SLUDGE PRODUCTION FROM BIO-P REMO

Q=	42500	m3/d
BODo=	300	mg/L
Pin=Cp,IAT	10	
Peff=Cp,ES	1	

PxT

YobsH=	**0.697**		YobsH= (0,75+0,6(SS/BOD)-((1-0,2)*0,17*0,75
Sp,dC=	**8,887**	kg/d	=Yobs*Q*BODo/1000
Xp,BM=	3.00	mg/L	=Q*0.010*BODo/1000) Biological P
Xp,bioP=	3.00	mg/L	=Q*0.010*BODo/1000)
Xp,prec=	3.00	mg/L	=(TPo-TPeff-Xp,BM-Xp,BioP)=(TPo-TPeff-0.01*
SPd,P=	**1,249.50**	kg/d	=Q*(3*XpbioP+6.8*Xpprec)/1000
PxT=	**10,136.25**	kg/d	=SPdC+SPdP

Reference: ATV-131-A

$$X_{P,Prec} = C_{P,IAT} - C_{P,EST} - X_{P,BM} - X$$

$C_{P,IAT}$ is the concentration of the total ph
effluent concentration ($C_{P,EST}$) is to be se
phosphorus ($C_{P,ER}$), e.g. $C_{P,EST}$ = 0.6 to (
heterotrophic biomass ($X_{P,BM}$) can be set
normal municipal wastewater one can assu
removal ($X_{P,BioP}$):

– $X_{P,BioP}$ = 0.01 to 0.015 · $C_{BOD,IAT}$ or 0.00
anaerobic tanks.

of precipitant and the amount of dosing,
production of 2.5 kg SS per kg dosed iron a
production resulting from phosphorus remo

$$SP_{d,P} = Q_d \cdot (3 \cdot X_{P,BioP} + 6.8 \cdot X_{P,Prec}$$

If lime is used for precipitation the sludge
($Ca(OH)_2$); see also ATV Standard ATV-A 2

)VAL AND P PRECIPATION WITH FeCl3

(1+0,17*SRT*FT))

Organic Matter resulting from deg

removed (0,01-0,015 of BOD Load)

SOLID MATTER FROM EXCESS BIO-P REMC

SOLID MATTER FROM sımultaneous ppt

*BODo-0.01*BODo)

Concentration of P to be precipitated

TOTAL SLUDGE

$X_{P,BioP}$ [mg/l] (5-9)

osphorus in the influent to the biological reactor. The
lected in agreement with the effluent requirement for
).7 $C_{P,ER}$. The phosphorus necessary for the build-up
as 0.01 $C_{BOD,IAT}$ or 0.005 $C_{COD,IAT}$ respectively. With
ume the following for the excess biological phosphorus

)5 to 0.007 $C_{COD,IAT}$ respectively with upstream

comp. Sect. 5.2.3. One should reckon with a sludge
and 4 kg SS per kg dosed aluminium. The total sludge
val ($SP_{d,P}$) thus results as follows:

$c,Fe + 5.3 \cdot X_{P,Prec,Al})/1000$ [kg/d] (5-14)

production is 1.35 kg SS per kg calcium hydroxide
202.

gredation and stored solid matter

OVAL (Bio-P Tanks)
tn (FeCl3 addm)