EXLOG®

AMOCO AUST. Tilana No.1
Date : 14 Oct 85 Time : 04:

329350

NB# 16 : 3224m : 14 Oct '85.

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	24.00 cP
YIELD POINT	18.00 lb/cft^2
POWER LAW k	.7511
POWER LAW n	.6521
DEPTH	3224.00 m (10,578')
VERTICAL DEPTH	3223.70 m
DEPTH OF RETURNS	3221.00 m
CUTTINGS BULK DENSITY	2.50 spc grv
MUD DENSITY	9.30 lb/gal
ACTIVE SURFACE MUD VOLUME	436 bbl
FLOW RATE	616 gal/min
BOOSTER FLOW	0 gal/min
PUMP PRESSURE	2840 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	18.750/ 5.000	46.2	215.8	LAMINAR	.3
104.55	1651.4	1546.9	12.347/ 5.000	118.4	295.2	LAMINAR	21.2
1651.4	2910.3	1258.9	12.250/ 5.000	120.6	297.1	LAMINAR	17.9
2910.2	3077.7	167.38	12.250/ 5.000	120.6	297.1	LAMINAR	2.4
3077.6	3224.0	146.35	12.250/ 8.000	175.3	387.4	LAMINAR	6.3

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	8.000	8.000	2.875

MUD HYDROSTATIC	9.29 lb/gal
FLOW CONTRIBUTION	.09 lb/gal
CUTTINGS CONTRIBUTION	.02 lb/gal
EQUIVALENT CIRCULATING DENSITY	9.40 lb/gal

SURFACE PRESSURE LOSS	44 psi	NOZZLE VELOCITY	437.9 ft/sec
PIPEBORE PRESSURE LOSS	1419 psi	HYDRAULIC POWER	571.7 hp
ANNULAR PRESSURE LOSS	48 psi	JET IMPACT FORCE	1297.4 lbs
BIT PRESSURE LOSS	1592 psi	% OF PRESS LOSS AT BIT	51
TOTAL CALC. PRESS LOSS	3104 psi		

VOLUMES:	gal	bbl	Strokes	Minutes @ 124 s.p.m.
1) Pipe Capacity	7486	178	1509	12.2
2) Pipe Displacement	4383	104	884	7.1
3) Total Annulus	55914	1331	11273	90.8 <- LAG
4) Mud in active pits	18325	436	3694	29.8
Circulation (1) + (3)	63400	1510	12782	103.0
Hole Volume (1)+(2)+(3)	67783	1614	13666	110.1
Total Mud Circulation	81725	1946	16477	132.8
HOLE OUT OF GAUGE:				
CIRCULATION CORRECTION FACTOR = 1.0549				
Corrected Annulus	59394	1414	11975	96.5 <- LAG
Corrected Hole	71262	1697	14367	115.8