329348

NB # 16 : 12 Oct. 85

AMOCO AUST.   Tilana No.1
Date :   12 Oct 85   Time :   06:07

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	23.00	cP
YIELD POINT	20.00	lb/cft^2
POWER LAW k	.9482	
POWER LAW n	.6181	
DEPTH	3076.64	m (10,094')
VERTICAL DEPTH	3076.23	m
DEPTH OF RETURNS	3068.76	m
CUTTINGS BULK DENSITY	2.50	spc grv
MUD DENSITY	9.30	lb/gal
ACTIVE SURFACE MUD VOLUME	385	bbl
FLOW RATE	604	gal/min
BOOSTER FLOW	0	gal/min
PUMP PRESSURE	2850	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	45.3	238.2	LAMINAR	.3
104.55	1651.4	1546.9	12.347/ 5.000	116.1	318.4	LAMINAR	23.6
1651.4	2762.9	1111.5	12.250/ 5.000	118.3	320.4	LAMINAR	17.5
2762.7	2930.3	167.38	12.250/ 5.000	118.3	320.4	LAMINAR	2.6
2930.0	3076.6	146.35	12.250/ 8.000	172.0	409.6	LAMINAR	6.8

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	9.28	lb/gal
FLOW CONTRIBUTION	.10	lb/gal
CUTTINGS CONTRIBUTION	.05	lb/gal
EQUIVALENT CIRCULATING DENSITY	9.43	lb/gal

SURFACE PRESSURE LOSS	43 psi	NOZZLE VELOCITY	429.6	ft/sec
PIPEBORE PRESSURE LOSS	1294 psi	HYDRAULIC POWER	539.8	hp
ANNULAR PRESSURE LOSS	51 psi	JET IMPACT FORCE	1248.6	lbs
BIT PRESSURE LOSS	1532 psi	% OF PRESS LOSS AT BIT	52	
TOTAL CALC. PRESS LOSS	2920 psi			

VOLUMES:	gal	bbl	Strokes	Minutes @ 122 s.p.m.	
1) Pipe Capacity	7125	170	1437	11.8	
2) Pipe Displacement	4235	101	854	7.0	
3) Total Annulus	53463	1273	10779	88.5	<- LAG
4) Mud in active pits	16187	385	3263	26.8	
Circulation (1) + (3)	60588	1443	12215	100.3	
Hole Volume (1)+(2)+(3)	64823	1543	13069	107.4	
Total Mud Circulation	76775	1828	15479	127.1	
HOLE OUT OF GAUGE:					
CIRCULATION CORRECTION FACTOR = 1.0280					
Corrected Annulus	55159	1313	11121	91.3	<- LAG
Corrected Hole	66520	1584	13411	110.2	

104.55

1651.41 m

2762.92 m

2930.30 m

3076.64 m

5 cm