



AMOCO AUST. Tilana No.1
Date : 15 Oct 85 Time : 04:27

329001

NB#16; 15 Oct '85 : 3290m.

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY 21.00 cP
YIELD POINT 16.00 lb/cft²
POWER LAW k .6763
POWER LAW n .6485
DEPTH 3290.00 m (10,794')
VERTICAL DEPTH 3289.60 m
DEPTH OF RETURNS 3285.50 m
CUTTINGS BULK DENSITY 2.50 spc grv
MUD DENSITY 9.30 lb/gal
ACTIVE SURFACE MUD VOLUME 414 bbl
FLOW RATE 605 gal/min
BOOSTER FLOW 0 gal/min
PUMP PRESSURE 2770 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	45.4	198.2	LAMINAR	.2
104.55	1651.4	1546.9	12.347/ 5.000	116.3	270.5	LAMINAR	18.7
1651.4	2976.3	1324.9	12.250/ 5.000	118.6	272.2	LAMINAR	16.6
2976.1	3143.7	167.38	12.250/ 5.000	118.6	272.2	LAMINAR	2.1
3143.4	3290.0	146.35	12.250/ 8.000	172.3	354.2	LAMINAR	5.5

Annulus Diam	Pipe		
	j.d.	o.d.	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 .08 lb/gal
CUTTINGS CONTRIBUTION .03 lb/gal
EQUIVALENT CIRCULATING DENSITY 9.39 lb/gal

SURFACE PRESSURE LOSS 43 psi NOZZLE VELOCITY 430.4 ft/sec
PIPEBORE PRESSURE LOSS 1347 psi HYDRAULIC POWER 542.8 hp
ANNULAR PRESSURE LOSS 43 psi JET IMPACT FORCE 1253.2 lbs
BIT PRESSURE LOSS 1538 psi % OF PRESS LOSS AT BIT 52
TOTAL CALC. PRESS LOSS 2971 psi

VOLUMES:	gal	bbl	Strokes	Minutes @ 122 s.p.m.
1) Pipe Capacity	7647	182	1542	12.6
2) Pipe Displacement	4449	106	897	7.4
3) Total Annulus	57012	1357	11494	94.2 ← LAG
4) Mud in active pits	17367	414	3501	28.7
Circulation (1) + (3)	64660	1540	13036	106.9
Hole Volume (1)+(2)+(3)	69109	1645	13933	114.2
Total Mud Circulation	82027	1953	16538	135.6
HOLE OUT OF GAUGE:				
CIRCULATION CORRECTION FACTOR =	1.0549			
Corrected Annulus	60561	1442	12210	100.1 ← LAG
Corrected	72657	1730	14649	120.1

