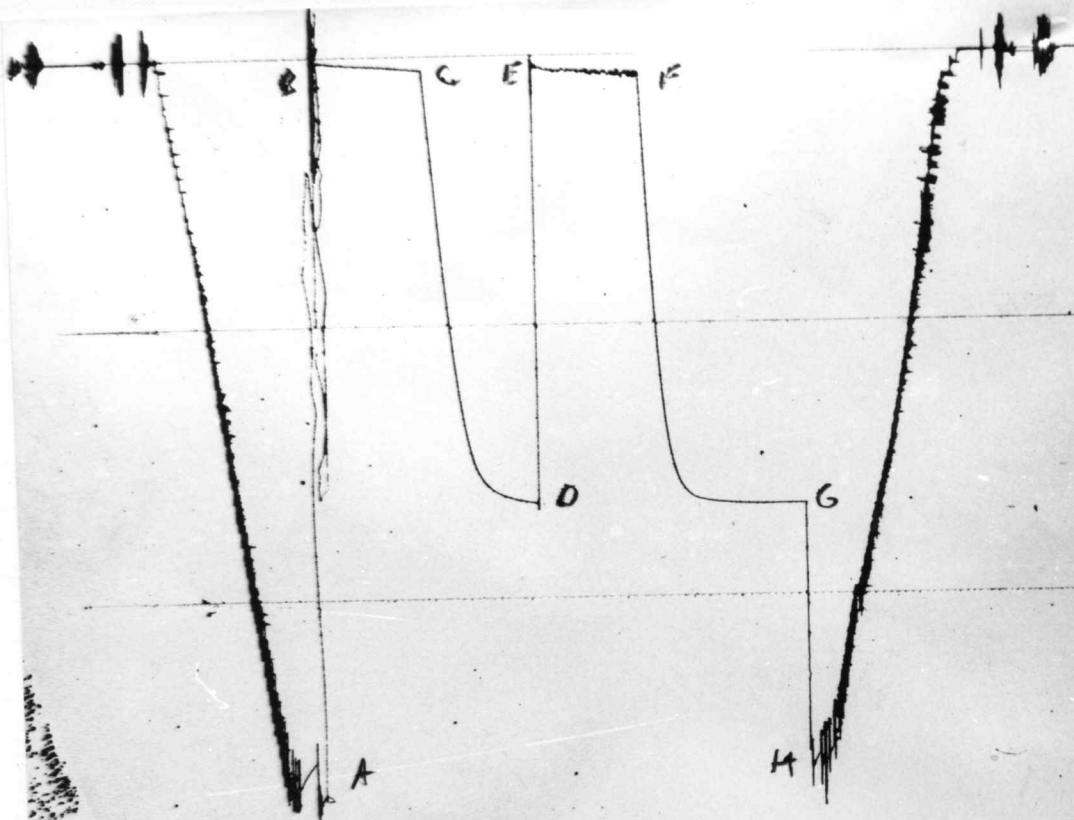




TICKET NO. 31930300  
06-APR-82  
PRATT

# FORMATION TESTING SERVICE REPORT

ALTON UNRUH	3	4	5073.1 - 5082.1	THE MAURICE L. BROWN COMPANY
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION	26 30 18	FIELD AREA	COUNTY	KIOWA
SEC. - TWP. - RNG.			STATE	KANSAS
				J/J

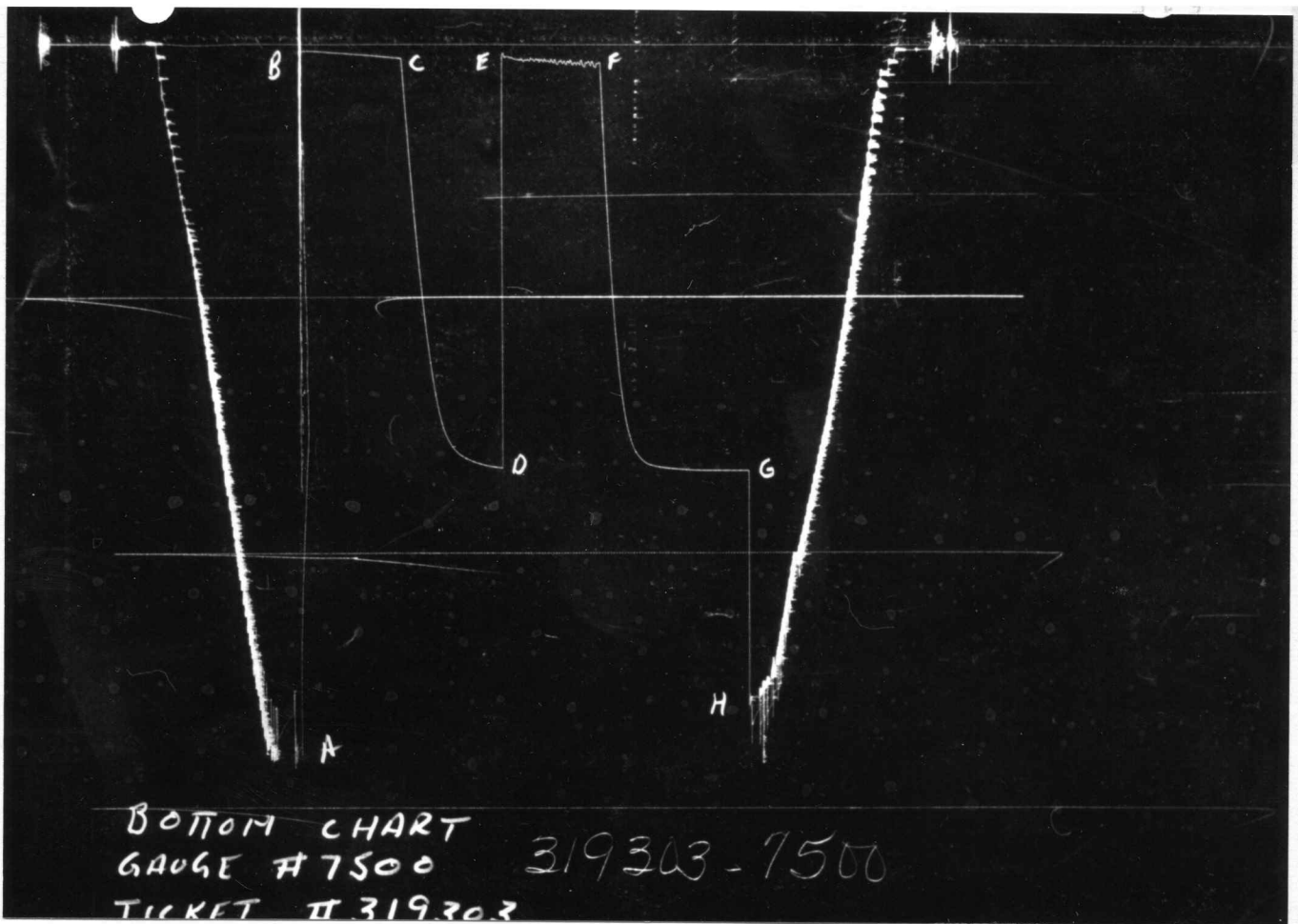


FOR CHART  
 GAUGE # 7501  
 TICKET # 319308

319308-7501

GAUGE NO: 7501 DEPTH: 5052.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2605.8			
B	INITIAL FIRST FLOW		20.3	60.0	61.0	F
C	FINAL FIRST FLOW		51.8			
C	INITIAL FIRST CLOSED-IN		51.8	60.0	59.8	C
D	FINAL FIRST CLOSED-IN		1653.0			
E	INITIAL SECOND FLOW		25.1	60.0	59.2	F
F	FINAL SECOND FLOW		65.8			
F	INITIAL SECOND CLOSED-IN		65.8	90.0	88.4	C
G	FINAL SECOND CLOSED-IN		1667.6			
H	FINAL HYDROSTATIC		2587.5			



GAUGE NO: 7500 DEPTH: 5079.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		2636.3			
B	INITIAL FIRST FLOW		27.7			
C	FINAL FIRST FLOW		57.2	60.0	61.0	F
C	INITIAL FIRST CLOSED-IN		57.2			
D	FINAL FIRST CLOSED-IN		1672.1	60.0	59.8	C
E	INITIAL SECOND FLOW		35.4			
F	FINAL SECOND FLOW		73.6	60.0	59.2	F
F	INITIAL SECOND CLOSED-IN		73.6			
G	FINAL SECOND CLOSED-IN		1680.3	90.0	88.4	C
H	FINAL HYDROSTATIC		2622.1			

TICKET NO: 31930300

CLOCK NO: 25710 HOUR: 12



GAUGE NO: 7501

DEPTH: 5052.0

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	20.3		
	2	10.0	24.7	4.4	
	3	20.0	31.0	6.3	
	4	30.0	34.4	3.4	
	5	40.0	38.7	4.4	
	6	50.0	45.7	7.0	
C	7	61.0	51.8	6.0	
FIRST CLOSED-IN					
C	1	0.0	51.8		
	2	4.0	375.4	323.7	3.8 1.210
	3	8.0	693.4	641.7	7.1 0.935
	4	12.0	962.3	910.5	10.0 0.783
	5	16.0	1190.3	1138.5	12.7 0.683
	6	20.0	1365.7	1313.9	15.1 0.607
	7	24.0	1485.7	1434.0	17.2 0.549
	8	28.0	1552.6	1500.9	19.2 0.502
	9	32.0	1588.8	1537.0	21.0 0.463
	10	36.0	1610.4	1558.7	22.6 0.430
	11	40.0	1624.3	1572.5	24.2 0.402
	12	44.0	1633.5	1581.7	25.6 0.378
	13	48.0	1641.0	1589.2	26.9 0.356
	14	52.0	1646.8	1595.0	28.1 0.337
	15	56.0	1651.2	1599.4	29.2 0.320
D	16	59.8	1653.0	1601.2	30.2 0.305
SECOND FLOW					
E	1	0.0	25.1		
	2	10.0	56.3	31.2	
	3	20.0	59.3	3.0	
	4	30.0	62.1	2.8	
	5	40.0	65.1	3.1	
	6	50.0	83.6	18.4	
F	7	59.2	65.8	-17.7	
SECOND CLOSED-IN					
F	1	0.0	65.8		
	2	6.0	862.0	796.2	5.7 1.322
	3	12.0	1359.4	1293.5	10.9 1.042
	4	18.0	1557.9	1492.1	15.7 0.885
	5	24.0	1622.9	1557.0	20.0 0.779
	6	30.0	1645.7	1579.9	24.0 0.699
	7	36.0	1654.1	1588.3	27.7 0.637
	8	42.0	1658.9	1593.0	31.1 0.587
	9	48.0	1662.5	1596.7	34.3 0.544
	10	54.0	1664.7	1598.9	37.3 0.509

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	1666.2	1600.4	40.0 0.478
	12	66.0	1667.0	1601.2	42.6 0.450
	13	72.0	1666.9	1601.1	45.0 0.426
	14	78.0	1667.3	1601.4	47.3 0.405
G	15	88.4	1667.6	1601.7	50.9 0.373

REMARKS:

TICKET NO: 31930300

CLOCK NO: 2476 HOUR: 12



GAUGE NO: 7500

DEPTH: 5079.0

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	27.7		
	2	10.0	28.8	1.1	
	3	20.0	34.2	5.3	
	4	30.0	39.0	4.9	
	5	40.0	43.7	4.7	
	6	50.0	49.8	6.1	
C	7	61.0	57.2	7.4	
FIRST CLOSED-IN					
C	1	0.0	57.2		
	2	4.0	409.7	352.5	3.7 1.215
	3	8.0	726.7	669.5	7.1 0.936
	4	12.0	998.4	941.2	10.0 0.784
	5	16.0	1223.2	1166.0	12.7 0.683
	6	20.0	1393.3	1336.0	15.0 0.608
	7	24.0	1506.2	1448.9	17.2 0.549
	8	28.0	1570.1	1512.9	19.2 0.502
	9	32.0	1605.7	1548.4	21.0 0.464
	10	36.0	1626.5	1569.2	22.7 0.430
	11	40.0	1640.4	1583.2	24.2 0.402
	12	44.0	1650.4	1593.2	25.6 0.378
	13	48.0	1658.0	1600.8	26.9 0.356
	14	52.0	1663.9	1606.6	28.1 0.337
	15	56.0	1668.3	1611.0	29.2 0.320
D	16	59.8	1672.1	1614.8	30.2 0.305
SECOND FLOW					
E	1	0.0	35.4		
	2	10.0	61.7	26.2	
	3	20.0	67.3	5.6	
	4	30.0	59.7	-7.6	
	5	40.0	67.3	7.6	
	6	50.0	90.2	22.9	
F	7	59.2	73.6	-16.6	
SECOND CLOSED-IN					
F	1	0.0	73.6		
	2	6.0	886.4	812.8	5.7 1.324
	3	12.0	1361.2	1287.7	10.9 1.042
	4	18.0	1566.9	1493.3	15.6 0.885
	5	24.0	1636.8	1563.3	20.0 0.779
	6	30.0	1660.2	1586.6	24.0 0.700
	7	36.0	1668.0	1594.4	27.7 0.637
	8	42.0	1673.1	1599.6	31.1 0.587
	9	48.0	1676.4	1602.8	34.3 0.544
	10	54.0	1679.1	1605.5	37.3 0.509

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	1680.6	1607.0	40.0 0.478
	12	66.0	1681.0	1607.4	42.6 0.450
	13	72.0	1681.0	1607.4	45.0 0.426
	14	78.0	1681.0	1607.4	47.3 0.405
G	15	88.4	1680.3	1606.7	50.9 0.373

REMARKS:

## EQUIPMENT & HOLE DATA

FORMATION TESTED: MISSISSIPPI

NET PAY (ft): 2.0

GROSS TESTED FOOTAGE: 9.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): \_\_\_\_\_

HOLE OR CASING SIZE (in): 7.875

ELEVATION (ft): 2172

TOTAL DEPTH (ft): 5082.0

PACKER DEPTH(S) (ft): 5067, 5073

FINAL SURFACE CHOKE (in): 1.000

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.70

MUD VISCOSITY (sec): 60

ESTIMATED HOLE TEMP. (°F): \_\_\_\_\_

ACTUAL HOLE TEMP. (°F):      @      ft

TICKET NUMBER: 31930300

DATE: 3-29-82 TEST NO: 4

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: PRATT

TESTER: L. R. PARKER

WITNESS: R. PALMER

DRILLING CONTRACTOR: ABERCROMBIE DRILLING COMPANY

### FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
_____	@ _____ °F	_____ ppm
_____	@ _____ °F	_____ ppm
_____	@ _____ °F	_____ 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:

90 FEET OF VERY HIGHLY OIL AND GAS CUT MUD.  
 90 FEET OF HIGHLY OIL AND GAS CUT MUD.  
 10 FEET OF OILY EMULSION.

MEASURED FROM TESTER VALVE

### REMARKS:

SEE PRODUCTION TEST DATA SHEET....  
 TOP OF RECOVERY IS 60% - 38 DEGREES API.  
 BOTTOM OF RECOVERY IS 85% - 38 DEGREES API.



TICKET NO: 31930300  
 CLOCK NO: 25710 HOUR: 12



GAUGE NO: 7501  
 DEPTH: 5052.0

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	20.3			
2	10.0	24.7	4.4		
3	20.0	31.0	6.3		
4	30.0	34.4	3.4		
5	40.0	38.7	4.4		
6	50.0	45.7	7.0		
C 7	61.0	51.8	6.0		
FIRST CLOSED-IN					
C 1	0.0	51.8			
2	4.0	375.4	323.7	3.8	1.210
3	8.0	693.4	641.7	7.1	0.935
4	12.0	962.3	910.5	10.0	0.783
5	16.0	1190.3	1138.5	12.7	0.683
6	20.0	1365.7	1313.9	15.1	0.607
7	24.0	1485.7	1434.0	17.2	0.549
8	28.0	1552.6	1500.9	19.2	0.502
9	32.0	1588.8	1537.0	21.0	0.463
10	36.0	1610.4	1558.7	22.6	0.430
11	40.0	1624.3	1572.5	24.2	0.402
12	44.0	1633.5	1581.7	25.6	0.378
13	48.0	1641.0	1589.2	26.9	0.356
14	52.0	1646.8	1595.0	28.1	0.337
15	56.0	1651.2	1599.4	29.2	0.320
D 16	59.8	1653.0	1601.2	30.2	0.305
SECOND FLOW					
E 1	0.0	25.1			
2	10.0	56.3	31.2		
3	20.0	59.3	3.0		
4	30.0	62.1	2.8		
5	40.0	65.1	3.1		
6	50.0	83.6	18.4		
F 7	59.2	65.8	-17.7		
SECOND CLOSED-IN					
F 1	0.0	65.8			
2	6.0	862.0	796.2	5.7	1.322
3	12.0	1359.4	1293.5	10.9	1.042
4	18.0	1557.9	1492.1	15.7	0.885
5	24.0	1622.9	1557.0	20.0	0.779
6	30.0	1645.7	1579.9	24.0	0.699
7	36.0	1654.1	1588.3	27.7	0.637
8	42.0	1658.9	1593.0	31.1	0.587
9	48.0	1662.5	1596.7	34.3	0.544
10	54.0	1664.7	1598.9	37.3	0.509

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	1666.2	1600.4	40.0	0.478
12	66.0	1667.0	1601.2	42.6	0.450
13	72.0	1666.9	1601.1	45.0	0.426
14	78.0	1667.3	1601.4	47.3	0.405
G 15	88.4	1667.6	1601.7	50.9	0.373

REMARKS:

TICKET NO: 31930300

CLOCK NO: 2476 HOUR: 12

















GAUGE NO: 7500

DEPTH: 5079.0

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	27.7		
	2	10.0	28.8	1.1	
	3	20.0	34.2	5.3	
	4	30.0	39.0	4.9	
	5	40.0	43.7	4.7	
	6	50.0	49.8	6.1	
C	7	61.0	57.2	7.4	
FIRST CLOSED-IN					
C	1	0.0	57.2		
	2	4.0	409.7	352.5	3.7 1.215
	3	8.0	726.7	669.5	7.1 0.936
	4	12.0	998.4	941.2	10.0 0.784
	5	16.0	1223.2	1166.0	12.7 0.683
	6	20.0	1393.3	1336.0	15.0 0.608
	7	24.0	1506.2	1448.9	17.2 0.549
	8	28.0	1570.1	1512.9	19.2 0.502
	9	32.0	1605.7	1548.4	21.0 0.464
	10	36.0	1626.5	1569.2	22.7 0.430
	11	40.0	1640.4	1583.2	24.2 0.402
	12	44.0	1650.4	1593.2	25.6 0.378
	13	48.0	1658.0	1600.8	26.9 0.356
	14	52.0	1663.9	1606.6	28.1 0.337
	15	56.0	1668.3	1611.0	29.2 0.320
D	16	59.8	1672.1	1614.8	30.2 0.305
SECOND FLOW					
E	1	0.0	35.4		
	2	10.0	61.7	26.2	
	3	20.0	67.3	5.6	
	4	30.0	59.7	-7.6	
	5	40.0	67.3	7.6	
	6	50.0	90.2	22.9	
F	7	59.2	73.6	-16.6	
SECOND CLOSED-IN					
F	1	0.0	73.6		
	2	6.0	886.4	812.8	5.7 1.324
	3	12.0	1361.2	1287.7	10.9 1.042
	4	18.0	1566.9	1493.3	15.6 0.885
	5	24.0	1636.8	1563.3	20.0 0.779
	6	30.0	1660.2	1586.6	24.0 0.700
	7	36.0	1668.0	1594.4	27.7 0.637
	8	42.0	1673.1	1599.6	31.1 0.587
	9	48.0	1676.4	1602.8	34.3 0.544
	10	54.0	1679.1	1605.5	37.3 0.509

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	1680.6	1607.0	40.0 0.478
	12	66.0	1681.0	1607.4	42.6 0.450
	13	72.0	1681.0	1607.4	45.0 0.426
	14	78.0	1681.0	1607.4	47.3 0.405
G	15	88.4	1680.3	1606.7	50.9 0.373

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	4678.0	
4		FLEX WEIGHT.....	4.500	2.764	180.0	
50		IMPACT REVERSING SUB.....	6.000	2.750	1.0	4858.0
4		FLEX WEIGHT.....	4.500	2.764	180.0	
5		CROSSOVER.....	6.000	2.250	1.0	
12		DUAL CIP VALVE.....	5.000	0.870	6.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	5050.0
80		AP RUNNING CASE.....	5.000	3.060	4.0	5052.0
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	5067.0
70		OPEN HOLE PACKER.....	6.750	1.530	6.0	5073.0
20		FLUSH JOINT ANCHOR.....	5.000	2.370	3.0	
81		BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.0	5079.0
TOTAL DEPTH					5082.0	