329362

Core #3.

AMOCO AUST. Tilana No.1
Date : 26 Oct 85 Time : 04:50

HYDRAULICS CALCULATIONS

PLASTIC VISCOSITY	26.00	cP
YIELD POINT	32.00	lb/cft^2
POWER LAW k	2.1455	
POWER LAW n	.5343	
DEPTH	3751.38	m (12,308')
VERTICAL DEPTH	3750.95	m
DEPTH OF RETURNS	3747.05	m
CUTTINGS BULK DENSITY	2.50	spc grv
MUD DENSITY	9.90	lb/gal
ACTIVE SURFACE MUD VOLUME	346	bbl
FLOW RATE	595	gal/min
BOOSTER FLOW	0	gal/min
PUMP PRESSURE	3020	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	44.7	336.4	LAMINAR	.6
104.55	1651.4	1546.9	12.347/ 5.000	114.4	426.5	LAMINAR	39.7
1651.4	3437.6	1786.2	12.250/ 5.000	116.6	428.6	LAMINAR	47.3
3437.5	3605.0	167.38	12.250/ 5.000	116.6	428.6	LAMINAR	4.4
3604.9	3751.4	146.35	12.250/ 8.000	169.5	524.0	LAMINAR	10.6

MUD HYDROSTATIC	9.89	lb/gal
FLOW CONTRIBUTION	.16	lb/gal
CUTTINGS CONTRIBUTION	.02	lb/gal
EQUIVALENT CIRCULATING DENSITY	10.07	lb/gal

SURFACE PRESSURE LOSS	44 psi	NOZZLE VELOCITY	423.3 ft/sec
PIPEBORE PRESSURE LOSS	1513 psi	HYDRAULIC POWER	549.8 hp
ANNULAR PRESSURE LOSS	103 psi	JET IMPACT FORCE	1290.5 lbs
BIT PRESSURE LOSS	1584 psi	% OF PRESS LOSS AT BIT	49
TOTAL CALC. PRESS LOSS	3243 psi		

VOLUMES:	gal	bbl	Strokes	Minutes @ 120 s.p.m.	
1) Pipe Capacity	8777	209	1769	14.8	
2) Pipe Displacement	4911	117	990	8.3	
3) Total Annulus	64688	1540	13042	108.7	<- LAG
4) Mud in active pits	14511	346	2926	24.4	
Circulation (1) + (3)	73465	1749	14811	123.5	
Hole Volume (1)+(2)+(3)	78376	1866	15802	131.7	
Total Mud Circulation	87976	2095	17737	147.9	
HOLE OUT OF GAUGE:					
CIRCULATION CORRECTION FACTOR =	1.0631				
Corrected Annulus	69325	1651	13977	116.5	<- LAG
Corrected Hole	83013	1976	16736	139.5	

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