HALLIBURTON

SERVICES

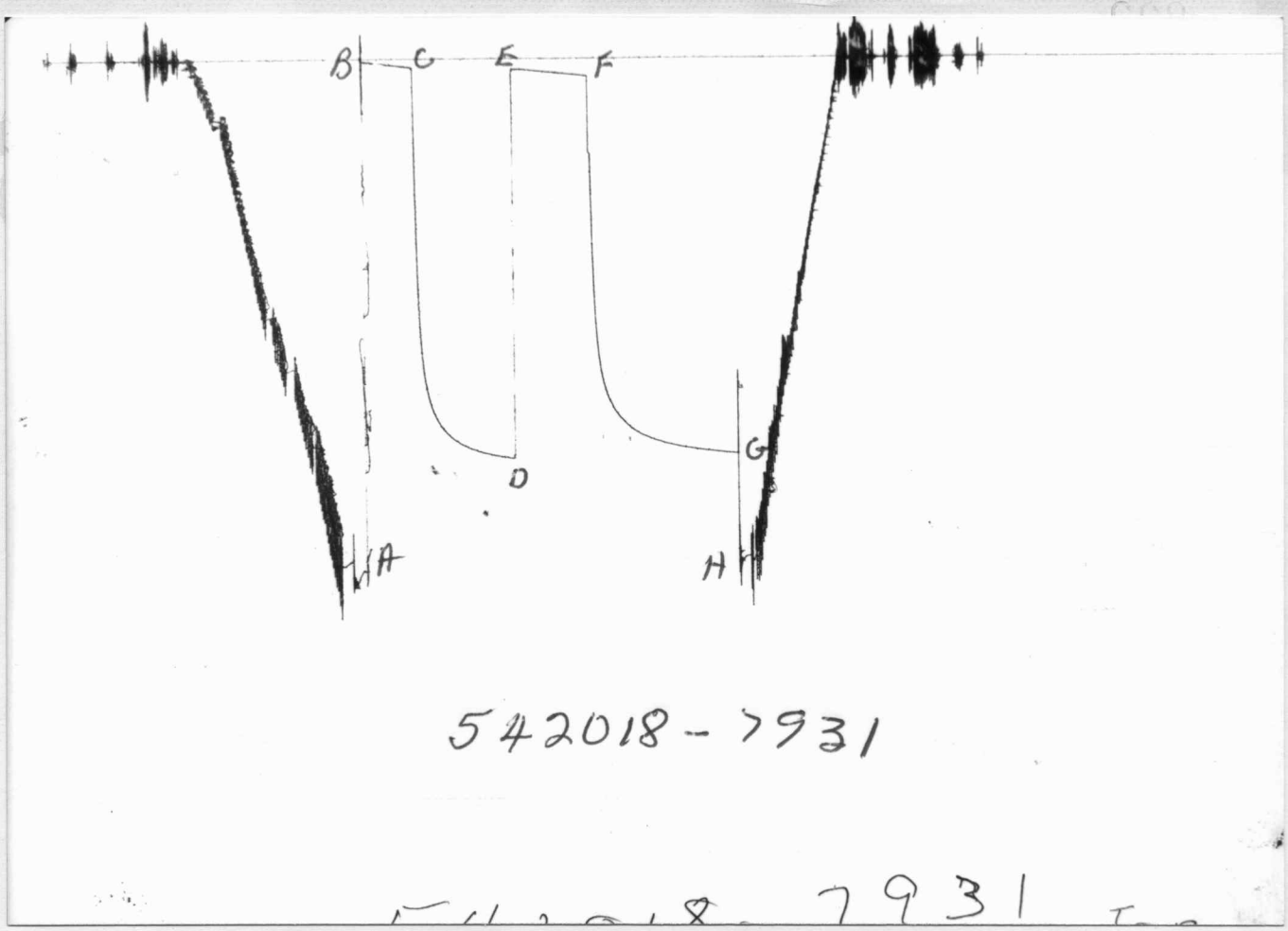
TICKET NO. 54201800

29-DEC-82

PRATT

FORMATION TESTING SERVICE REPORT

BLOUNT	1	1	4209.' - 4253.'		WELLS ENERGY CORPORATION
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL		LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNG.	11-32-21	FIELD AREA	COUNTY CLARK	STATE KANSAS	ORBC

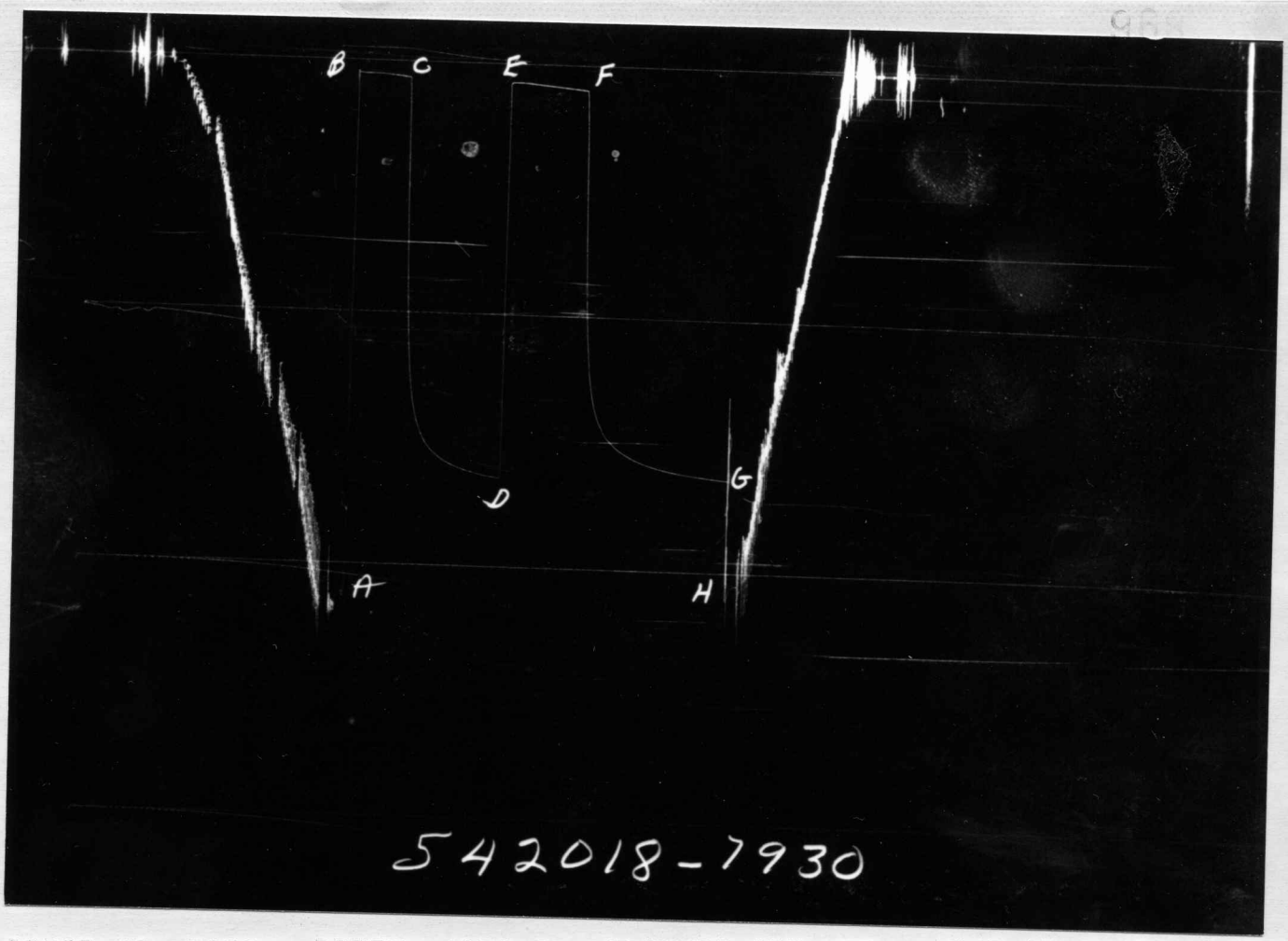


542018 - 7931

542018 - 7931

GAUGE NO: 7931 DEPTH: 4188.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2037.3			
B	INITIAL FIRST FLOW		12.3	30.0	30.9	F
C	FINAL FIRST FLOW		35.7			
C	INITIAL FIRST CLOSED-IN		35.7	60.0	58.8	C
D	FINAL FIRST CLOSED-IN		1625.7			
E	INITIAL SECOND FLOW		49.1	45.0	46.4	F
F	FINAL SECOND FLOW		72.2			
F	INITIAL SECOND CLOSED-IN		72.2	90.0	88.9	C
G	FINAL SECOND CLOSED-IN		1609.9			
H	FINAL HYDROSTATIC		2025.1			



GAUGE NO: 7930 DEPTH: 4250.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2044	2059.8			
B	INITIAL FIRST FLOW	40	49.5	30.0	30.9	F
C	FINAL FIRST FLOW	70	65.4			
C	INITIAL FIRST CLOSED-IN	70	65.4	60.0	58.8	C
D	FINAL FIRST CLOSED-IN	1638	1649.1			
E	INITIAL SECOND FLOW	80	81.6	45.0	46.4	F
F	FINAL SECOND FLOW	100	100.1			
F	INITIAL SECOND CLOSED-IN	100	100.1	90.0	88.9	C
G	FINAL SECOND CLOSED-IN	1628	1634.1			
H	FINAL HYDROSTATIC	2044	2051.4			

EQUIPMENT & HOLE DATA

FORMATION TESTED: TORONTO
NET PAY (ft): 10.0
GROSS TESTED FOOTAGE: 44.0
ALL DEPTHS MEASURED FROM: KB
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 1941
TOTAL DEPTH (ft): 4253.0
PACKER DEPTH(S) (ft): 4203, 4209
FINAL SURFACE CHOKE (in): 1.000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.20
MUD VISCOSITY (sec): 45
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 98 @ 4248.0 ft

TICKET NUMBER: 54201800

DATE: 12-22-82 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: PARKER

WITNESS: MOORE

DRILLING CONTRACTOR: ALDEBARAN DRILLING COMPANY

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
TOP RECOVERY	@ °F	22000 ppm
BOTTOM RECOVERY	@ °F	35500 ppm
PIT SAMPLE	@ °F	23000 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig 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:

125' OF DRILLING MUD

MEASURED FROM TESTER VALVE

REMARKS:

TIGHT HOLE INFORMATION.....

TYPE & SIZE MEASURING DEVICE: _____					TICKET NO: 54201800
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
12-22-82					
1800					CALLED OUT
2030					ON LOCATION, RIG DRILLING
12-23-82					
0450					PICKED UP TOOL
0535					TOOL MADE UP & IN ROTARY TABLE
0540					TOOL THROUGH ROTARY TABLE
0726					ON BOTTOM, SLID 8 TO 10 FEET
0730					TOOL OPENED, VERY WEAK BLOW,
					BUILDING ABOUT 1/2" INTO BUCKET
					AT END OF PERIOD.
0800					CLOSED TOOL
0900					OPENED TOOL WITH 2 BUBBLES, NO
					BLOW
0905					STARTED VERY WEAK BLOW WITH 1/2"
					BLOW AT END OF PERIOD
0945					CLOSED TOOL
1115					OFF BOTTOM
1240					TOOL IN ROTARY TABLE

TICKET NO: 54201800		GAUGE NO: 7931
CLOCK NO: 26864 HOUR: 12	HALLIBURTON SERVICES	DEPTH: 4188.0

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	12.3			
	2	5.0	14.3	2.0		
	3	10.0	18.4	4.0		
	4	15.0	23.4	5.1		
	5	20.0	27.0	3.5		
	6	25.0	31.0	4.0		
C	7	30.9	35.7	4.6		
		FIRST CLOSED-IN				
C	1	0.0	35.7			
	2	4.0	1237.2	1201.5	3.5	0.941
	3	8.0	1391.5	1355.8	6.4	0.686
	4	12.0	1465.4	1429.7	8.6	0.554
	5	16.0	1507.3	1471.6	10.5	0.468
	6	20.0	1536.2	1500.5	12.1	0.406
	7	24.0	1556.7	1521.0	13.5	0.360
	8	28.0	1573.5	1537.8	14.7	0.324
	9	32.0	1584.3	1548.6	15.7	0.294
	10	36.0	1594.0	1558.4	16.6	0.270
	11	40.0	1602.4	1566.7	17.4	0.249
	12	44.0	1609.2	1573.6	18.2	0.231
	13	48.0	1614.8	1579.2	18.8	0.216
	14	52.0	1619.4	1583.7	19.4	0.203
	15	56.0	1625.0	1589.3	19.9	0.191
D	16	58.8	1625.7	1590.1	20.3	0.184
		SECOND FLOW				
E	1	0.0	49.1			
	2	9.0	46.8	-2.3		
	3	18.0	53.0	6.3		
	4	27.0	59.4	6.4		
	5	36.0	65.8	6.4		
	6	45.0	70.5	4.7		
F	7	46.4	72.2	1.7		
		SECOND CLOSED-IN				
F	1	0.0	72.2			
	2	6.0	1263.7	1191.5	5.6	1.143
	3	12.0	1403.2	1331.0	10.4	0.871
	4	18.0	1466.7	1394.5	14.6	0.725
	5	24.0	1505.0	1432.7	18.3	0.625
	6	30.0	1531.4	1459.2	21.6	0.553
	7	36.0	1548.6	1476.4	24.6	0.498
	8	42.0	1560.7	1488.5	27.2	0.454
	9	48.0	1570.9	1498.7	29.6	0.417
	10	54.0	1580.3	1508.1	31.8	0.386

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	11	60.0	1587.5	1515.3	33.8	0.360
	12	66.0	1594.0	1521.8	35.6	0.337
	13	72.0	1597.6	1525.4	37.3	0.317
	14	78.0	1602.2	1530.0	38.8	0.299
	15	84.0	1607.2	1534.9	40.3	0.283
G	16	88.9	1609.9	1537.7	41.4	0.272

REMARKS:

TICKET NO: 54201800	GAUGE NO: 7930
CLOCK NO: 26754 HOUR: 12	DEPTH: 4250.0

HALLIBURTON SERVICES

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	49.5			
	2	5.0	53.8	4.3		
	3	10.0	53.8	0.0		
	4	15.0	54.7	0.9		
	5	20.0	57.7	3.0		
	6	25.0	60.9	3.2		
C	7	30.9	65.4	4.5		
			FIRST CLOSED-IN			
C	1	0.0	65.4			
	2	4.0	1260.9	1195.5	3.5	0.941
	3	8.0	1429.0	1363.6	6.4	0.686
	4	12.0	1497.7	1432.4	8.7	0.553
	5	16.0	1538.2	1472.9	10.5	0.468
	6	20.0	1561.9	1496.5	12.1	0.406
	7	24.0	1582.6	1517.2	13.5	0.359
	8	28.0	1597.4	1532.1	14.7	0.323
	9	32.0	1608.8	1543.4	15.7	0.294
	10	36.0	1618.5	1553.1	16.6	0.269
	11	40.0	1626.7	1561.3	17.5	0.249
	12	44.0	1633.2	1567.8	18.2	0.231
	13	48.0	1638.3	1573.0	18.8	0.216
	14	52.0	1643.3	1577.9	19.4	0.203
	15	56.0	1647.5	1582.2	19.9	0.191
D	16	58.8	1649.1	1583.7	20.3	0.184
			SECOND FLOW			
E	1	0.0	81.6			
	2	9.0	75.2	-6.4		
	3	18.0	80.9	5.7		
	4	27.0	85.9	5.0		
	5	36.0	91.9	6.0		
	6	45.0	98.9	7.0		
F	7	46.4	100.1	1.2		
			SECOND CLOSED-IN			
F	1	0.0	100.1			
	2	6.0	1284.3	1184.2	5.6	1.142
	3	12.0	1433.1	1333.0	10.4	0.873
	4	18.0	1493.7	1393.6	14.6	0.725
	5	24.0	1530.0	1429.9	18.3	0.626
	6	30.0	1553.0	1452.9	21.6	0.554
	7	36.0	1571.7	1471.6	24.6	0.498
	8	42.0	1584.8	1484.7	27.2	0.453
	9	48.0	1596.8	1496.7	29.6	0.417
	10	54.0	1605.6	1505.5	31.8	0.386

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		SECOND CLOSED-IN - CONTINUED				
	11	60.0	1612.5	1512.4	33.8	0.360
	12	66.0	1618.5	1518.4	35.6	0.337
	13	72.0	1623.3	1523.2	37.3	0.317
	14	78.0	1627.1	1527.0	38.8	0.299
	15	84.0	1631.1	1531.0	40.3	0.283
G	16	88.9	1634.1	1534.0	41.4	0.272

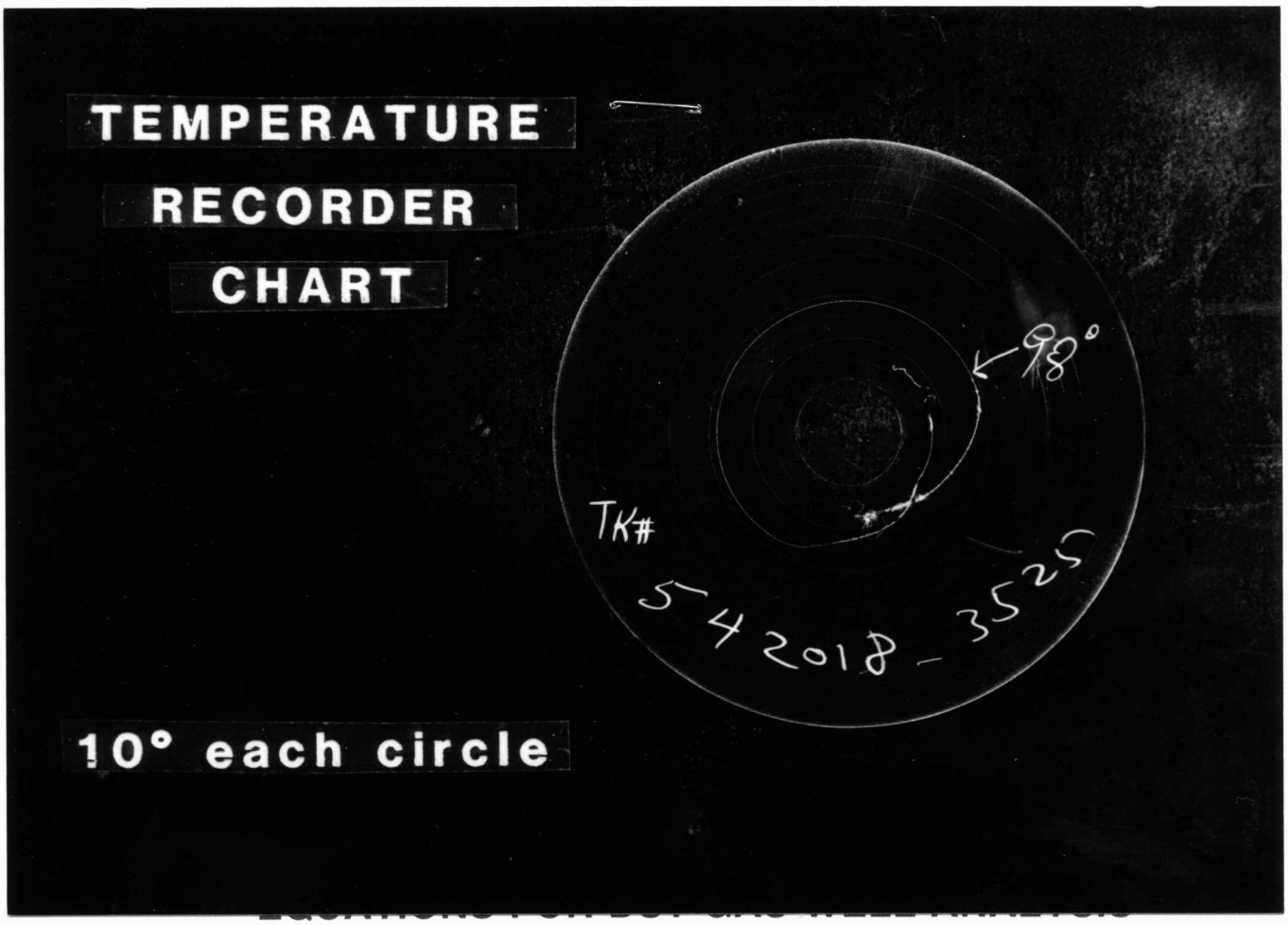
REMARKS:

TICKET NO. 54201800

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	3609.0	
3	DRILL COLLARS.....	6.250	2.250	436.0	
50	IMPACT REVERSING SUB.....	6.000	2.750	1.0	4045.0
3	DRILL COLLARS.....	6.250	2.250	125.0	
5	CROSSOVER.....	6.000	2.250	1.0	
11	HANDLING SUB & CHOKE ASSEMBLY...	5.750	3.750	5.0	
12	DUAL CIP VALVE.....	5.000	0.870	5.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	4186.0
80	AP RUNNING CASE.....	5.000	3.060	4.0	4188.0
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	4203.0
70	OPEN HOLE PACKER.....	6.750	1.530	6.0	4209.0
20	FLUSH JOINT ANCHOR.....	5.000	2.370	36.0	
83	HT-500 TEMPERATURE CASE.....	5.000	2.440	2.0	4248.0
81	BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.0	4250.0

TOTAL DEPTH 4253.0

EQUIPMENT DATA



Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{kt}{\phi\ \mu\ c_t r_w^2} + 3.23 \right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c_t}}$	ft