EXLOG

AMOCO AUST. Tilana No.1
Date : 27 Sep 85 Time : 04:

329330

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	21.00 cP
YIELD POINT	15.00 lb/cft^2
POWER LAW k	.6019
POWER LAW n	.6630
DEPTH	7060.4 ft (2151.9m)
VERTICAL DEPTH	7060.2 ft
DEPTH OF RETURNS	7048.1 ft
CUTTINGS BULK DENSITY	2.60 spc grv
MUD DENSITY	9.12 lb/gal
ACTIVE SURFACE MUD VOLUME	356 bbl
FLOW RATE	613 gal/min
BOOSTER FLOW	0 gal/min
PUMP PRESSURE	2370 psi
PUMP gal/stk	4.96 gal/stk
BIT NOZZLES	15, 15, 15

CALCULATED RESULTS:

FROM ft	TO ft	LENGTH ft	ANNULUS/PIPE in	ANN VELO. ft/min	CRIT VELO ft/min	FLOW REGIME	PRESS LOSS psi
0.0	343.0	343.0	18.750/ 5.000	46.4	139.3	LAMINAR	.2
343.0	5418.0	5075.0	12.347/ 5.000	118.8	261.7	LAMINAR	17.7
5418.0	6031.1	613.1	12.250/ 5.000	121.1	263.5	LAMINAR	2.2
6031.0	6530.3	549.1	12.250/ 5.000	121.1	263.5	LAMINAR	2.0
6530.0	7060.4	480.1	12.250/ 3.000	176.0	345.8	LAMINAR	5.3

Annulus Diam	Pipe j.d.	Pipe o.d.	Pipe i.d.
18.750	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	3.000	3.000	2.375

MUD HYDROSTATIC	9.10 lb/gal
FLOW CONTRIBUTION	.07 lb/gal
CUTTINGS CONTRIBUTION	.04 lb/gal
EQUIVALENT CIRCULATING DENSITY	9.22 lb/gal

SURFACE PRESSURE LOSS	44 psi	NOZZLE VELOCITY	383.0 ft/sec
PIPEBORE PRESSURE LOSS	1045 psi	HYDRAULIC POWER	430.6 hp
ANNULAR PRESSURE LOSS	27 psi	JET IMPACT FORCE	1117.2 lbs
BIT PRESSURE LOSS	1194 psi	% OF PRESS LOSS AT BIT	52
TOTAL CALC. PRESS LOSS	2311 psi		

VOLUMES:	gal	bbl	Strokes	Minutes @ 125 s.p.m.
1) Pipe Capacity	4362	116	930	7.9
2) Pipe Displacement	3309	79	667	5.4
3) Total Annulus	38030	907	7677	61.6 <- LAG
4) Mud in active pits	15355	366	3096	24.8
Circulation (1) + (3)	42943	1022	8658	69.5
Hole Volume (1)+(2)+(3)	46252	1101	9325	74.8
Total Mud Circulation	53298	1388	11754	94.3
HOLE OUT OF GAUGE:				
CIRCULATION CORRECTION FACTOR = 1.0135				
Corrected Annulus	38873	926	7837	62.9 <- LAG
Corrected Hole	47044	1120	9485	76.1