PR88-98

HALLIBURTON SERVICES

TICKET NO. 35070200

20-SEP-88

MOOMBA

FORMATION TESTING SERVICE REPORT

[redacted]

LEGAL LOCATION SEC. - TWP. - RNG. SEE REMARKS

FIELD AREA

COUNTY WESTERN AUST. STATE AUSTRALIA SM

TESTED INTERVAL 3346.5 - 3402.3

LEASE OWNER/COMPANY NAME SANTOS LTD.

TEST NO. 2

WELL NO. 2-A

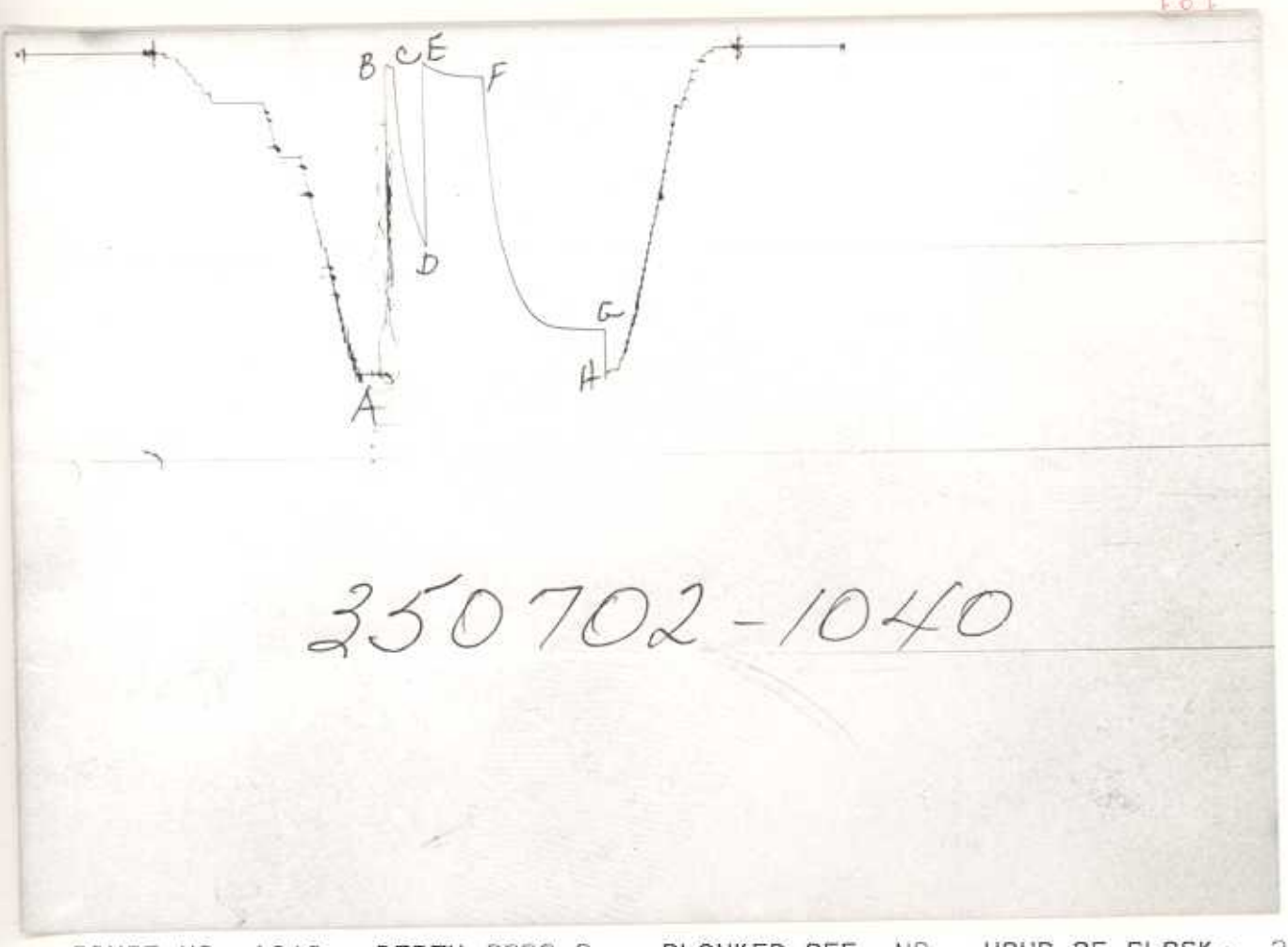
LEASE NAME WEABER

B C D E F G

350702-7982

GAUGE NO: 7982 DEPTH: 3302.3 BLANKED OFF: NO HOUR OF CLOCK: 24

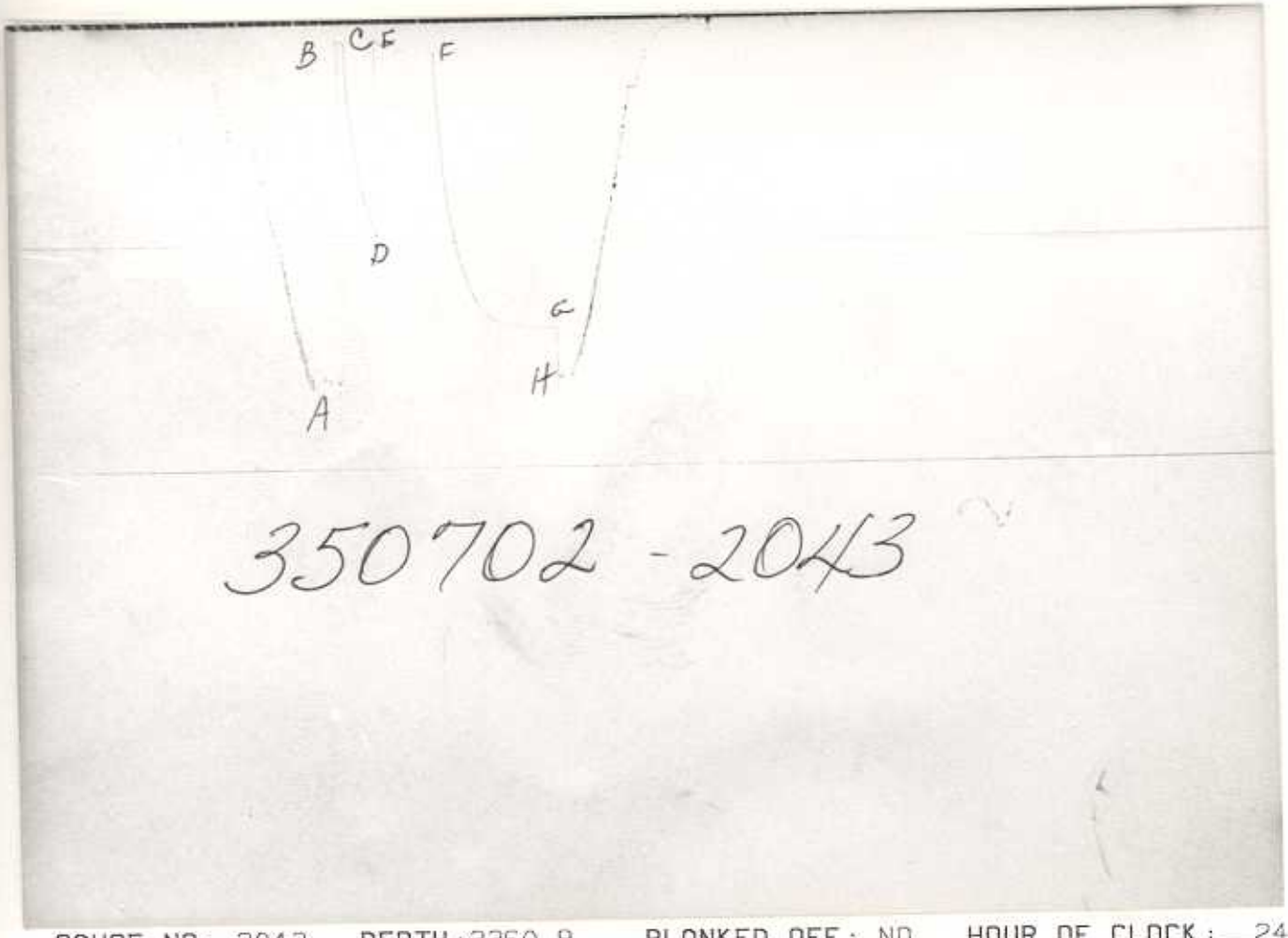
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	62.5		10.0	9.1	F
C	FINAL FIRST FLOW	78.6				
C	INITIAL FIRST CLOSED-IN	78.6		30.0	29.6	C
D	FINAL FIRST CLOSED-IN	61.2				
E	INITIAL SECOND FLOW	53.7		60.0	61.3	F
F	FINAL SECOND FLOW	128.9				
F	INITIAL SECOND CLOSED-IN	128.9		120.0	120.0	C
G	FINAL SECOND CLOSED-IN	116.9				
H	FINAL HYDROSTATIC					
I	HYDROSTATIC COMPRESSION					



350702-1040

GAUGE NO: 1040 DEPTH: 3323.3 BLANKED OFF: NO HOUR OF CLOCK: 24

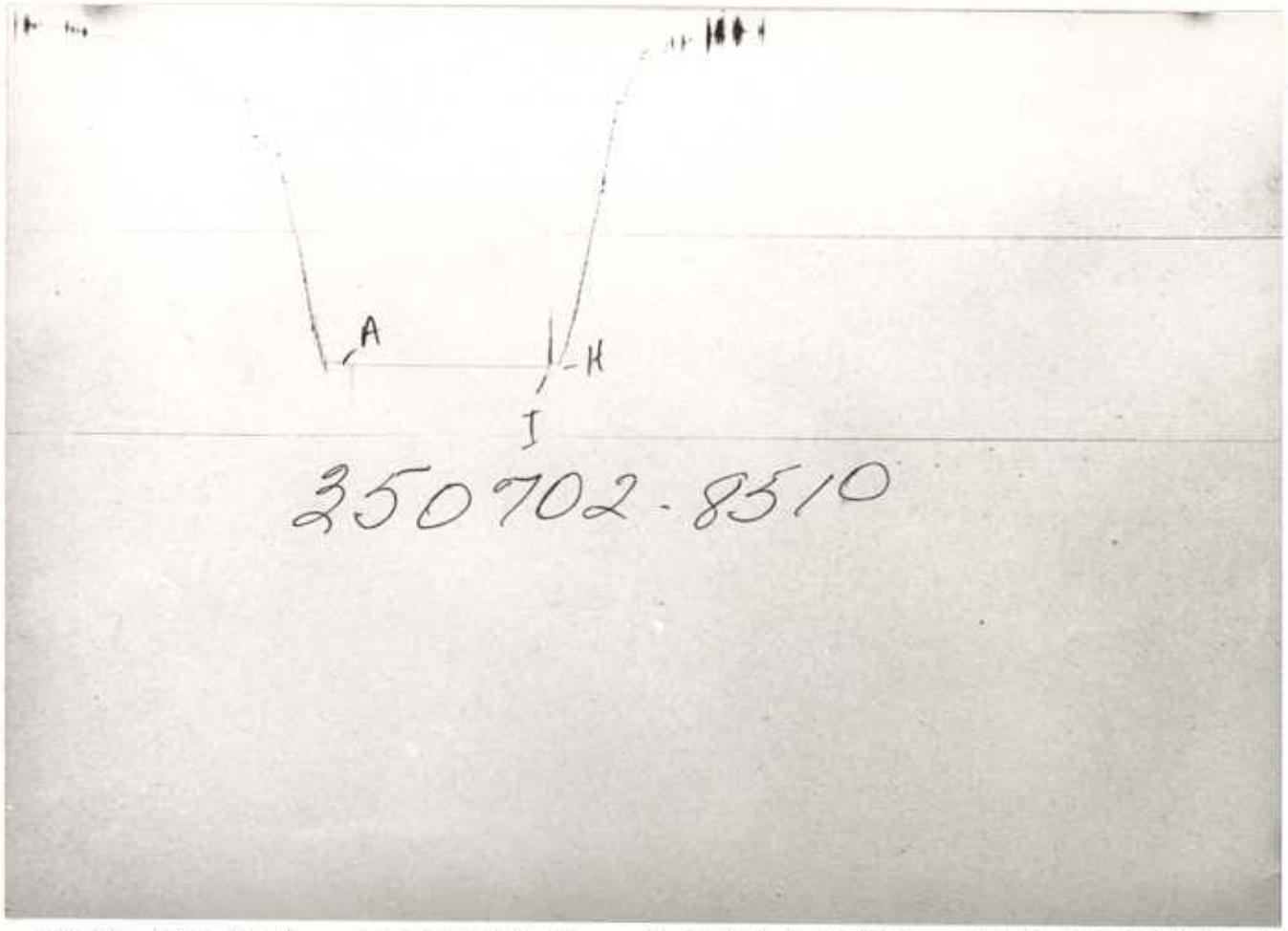
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1571	1591.2			
B	INITIAL FIRST FLOW	72	80.7	10.0	9.1	F
C	FINAL FIRST FLOW	87	90.5			
C	INITIAL FIRST CLOSED-IN	87	90.5	30.0	29.6	C
D	FINAL FIRST CLOSED-IN	950	961.1			
E	INITIAL SECOND FLOW	72	66.1	60.0	61.3	F
F	FINAL SECOND FLOW	130	142.4			
F	INITIAL SECOND CLOSED-IN	130	142.4	120.0	120.0	C
G	FINAL SECOND CLOSED-IN	1369	1377.9			
H	FINAL HYDROSTATIC	1585	1575.4			
I	HYDROSTATIC COMPRESSION					



350702 - 2043

GAUGE NO: 2043 DEPTH: 3360.9 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1598	1612.9			
B	INITIAL FIRST FLOW	80	87.2	10.0	9.1	F
C	FINAL FIRST FLOW	93	94.5			
C	INITIAL FIRST CLOSED-IN	93	94.5	30.0	29.6	C
D	FINAL FIRST CLOSED-IN	953	962.2			
E	INITIAL SECOND FLOW	80	80.2	60.0	61.3	F
F	FINAL SECOND FLOW	133	142.7			
F	INITIAL SECOND CLOSED-IN	133	142.7	120.0	120.0	C
G	FINAL SECOND CLOSED-IN	1375	1380.5			
H	FINAL HYDROSTATIC	1612	1597.5			
I	HYDROSTATIC COMPRESSION					



GAUGE NO: 8510 DEPTH: 3475.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1634	1639.7			
B	INITIAL FIRST FLOW			10.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			30.0		C
D	FINAL FIRST CLOSED-IN					
E	INITIAL SECOND FLOW			60.0		F
F	FINAL SECOND FLOW					
F	INITIAL SECOND CLOSED-IN			120.0		C
G	FINAL SECOND CLOSED-IN					
H	FINAL HYDROSTATIC	1634	1634.9			
I	HYDROSTATIC COMPRESSION		1650.3			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MILLIGANS
NET PAY (ft): [illegible]
GROSS TESTED FOOTAGE: 55.9
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.500
ELEVATION (ft): 59.0
TOTAL DEPTH (ft): 3478.0
PACKER DEPTH(S) (ft): 3339, 3345, 3402, 3410
FINAL SURFACE CHOKE (in): 0.50000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.20
MUD VISCOSITY (sec): 46
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 155 @ 3474.0 ft

TICKET NUMBER: 35070200
DATE: 9-9-88 TEST NO: 2
TYPE DST: ON BTM STRADDLE
HALLIBURTON CAMP: MOOMBA
TESTER: BRENT HOOVER
WITNESS: MR. LEE ??
DRILLING CONTRACTOR: ATCO DRILLING RIG #2

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:

245 FEET OF MUD FILTRATE

MEASURED FROM TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 15 DEG. 20' 51.5"
LONG. 128 DEG. 06' 29.6"

TYPE & SIZE MEASURING DEVICE: .5" CERAMIC CHOKE | TICKET NO: 35070200

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
9-9-88					
0010					STARTED MAKING UP TOOLS
0240					TOOL IN HOLE
0552					MADE UP TEST HEAD AND CHICKSANS
0617					SET WEIGHT ON TOOL, 35,000#
0620	.5				TOOL OPENED WITH VERY WEAK BLOW
0621	.5				STRONG BLOW
0625	.5	25			STRONG BLOW
0630	.5	20			CLOSED TOOL, SLIGHT DROP IN
					PRESSURE
0700	.5	5			OPENED TOOL WITH STRONG BLOW
0705	.5	5			STRONG BLOW
0710	.5	4			GAS TO SURFACE, SLIGHT DROP
					IN PRESSURE
0715	.5	4			GAS TO THE SURFACE
0720	.5	10			GAS TO THE SURFACE, INCREASE
					IN PRESSURE
0725	.5	10			GAS TO THE SURFACE
0730	.5	10			GAS TO THE SURFACE
0735	.5	10			GAS TO THE SURFACE
0745	.5	10			GAS TO THE SURFACE
0755	.5	10			GAS TO THE SURFACE
0800	.5	10			CLOSED TOOLS
1000					PULLED FREE, OK
1200					TOOL OUT OF HOLE
1337					STOPPED BREAKING OUT TOOL
					AND LAID OUT
1410					TOOL LAID OUT

TICKET NO: 35070200	GAUGE NO: 7982
CLOCK NO: 26449 HOUR: 24	DEPTH: 3302.3

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	62.5			
2	2.0	64.0	1.5		
3	4.0	71.8	7.8		
4	6.0	76.0	4.2		
5	8.0	78.9	2.9		
C 6	9.1	78.6	-0.3		
FIRST CLOSED-IN					
C 1	0.0	78.6			
D 2	29.6	61.2	-17.4	6.9	0.116
SECOND FLOW					
E 1	0.0	53.7			
2	5.0	74.8	21.1		
3	10.0	87.0	12.2		
4	15.0	97.9	10.9		
5	20.0	106.7	8.8		
6	25.0	113.0	6.3		
7	30.0	117.9	4.9		
8	35.0	121.1	3.2		
9	40.0	122.9	1.8		
10	45.0	124.5	1.6		
11	50.0	126.0	1.5		
12	55.0	126.9	1.0		
F 13	61.3	128.9	1.9		
SECOND CLOSED-IN					
F 1	0.0	128.9			
G 2	120.0	116.9	-12.0	44.4	0.200

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

REMARKS:

TICKET NO: 35070200	GAUGE NO: 1040
CLOCK NO: 7499 HOUR: 24	DEPTH: 3323.3

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	80.7			
	2	2.0	72.0	-8.6		
	3	4.0	76.4	4.3		
	4	6.0	82.0	5.6		
	5	8.0	86.0	4.0		
C	6	9.1	90.5	4.5		
			FIRST CLOSED-IN			
C	1	0.0	90.5			
	2	2.0	285.3	194.8	1.7	0.739
	3	4.0	401.4	311.0	2.8	0.515
	4	6.0	494.1	403.6	3.6	0.398
	5	8.0	571.0	480.5	4.3	0.328
	6	10.0	627.7	537.2	4.7	0.281
	7	12.0	680.7	590.3	5.2	0.244
	8	14.0	728.4	638.0	5.5	0.217
	9	16.0	768.2	677.8	5.8	0.195
	10	18.0	802.9	712.4	6.0	0.177
	11	20.0	834.6	744.1	6.2	0.162
	12	22.0	865.1	774.6	6.4	0.150
	13	24.0	893.1	802.6	6.6	0.139
	14	26.0	919.3	828.8	6.7	0.130
	15	28.0	943.2	852.8	6.8	0.122
D	16	29.6	961.1	870.6	6.9	0.116
			SECOND FLOW			
E	1	0.0	66.1			
	2	5.0	85.0	18.9		
	3	10.0	97.6	12.5		
	4	15.0	108.9	11.4		
	5	20.0	118.4	9.5		
	6	25.0	125.2	6.8		
	7	30.0	131.3	6.1		
	8	35.0	134.0	2.7		
	9	40.0	136.2	2.2		
	10	45.0	139.0	2.9		
	11	50.0	139.6	0.6		
	12	55.0	141.5	1.9		
F	13	61.3	142.4	0.9		
			SECOND CLOSED-IN			
F	1	0.0	142.4			
	2	5.0	567.4	425.0	4.7	1.177
	3	10.0	791.1	648.7	8.7	0.907
	4	15.0	924.9	782.5	12.4	0.755
	5	20.0	1015.5	873.1	15.6	0.656

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
			SECOND CLOSED-IN - CONTINUED			
	6	25.0	1096.2	953.9	18.4	0.582
	7	30.0	1163.4	1021.1	21.0	0.525
	8	35.0	1218.6	1076.3	23.4	0.478
	9	40.0	1259.0	1116.6	25.5	0.441
	10	45.0	1291.2	1148.8	27.4	0.409
	11	50.0	1317.6	1175.3	29.2	0.382
	12	55.0	1336.0	1193.6	30.9	0.358
	13	60.0	1349.0	1206.6	32.4	0.337
	14	65.0	1357.7	1215.3	33.8	0.319
	15	70.0	1363.2	1220.8	35.1	0.302
	16	75.0	1367.3	1225.0	36.3	0.287
	17	80.0	1369.4	1227.0	37.5	0.274
	18	85.0	1371.2	1228.9	38.5	0.262
	19	90.0	1372.7	1230.3	39.5	0.251
	20	95.0	1373.6	1231.2	40.4	0.241
	21	100.0	1375.0	1232.6	41.3	0.231
	22	105.0	1375.7	1233.4	42.1	0.223
	23	110.0	1376.6	1234.2	42.9	0.215
	24	115.0	1376.6	1234.2	43.7	0.207
G	25	120.0	1377.9	1235.5	44.4	0.200

REMARKS:

TICKET NO: 35070200

CLOCK NO: 9394 HOUR: 24

GAUGE NO: 2043

DEPTH: 3360.9

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	87.2			
	2	2.0	85.9	-1.3		
	3	4.0	89.4	3.5		
	4	5.0	92.0	2.7		
	5	8.0	93.6	1.6		
C	6	9.1	94.5	0.9		
			FIRST CLOSED-IN			
C	1	0.0	94.5			
	2	2.0	297.6	203.1	1.6	0.748
	3	4.0	409.3	314.8	2.8	0.514
	4	6.0	503.0	408.5	3.6	0.400
	5	8.0	554.7	460.2	4.2	0.330
	6	10.0	527.2	532.7	4.8	0.280
	7	12.0	583.0	588.5	5.2	0.244
	8	14.0	726.2	631.6	5.5	0.216
	9	16.0	765.8	671.2	5.8	0.195
	10	18.0	812.9	718.3	6.0	0.177
	11	20.0	836.7	742.2	6.2	0.162
	12	22.0	877.0	782.4	6.4	0.150
	13	24.0	897.8	803.2	6.6	0.139
	14	26.0	925.3	834.8	6.7	0.130
	15	28.0	953.4	858.9	6.8	0.122
D	16	29.6	962.2	867.7	6.9	0.116
			SECOND FLOW			
E	1	0.0	80.2			
	2	5.0	94.8	14.6		
	3	10.0	108.1	13.3		
	4	15.0	119.4	11.3		
	5	20.0	125.9	6.5		
	6	25.0	131.9	6.0		
	7	30.0	136.2	4.3		
	8	35.0	139.5	3.3		
	9	40.0	141.5	2.0		
	10	45.0	142.8	1.3		
	11	50.0	143.9	1.1		
	12	55.0	144.4	0.5		
F	13	61.3	142.7	-1.7		
			SECOND CLOSED-IN			
F	1	0.0	142.7			
	2	5.0	505.3	362.6	4.7	1.175
	3	10.0	777.5	634.8	8.8	0.904
	4	15.0	912.9	770.2	12.4	0.754
	5	20.0	1010.8	868.1	15.5	0.656

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	6	25.0	1098.2	955.5	18.5	0.581
	7	30.0	1162.0	1019.3	21.0	0.525
	8	35.0	1216.1	1073.4	23.4	0.479
	9	40.0	1264.9	1122.2	25.5	0.441
	10	45.0	1297.1	1154.4	27.5	0.409
	11	50.0	1321.1	1178.4	29.2	0.381
	12	55.0	1338.4	1195.7	30.9	0.358
	13	60.0	1350.3	1207.6	32.4	0.337
	14	65.0	1359.9	1217.2	33.8	0.319
	15	70.0	1365.3	1222.6	35.1	0.302
	16	75.0	1369.9	1227.2	36.3	0.287
	17	80.0	1373.0	1230.3	37.4	0.274
	18	85.0	1375.5	1232.8	38.5	0.262
	19	90.0	1376.3	1233.6	39.5	0.251
	20	95.0	1377.0	1234.4	40.4	0.241
	21	100.0	1377.8	1235.2	41.3	0.231
	22	105.0	1378.4	1235.7	42.1	0.223
	23	110.0	1379.3	1236.6	42.9	0.215
	24	115.0	1380.2	1237.5	43.7	0.207
G	25	120.0	1380.5	1237.8	44.4	0.200

REMARKS:
SLIGHT STAIR STEPPING THROUGHOUT TEST.

TICKET NO. 35070200

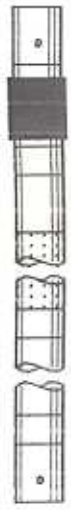
		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	4.500	3.826	2810.0	
3	DRILL COLLARS	6.500	2.813	437.6	
51	PUMP OUT REVERSING SUB	6.000	3.000	1.0	
3	DRILL COLLARS	6.500	2.813	31.6	
50	IMPACT REVERSING SUB	6.000	3.000	1.0	
3	DRILL COLLARS	6.500	2.813	31.6	
258	BAR CATCHER SUB	5.750	1.120	1.0	
80	AP RUNNING CASE	5.000	2.250	4.1	3302.3
5	CROSSOVER	5.000	2.200	1.0	
12	DUAL CIP VALVE	5.000	0.870	4.9	
202	SAMPLE CHAMBER	5.000	2.250	4.9	
33	DRAIN VALVE	5.000	2.200	0.9	
60	HYDROSPRING TESTER	5.000	0.750	5.3	3321.0
80	AP RUNNING CASE	5.000	2.250	4.1	3323.3
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
17	PRESSURE EQUALIZING CROSSOVER	4.870	1.000	1.0	
70	OPEN HOLE PACKER	6.000	1.530	5.8	3338.7
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	
70	OPEN HOLE PACKER	6.000	1.530	5.8	3346.5
20	FLUSH JOINT ANCHOR	5.000	2.370	10.0	
5	CROSSOVER	4.620	2.750	1.0	
80	AP RUNNING CASE	5.000	2.250	4.1	3360.9
5	CROSSOVER	4.620	2.750	1.0	
5	CROSSOVER	6.000	3.000	1.0	
3	DRILL COLLARS	6.500	2.813	31.5	
5	CROSSOVER	6.000	3.000	1.0	
5	CROSSOVER	4.620	2.750	1.0	
70	OPEN HOLE PACKER	6.000	1.530	5.8	3402.3

CONTINUED

EQUIPMENT DATA

TICKET NO. 35070200

		O.D.	I.D.	LENGTH	DEPTH
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	
70	OPEN HOLE PACKER	6.000	1.530	5.8	3410.1
5	CROSSOVER	4.620	2.750	1.0	
19	ANCHOR PIPE SAFETY JOINT	5.000	1.500	4.3	
20	FLUSH JOINT ANCHOR	5.000	2.370	22.0	
5	CROSSOVER	6.000	3.000	1.0	
3	DRILL COLLARS	6.500	2.813	31.6	
5	CROSSOVER	6.000	3.000	1.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	3475.0



TOTAL DEPTH 3478.0

EQUIPMENT DATA