EXLOG

329335

AMOCO AUST. Tilana No.1
Date : 1 Oct 85 Time : 04:43

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	23.00 cP
YIELD POINT	13.00 lb/cft^2
POWER LAW k	.4427
POWER LAW n	.7127
DEPTH	2467.10 m (8095')
VERTICAL DEPTH	2466.69 m
DEPTH OF RETURNS	2459.27 m
CUTTINGS BULK DENSITY	2.20 spc grv
MUD DENSITY	9.30 lb/gal
ACTIVE SURFACE MUD VOLUME	477 bbl
FLOW RATE	455 gal/min
BOOSTER FLOW	0 gal/min
PUMP PRESSURE	2500 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	34.1	163.3	LAMINAR	.1
104.55	1651.4	1546.9	12.347/ 5.000	87.5	233.6	LAMINAR	12.4
1651.4	2153.4	501.97	12.250/ 5.000	89.2	235.4	LAMINAR	4.2
2153.1	2320.8	167.38	12.250/ 5.000	89.2	235.4	LAMINAR	1.4
2320.7	2467.1	146.35	12.250/ 8.000	129.6	318.7	LAMINAR	3.9

Annulus Diam	Pipe o.d.	Pipe 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

MUD HYDROSTATIC	9.27 lb/gal
FLOW CONTRIBUTION	.05 lb/gal
CUTTINGS CONTRIBUTION	.06 lb/gal
EQUIVALENT CIRCULATING DENSITY	9.38 lb/gal

SURFACE PRESSURE LOSS	25 psi	NOZZLE VELOCITY	323.7 ft/sec
PIPEBORE PRESSURE LOSS	732 psi	HYDRAULIC POWER	230.9 hp
ANNULAR PRESSURE LOSS	22 psi	JET IMPACT FORCE	708.9 lbs
BIT PRESSURE LOSS	870 psi	% OF PRESS LOSS AT BIT	53
TOTAL CALC. PRESS LOSS	1650 psi		

VOLUMES:	gal	bbl	Strokes	Minutes @ 92 s.p.m.	
1) Pipe Capacity	5634	134	1136	12.4	
2) Pipe Displacement	3625	86	731	8.0	
3) Total Annulus	43322	1031	8734	95.2	<- LAG
4) Mud in active pits	20013	477	4035	44.0	
Circulation (1) + (3)	48956	1166	9870	107.6	
Hole Volume (1)+(2)+(3)	52583	1252	10601	115.6	
Total Mud Circulation	68969	1642	13905	151.6	
HOLE OUT OF GAUGE:					
CIRCULATION CORRECTION FACTOR = 1.0185					
Corrected Annulus	44226	1053	8917	97.2	<- LAG
Corrected Hole	53434	1273	10783	117.5