

EX-01

AMOCO AUST. Tilana No.1
 Date : 18 Oct 85 Time : 04:31

329353

NB#17 : 3357m : Hydraulics for 3H4 jet
 18 Oct '85

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY 31.00 cP
 YIELD POINT 27.00 lb/cft²
 POWER LAW k 1.2820
 POWER LAW n .6178
 DEPTH 3357.40 m (11,015')
 VERTICAL DEPTH 3357.00 m
 DEPTH OF RETURNS 3352.40 m
 CUTTINGS BULK DENSITY 2.50 spc grv
 MUD DENSITY 9.60 lb/gal
 ACTIVE SURFACE MUD VOLUME 388 bbl
 FLOW RATE 470 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	35.3	289.4	LAMINAR	.3
104.55	1651.4	1546.9	12.347/ 5.000	90.4	386.7	LAMINAR	27.3
1651.4	3043.7	1392.3	12.250/ 5.000	92.1	389.0	LAMINAR	25.4
3043.4	3211.1	167.38	12.250/ 5.000	92.1	389.0	LAMINAR	3.1
3210.8	3357.4	146.35	12.250/ 8.000	133.8	497.2	LAMINAR	7.8

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 9.59 lb/gal
 FLOW CONTRIBUTION .11 lb/gal
 CUTTINGS CONTRIBUTION .03 lb/gal
 EQUIVALENT CIRCULATING DENSITY 9.73 lb/gal

SURFACE PRESSURE LOSS 28 psi NOZZLE VELOCITY 334.2 ft/sec
 PIPEBORE PRESSURE LOSS 1021 psi HYDRAULIC POWER 262.5 hp
 ANNULAR PRESSURE LOSS 64 psi JET IMPACT FORCE 780.3 lbs
 BIT PRESSURE LOSS 958 psi % OF PRESS LOSS AT BIT 46
 TOTAL CALC. PRESS LOSS 2071 psi

VOLUMES:	gal	bbl	Strokes	Minutes @ 95 s.p.m.
1) Pipe Capacity	7812	186	1575	16.6
2) Pipe Displacement	4516	108	911	9.6
3) Total Annulus	58134	1384	11720	123.7 ← LAG
4) Mud in active pits	16279	388	3282	34.6
Circulation (1) + (3)	65946	1570	13296	140.4
Hole Volume (1)+(2)+(3)	70462	1678	14206	150.0
Total Mud Circulation	82225	1958	16578	175.0
HOLE OUT OF GAUGE:				
CIRCULATION CORRECTION FACTOR =	1.0990			
Corrected Annulus	64664	1540	13037	137.6 ← LAG
Corrected Hole	76993	1833	15523	163.9

