

329344

AMOCO AUSTR. Tiliana No. 1
 Date: 8 Oct 85 Time: 04.00

NB#15 : 2990 m : Oct '85

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY 26.00 cP
 YIELD POINT 19.00 lb/cft²
 POWER LAW k .7763
 POWER LAW n .6579
 DEPTH 2990.10 m (9810')
 VERTICAL DEPTH 2989.75 m
 DEPTH OF RETURNS 2985.14 m
 CUTTINGS BULK DENSITY 2.50 spc grv
 MUD DENSITY 9.30 lb/gal
 ACTIVE SURFACE MUD VOLUME 355 bbl
 FLOW RATE 612 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	45.9	223.9	LAMINAR	.3
104.55	1651.4	1546.9	12.347/ 5.000	117.7	307.5	LAMINAR	22.3
1651.4	2676.4	1025.0	12.250/ 5.000	119.9	309.6	LAMINAR	15.3
2676.1	2943.8	167.38	12.250/ 5.000	119.9	309.6	LAMINAR	2.5
2943.5	2990.1	146.35	12.250/ 8.000	174.3	405.0	LAMINAR	6.7

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 9.28 lb/gal
 FLOW CONTRIBUTION .09 lb/gal
 CUTTINGS CONTRIBUTION .03 lb/gal
 EQUIVALENT CIRCULATING DENSITY 9.41 lb/gal

SURFACE PRESSURE LOSS 44 psi NOZZLE VELOCITY 435.4 ft/sec
 PIPEBORE PRESSURE LOSS 1368 psi HYDRAULIC POWER 562.0 hp
 ANNULAR PRESSURE LOSS 47 psi JET IMPACT FORCE 1282.6 lbs
 BIT PRESSURE LOSS 1574 psi % OF PRESS LOSS AT BIT 52
 TOTAL CALC. PRESS LOSS 3033 psi

VOLUMES:	gal	bbl	Strokes	Minutes @ 123 s.p.m.
1) Pipe Capacity	6913	165	1394	11.3
2) Pipe Displacement	4148	99	836	6.8
3) Total Annulus	52023	1239	10489	85.0 ← LAG
4) Mud in active pits	14893	355	3003	24.3
Circulation (1) + (3)	58937	1403	11882	96.3
Hole Volume (1)+(2)+(3)	63085	1502	12719	103.1
Total Mud Circulation	73830	1758	14895	120.6
HOLE OUT OF GAUGE:				
CIRCULATION CORRECTION FACTOR =	1.0290			
Corrected Annulus	53673	1278	10821	87.7 ← LAG
Corrected Hole	64735	1541	13051	105.8

