EXLOG

AMOCO AUST. Tilana No.1
Date : 2 Oct 85 Time : [illegible]

329236

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	22.00 cP
YIELD POINT	12.00 lb/cft^2
POWER LAW k	.4000
POWER LAW n	.7199
DEPTH	2560.33 m (8400')
VERTICAL DEPTH	2560.16 m
DEPTH OF RETURNS	2556.23 m
CUTTINGS BULK DENSITY	2.50 spc grv
MUD DENSITY	9.60 lb/gal
ACTIVE SURFACE MUD VOLUME	446 bbl
FLOW RATE	490 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	13.750/ 5.000	36.8	149.3	LAMINAR	.1
104.55	1651.4	1546.9	12.347/ 5.000	94.2	214.7	LAMINAR	12.1
1651.4	2246.6	595.19	12.250/ 5.000	96.0	216.4	LAMINAR	4.8
2246.4	2414.0	167.38	12.250/ 5.000	96.0	216.4	LAMINAR	1.4
2413.7	2560.3	146.35	12.250/ 8.000	139.5	294.3	LAMINAR	3.8

Annulus	Pipe		
Diam	j.d.	o.d.	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	2.375

MUD HYDROSTATIC	9.58 lb/gal
FLOW CONTRIBUTION	.05 lb/gal
CUTTINGS CONTRIBUTION	.03 lb/gal
EQUIVALENT CIRCULATING DENSITY	9.67 lb/gal

SURFACE PRESSURE LOSS	30 psi	NOZZLE VELOCITY	348.6 ft/sec
PIPEBORE PRESSURE LOSS	859 psi	HYDRAULIC POWER	297.7 hp
ANNULAR PRESSURE LOSS	22 psi	JET IMPACT FORCE	848.7 lbs
BIT PRESSURE LOSS	1042 psi	% OF PRESS LOSS AT BIT	53
TOTAL CALC. PRESS LOSS	1953 psi		

VOLUMES:	gal	bbl	Strokes	Minutes @ 99 s.p.m.
1) Pipe Capacity	5862	140	1182	12.0
2) Pipe Displacement	3718	89	750	7.6
3) Total Annulus	44873	1068	9047	91.6 <- LAG
4) Mud in active pits	18728	446	3776	38.2
Circulation (1) + (3)	50735	1208	10229	103.5
Hole Volume (1)+(2)+(3)	54453	1296	10978	111.1
Total Mud Circulation	69463	1654	14005	141.8
HOLE OUT OF GAUGE:				
CIRCULATION CORRECTION FACTOR = 1.0185				
Corrected Annulus	45810	1091	9236	93.5 <- LAG
Corrected Hole	55389	1319	11167	113.0