EXLOG®

AMOCO AUST. Tilana No.1
Date : 28 Oct 85 Time : 04:1

329364

NB 20 : 3900m : 28 Oct 85 : T.D.

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	19.00	cP
YIELD POINT	16.00	lb/cft^2
POWER LAW k	.7370	
POWER LAW n	.6256	
DEPTH	3900.30	m (12,797').
VERTICAL DEPTH	3900.00	m
DEPTH OF RETURNS	3900.00	m
CUTTINGS BULK DENSITY	2.50	spc grv
MUD DENSITY	9.70	lb/gal
ACTIVE SURFACE MUD VOLUME	380	bbl
FLOW RATE	600	gal/min
BOOSTER FLOW	0	gal/min
PUMP PRESSURE	2900	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	45.0	195.4	LAMINAR	.2
104.55	1651.4	1546.9	12.347/ 5.000	115.4	262.6	LAMINAR	18.7
1651.4	3586.6	1935.2	12.250/ 5.000	117.6	264.2	LAMINAR	24.2
3586.3	3754.0	167.38	12.250/ 5.000	117.6	264.2	LAMINAR	2.1
3753.9	3900.3	146.35	12.250/ 8.000	170.9	339.2	LAMINAR	5.4

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	9.70	lb/gal	
FLOW CONTRIBUTION	.08	lb/gal	
CUTTINGS CONTRIBUTION	.00	lb/gal	
EQUIVALENT CIRCULATING DENSITY	9.78	lb/gal	

SURFACE PRESSURE LOSS	44 psi	NOZZLE VELOCITY	426.8 ft/sec
PIPEBORE PRESSURE LOSS	1491 psi	HYDRAULIC POWER	552.4 hp
ANNULAR PRESSURE LOSS	51 psi	JET IMPACT FORCE	1285.8 lbs
BIT PRESSURE LOSS	1578 psi	% OF PRESS LOSS AT BIT	50
TOTAL CALC. PRESS LOSS	3164 psi		

VOLUMES:	gal	bbl	Strokes	Minutes @ 121 s.p.m.	
1) Pipe Capacity	9141	218	1843	15.2	
2) Pipe Displacement	5060	120	1020	8.4	
3) Total Annulus	67166	1599	13541	111.9	<- LAG
4) Mud in active pits	15960	380	3218	26.6	
Circulation (1) + (3)	76307	1817	15384	127.2	
Hole Volume (1)+(2)+(3)	81367	1937	16405	135.6	
Total Mud Circulation	92267	2197	18602	153.8	
HOLE OUT OF GAUGE:					
CIRCULATION CORRECTION FACTOR =	1.0631				
Corrected Annulus	71982	1714	14513	120.0	<- LAG
Corrected Hole	86183	2052	17376	143.6