Lampiran 6. Analisis Efisiensi Berdasarkan Kompartemen

General spreadsheet for ABR with integrated settler										
daily wastewater flow	time of most wastewater flow	max. peak flow per hour	COD inflow	BOD5 inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temperature	desliudging interval	HRT in settler (no settler HRT=0)	COD removal rate in settler
avg.	given	max.	given	given	calcul.	given	given	chosen	chosen	calcul
m3/day	h	m3/h	mg/l	mg/l	ratio	mg/l	oC	months	h	%
9,10	2	4,55	1001,68	233,57	4,29	0,42	25	12	1,5	23%
		COD/BOD5 -->				0,35-0,45				
treatment data										
BOD5 removal rate in settler	inflow into baffled reactor		COD/BOD5 ratio after settler	factor to calculate COD removal rate of anaerobic filter			COD rem. 25o, COD 1500	theor. Rem. Rate acc. To factors	COD rem.rate baffle only	COD out
calcul	COD	BOD5	calcul	calculated according to graphs				calcul	calcul	calcul
%	mg/l	mg/l	mg/l	f-overload	f-strength	f-temp	f-HRT %	%	%	mg/l
24%	773,80	177,24	4,37	0,99	0,94	1	95%	88%	83%	132,92
1,06	<-- COD/BOD remval factor						COD/BOD removal factor -->			1,025
dimensions of settler								ABR		
tatal COD removal rate	total BOD5 removal rate	BOD5 out	inner masonty measurements chosen acc, to required volume		sludge accum. Rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet

calcul	calcul	calcul	width	depth	calcul	calcul	chosen	chosen	chosen	chosen
%	%	mg/l	mg/l	mg/l	l/g COD	mg/l	m	m/h	No.	mg/l
87%	89%	25,9302	2	1,5	0,0042	4,55	2,5	1,8	3	1,5
dimensions of ABR							status and gp			
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	org. load (BOD5)	biogass (ass CH4 70%; 50% dissolved)
calcul	chosen	calcul	calcul	chosen	calcul	chosen	calcul	calcul	calcul	calcul
m	m	m2	m	m	m/h	m	m3	h	kg/m3.d	m3./d
0,75	0,75	2,53	3,37	2,25	2,70	0,25	10,125	25,4317111	8,35	1,98
							HRT reduced by 5% for sludge			