AMOCO AUST. Tilana No.1
Date : 9 Oct 85 Time : 04:37

329345 NB#15 : 3057m : 9 Oct. '8

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	25.00	cP
YIELD POINT	22.00	lb/cft^2
POWER LAW k	1.0545	
POWER LAW n	.6153	
DEPTH	3057.00	m (10030')
VERTICAL DEPTH	3056.60	m
DEPTH OF RETURNS	3053.50	m
CUTTINGS BULK DENSITY	2.50	spc grv
MUD DENSITY	9.30	lb/gal
ACTIVE SURFACE MUD VOLUME	460	bbl
FLOW RATE	613	gal/min
BOOSTER FLOW	0	gal/min
PUMP PRESSURE	2930	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	46.0	255.7	LAMINAR	.3
104.55	1651.4	1546.9	12.347/ 5.000	117.9	341.2	LAMINAR	26.2
1651.4	2743.3	1091.9	12.250/ 5.000	120.1	343.2	LAMINAR	19.1
2743.2	2910.7	167.38	12.250/ 5.000	120.1	343.2	LAMINAR	2.9
2910.5	3057.0	146.35	12.250/ 8.000	174.6	438.1	LAMINAR	7.5

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	9.28	lb/gal	
FLOW CONTRIBUTION	.11	lb/gal	
CUTTINGS CONTRIBUTION	.04	lb/gal	
EQUIVALENT CIRCULATING DENSITY	9.43	lb/gal	

SURFACE PRESSURE LOSS	44 psi	NOZZLE VELOCITY	436.0 ft/sec
PIPEBORE PRESSURE LOSS	1349 psi	HYDRAULIC POWER	564.6 hp
ANNULAR PRESSURE LOSS	56 psi	JET IMPACT FORCE	1286.5 lbs
BIT PRESSURE LOSS	1579 psi	% OF PRESS LOSS AT BIT	52
TOTAL CALC. PRESS LOSS	3028 psi		

VOLUMES:	gal	bbl	Strokes	Minutes @ 124 s.p.m.	
1) Pipe Capacity	7077	169	1427	11.5	
2) Pipe Displacement	4215	100	850	6.9	
3) Total Annulus	53136	1265	10713	86.7	<- LAG
4) Mud in active pits	19337	460	3899	31.5	
Circulation (1) + (3)	60213	1434	12140	98.2	
Hole Volume (1)+(2)+(3)	64429	1534	12990	105.1	
Total Mud Circulation	79550	1894	16038	129.8	
HOLE OUT OF GAUGE:					
CIRCULATION CORRECTION FACTOR =	1.0280				
Corrected Annulus	54822	1305	11053	89.4	<- LAG
Corrected Hole	66114	1574	13330	107.9