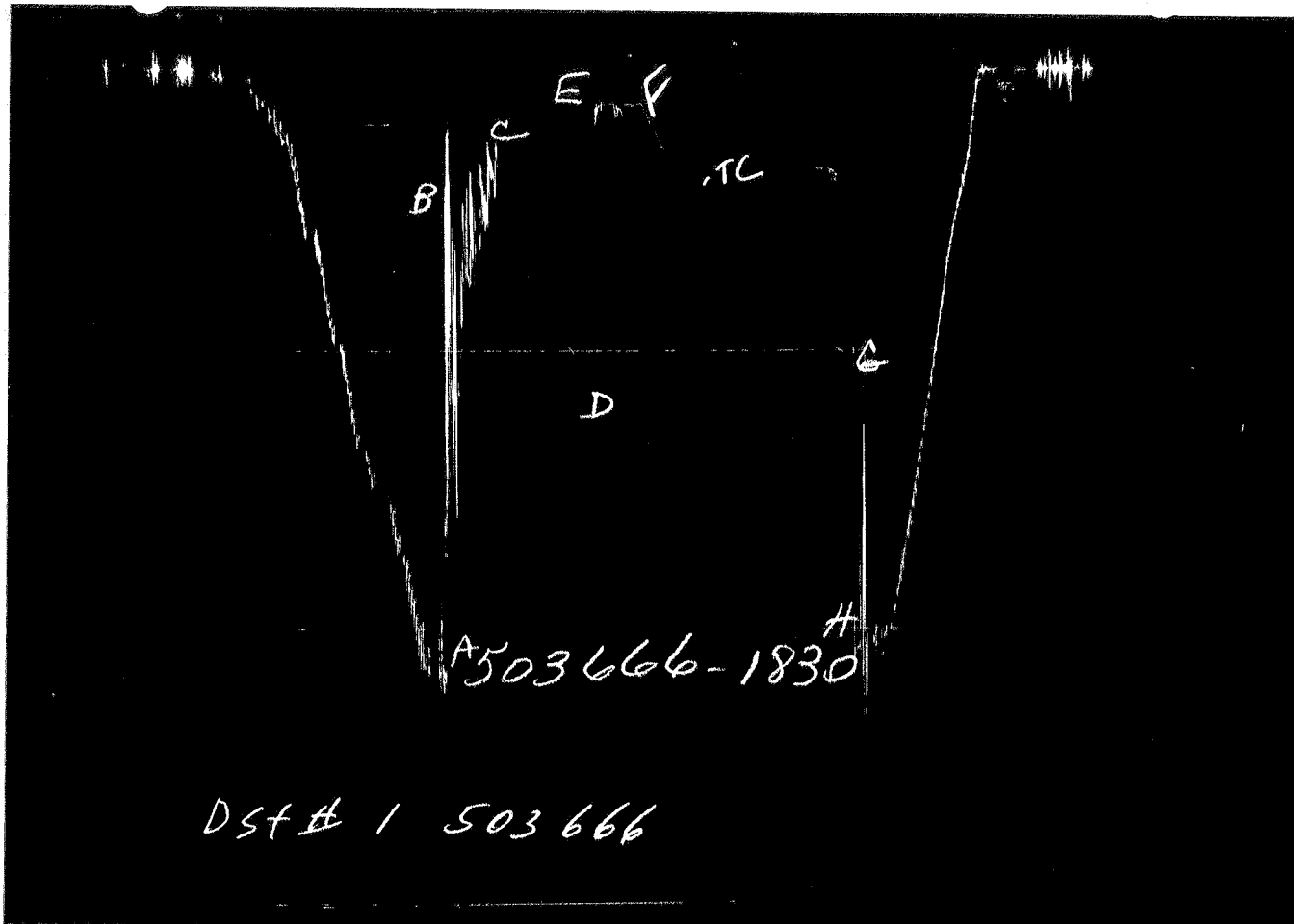
FORMATION TESTING SERVICE REPORT

LEASE NAME	HARPER	WELL NO.	1-17	TEST NO.	1	TESTED INTERVAL	4277.1 - 4330.1	LEASE OWNER/COMPANY NAME	RINE DRILLING COMPANY
LEGAL LOCATION	17 - 34 - 21 WEST	FIELD AREA		COUNTY	CLARK	STATE	KANSAS	IC/P#	



GAUGE NO: 1831 DEPTH: 4256.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2058.8			
B	INITIAL FIRST FLOW		245.4			
C	FINAL FIRST FLOW		221.1	30.0	30.5	F
C	INITIAL FIRST CLOSED-IN		221.1			
D	FINAL FIRST CLOSED-IN		1061.6	60.0	58.2	C
E	INITIAL SECOND FLOW		83.9			
F	FINAL SECOND FLOW		81.3	60.0	26.7	F
F	INITIAL SECOND CLOSED-IN		81.3			
G	FINAL SECOND CLOSED-IN		993.5	90.0	124.6	C
H	FINAL HYDROSTATIC		2051.4			



GAUGE NO: 1830 DEPTH: 4327.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2103	2096.8			
B	INITIAL FIRST FLOW		631.1			
C	FINAL FIRST FLOW		284.5	30.0	30.5	F
C	INITIAL FIRST CLOSED-IN		284.5			
D	FINAL FIRST CLOSED-IN	1106	1108.2	60.0	58.2	C
E	INITIAL SECOND FLOW	129	142.2			
F	FINAL SECOND FLOW	129	124.3	60.0	26.7	F
F	INITIAL SECOND CLOSED-IN	129	124.3			
G	FINAL SECOND CLOSED-IN	1041	1036.9	90.0	124.6	C
H	FINAL HYDROSTATIC	2085	2081.8			

## EQUIPMENT & HOLE DATA

FORMATION TESTED: TORONTO  
 NET PAY (ft): \_\_\_\_\_  
 GROSS TESTED FOOTAGE: 53.0  
 ALL DEPTHS MEASURED FROM: KELLY BUSHING  
 CASING PERFS. (ft): \_\_\_\_\_  
 HOLE OR CASING SIZE (in): 7.875  
 ELEVATION (ft): 1840  
 TOTAL DEPTH (ft): 4330.0  
 PACKER DEPTH(S) (ft): 4271, 4277  
 FINAL SURFACE CHOKE (in): 0.250  
 BOTTOM HOLE CHOKE (in): 0.750  
 MUD WEIGHT (lb/gal): 9.10  
 MUD VISCOSITY (sec): 40  
 ESTIMATED HOLE TEMP. (°F): 113  
 ACTUAL HOLE TEMP. (°F):      @      ft

TICKET NUMBER: 50366600  
 DATE: 8-13-83 TEST NO: 1  
 TYPE DST: OPEN HOLE  
 HALLIBURTON CAMP: PRATT  
 TESTER: ROLF  
 WITNESS: BILL SLADEK  
 DRILLING CONTRACTOR: RINE DRILLING #1

## FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>    </u> @ <u>    </u> °F	<u>20000</u> ppm
<u>TOP</u>	<u>0.180</u> @ <u>85</u> °F	<u>22100</u> ppm
<u>TOP OF TOOL</u>	<u>0.180</u> @ <u>85</u> °F	<u>22100</u> ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

## SAMPLER DATA

P<sub>sig</sub> 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:

90 FEET OF MUD

MEASURED FROM TESTER VALVE

## REMARKS:

CHARTS INDICATE PARTIAL PLUGGING OF ANCHOR PERFORATIONS DURING FLOW PERIODS. TOOLS PLUGGED DURING THE SECOND FLOW PERIOD. THE FLOW WAS ENDED AT THIS TIME WHEN READING THE CHART.

ELEVATION REPORTED AT GROUND LEVEL



TICKET NO: 50366600

CLOCK NO: 26740 HOUR: 12



GAUGE NO: 1831

DEPTH: 4256.0

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	245.4			
C 2	30.5	221.1	-24.3		
FIRST CLOSED-IN					
C 1	0.0	221.1			
2	4.0	425.2	204.1	3.6	0.934
3	8.0	518.9	297.8	6.4	0.680
4	12.0	593.5	372.3	8.6	0.549
5	16.0	654.9	433.8	10.5	0.463
6	20.0	703.0	481.8	12.1	0.402
7	24.0	760.9	539.8	13.4	0.356
8	28.0	812.8	591.7	14.6	0.320
9	32.0	860.1	638.9	15.6	0.290
10	36.0	897.6	676.5	16.5	0.267
11	40.0	936.1	714.9	17.3	0.246
12	44.0	967.5	746.4	18.0	0.229
13	48.0	996.4	775.3	18.6	0.214
14	52.0	1024.6	803.5	19.2	0.200
15	56.0	1051.1	830.0	19.8	0.189
D 16	58.2	1061.6	840.5	20.0	0.183
SECOND FLOW					
E 1	0.0	83.9			
F 2	26.7	81.3	-2.7		
SECOND CLOSED-IN					
F 1	0.0	81.3			
2	6.0	155.4	74.1	5.4	1.023
3	12.0	225.4	144.1	9.9	0.760
4	18.0	295.7	214.4	13.7	0.621
5	24.0	347.4	266.1	16.9	0.530
6	30.0	414.9	333.7	19.7	0.464
<input checked="" type="checkbox"/> 7	33.6	398.8	317.5	21.2	0.432
8	36.0	447.6	366.3	22.1	0.414
9	42.0	509.2	428.0	24.2	0.373
10	48.0	567.5	486.3	26.1	0.341
11	54.0	619.0	537.7	27.8	0.314
12	60.0	663.6	582.3	29.3	0.291
13	66.1	705.2	623.9	30.7	0.271
14	72.0	743.9	662.6	31.9	0.254
15	78.0	779.5	698.2	33.0	0.239
16	84.0	816.1	734.8	34.0	0.226
17	90.0	848.6	767.3	35.0	0.214
18	96.0	880.4	799.2	35.9	0.203
19	102.0	907.2	825.9	36.7	0.193

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
20	108.0	933.5	852.2	37.4	0.185
21	114.0	956.9	875.6	38.1	0.177
22	120.0	978.8	897.5	38.8	0.169
G 23	124.6	993.5	912.2	39.2	0.164

LEGEND:

TOOL CLOSED

REMARKS:

TICKET NO: 50366600  
 CLOCK NO: 2476    HOUR: 12



GAUGE NO: 1830  
 DEPTH: 4327.0



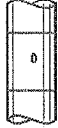

















REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	631.1			
C 2	30.5	284.5	-346.6		
FIRST CLOSED-IN					
C 1	0.0	284.5			
2	4.0	485.8	201.3	3.6	0.932
3	8.0	580.7	296.2	6.3	0.683
4	12.0	651.5	367.0	8.6	0.548
5	16.0	710.4	425.9	10.5	0.464
6	20.0	748.7	464.2	12.1	0.403
7	24.0	800.6	516.2	13.4	0.357
8	28.0	853.8	569.3	14.6	0.320
9	32.0	898.2	613.7	15.6	0.291
10	36.0	940.6	656.2	16.5	0.266
11	40.0	979.1	694.7	17.3	0.246
12	44.0	1012.8	728.3	18.0	0.229
13	48.0	1044.0	759.6	18.7	0.214
14	52.0	1071.1	786.7	19.2	0.200
15	56.0	1097.3	812.9	19.7	0.189
D 16	58.2	1108.2	823.7	20.0	0.183
SECOND FLOW					
E 1	0.0	142.2			
F 2	26.7	124.3	-17.9		
SECOND CLOSED-IN					
F 1	0.0	124.3			
2	6.0	205.8	81.5	5.5	1.020
3	12.0	280.5	156.2	9.9	0.760
4	18.0	349.5	225.2	13.7	0.621
5	24.0	400.4	276.1	16.9	0.529
6	30.0	466.2	341.9	19.7	0.464
<input type="checkbox"/> 7	39.6	434.4	310.1	21.2	0.432
8	36.0	495.3	371.0	22.1	0.413
9	42.0	549.4	425.1	24.2	0.374
10	48.0	606.5	482.2	26.1	0.341
11	54.0	660.3	536.0	27.8	0.314
12	60.0	708.6	584.3	29.3	0.291
13	66.0	751.3	627.0	30.7	0.271
14	72.0	791.4	667.1	31.9	0.254
15	78.0	829.1	704.8	33.0	0.239
16	84.0	861.9	737.6	34.0	0.226
17	90.0	890.3	766.0	35.0	0.214
18	96.0	919.0	794.7	35.9	0.203
19	102.0	948.7	824.4	36.7	0.193

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
20	108.0	974.7	850.4	37.4	0.185
21	114.0	998.6	874.3	38.1	0.177
22	120.0	1021.0	896.7	38.7	0.169
G 23	124.6	1036.9	912.5	39.2	0.164

LEGEND:  
 TOOL CLOSED  
 REMARKS:

24963

TICKET NO. 50366600

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	3792.0	
3		DRILL COLLARS.....	6.250	2.250	360.0	
50		IMPACT REVERSING SUB.....	5.750	2.750	1.0	4152.0
3		DRILL COLLARS.....	6.250	2.250	90.0	
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	4254.0
80		AP RUNNING CASE.....	5.000	3.060	4.0	4256.0
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	4271.0
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	4277.0
20		FLUSH JOINT ANCHOR.....	5.000	3.840	3.0	
5		CROSSOVER.....	5.750	2.750	1.0	
5		CROSSOVER.....	5.750	2.750	1.0	
3		DRILL COLLARS.....	6.250	2.250	30.0	
5		CROSSOVER.....	5.750	2.750	1.0	
5		CROSSOVER.....	5.750	2.750	1.0	
20		FLUSH JOINT ANCHOR.....	5.000	3.840	10.0	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0	4327.0
TOTAL DEPTH					4330.0	

EQUIPMENT DATA