

329243

AMOCO AUST. Tilana No.1
Date : 7 Oct 85 Time : 04:37

NB #15 : 2931m : 7 Oct '85

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY 24.00 cP
YIELD POINT 13.00 lb/cft²
POWER LAW k .7511
POWER LAW n .6521
DEPTH 2931.00 m (9617')
VERTICAL DEPTH 2930.65 m
DEPTH OF RETURNS 2928.00 m
CUTTINGS BULK DENSITY 2.50 spc grv
MUD DENSITY 9.40 lb/gal
ACTIVE SURFACE MUD VOLUME 394 bbl
FLOW RATE 610 gal/min
BOOSTER FLOW 0 gal/min
PUMP PRESSURE 2330 psi
PUMP gal/stk 4.96 gal/stk
BIT NOZZLES 14, 14, 14

CALCULATED RESULTS:

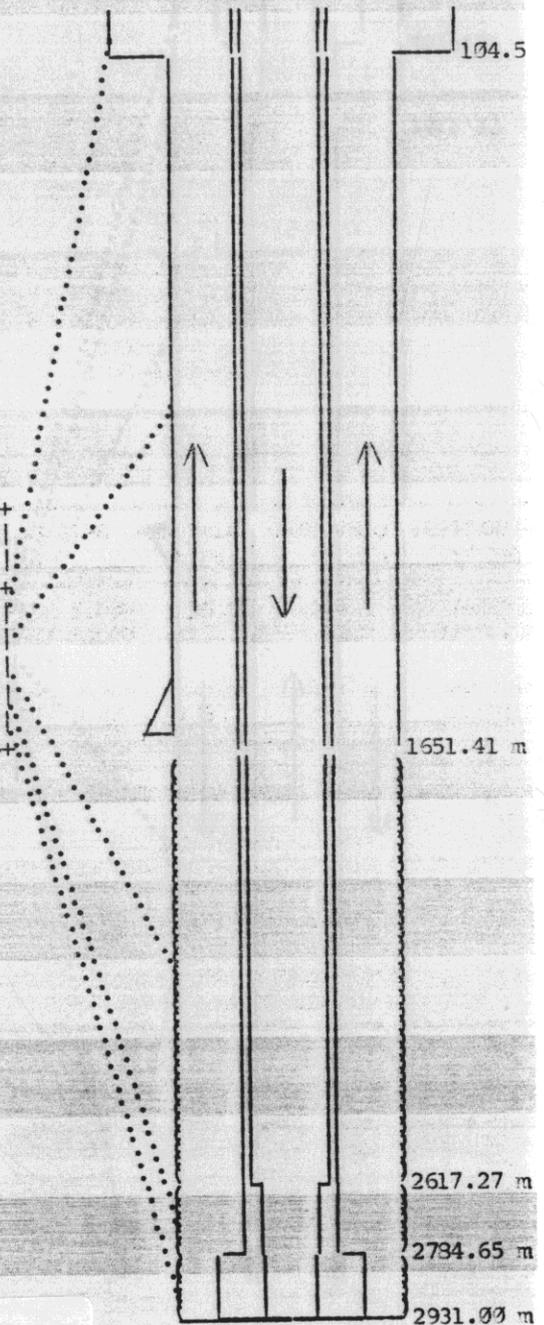
FROM m	TO m	LENGTH m	ANNULUS/PIPE in	ANN VELO. ft/min	CRIT VELO ft/min	FLOW REGIME	PRESS LOSS psi
0.00	104.55	104.55	13.750/ 5.000	45.8	214.1	LAMINAR	.3
104.55	1651.4	1546.9	12.347/ 5.000	117.3	292.8	LAMINAR	21.1
1651.4	2617.3	965.87	12.250/ 5.000	119.6	294.3	LAMINAR	13.6
2617.0	2734.7	167.38	12.250/ 5.000	119.6	294.3	LAMINAR	2.4
2734.7	2931.0	146.35	12.250/ 8.000	173.7	394.3	LAMINAR	6.3

MUD HYDROSTATIC 9.39 lb/gal
FLOW CONTRIBUTION .09 lb/gal
CUTTINGS CONTRIBUTION .02 lb/gal
EQUIVALENT CIRCULATING DENSITY 9.50 lb/gal

SURFACE PRESSURE LOSS 44 psi NOZZLE VELOCITY 434.0 ft/sec
PIPEBORE PRESSURE LOSS 1319 psi HYDRAULIC POWER 562.5 hp
ANNULAR PRESSURE LOSS 44 psi JET IMPACT FORCE 1233.0 lbs
BIT PRESSURE LOSS 1531 psi % OF PRESS LOSS AT BIT 53
TOTAL CALC. PRESS LOSS 2933 psi

VOLUMES:	gal	bbl	Strokes	Minutes @ 123 s.p.m.
1) Pipe Capacity	6769	161	1365	11.1
2) Pipe Displacement	4039	97	824	6.7
3) Total Annulus	51040	1215	10290	83.7 ← LAG
4) Mud in active pits	16531	394	3333	27.1
Circulation (1) + (3)	57809	1376	11655	94.8
Hole Volume (1)+(2)+(3)	61898	1474	12479	101.5
Total Mud Circulation	74340	1770	14983	121.9
HOLE OUT OF GAUGE:				
CIRCULATION CORRECTION FACTOR = 1.0293				
Corrected Annulus	52658	1254	10617	86.3 ← LAG
Corrected Hole	63516	1512	12306	104.1

Annulus Diam	Pipe j.d.	o.d.	i.d.
13.750	6.375	5.000	4.276
12.347	6.375	5.000	4.276
12.250	6.375	5.000	4.276
12.250	6.375	5.000	3.000
12.250	8.000	8.000	2.875



5 cm