
ภาคผนวก ข

ภาคผนวก ข WORK SHEET

Determination of radon/thoron progeny concentrations with Decay method

	Half life of radon/thoron progeny (min)	Decay constant of radon progeny (min ⁻¹)
²¹⁸ Po(RaA)	3.05	0.2273
²¹⁴ Pb(RaB)	26.8	0.0259
²¹⁴ Bi(RaC)	19.9	0.0348
²¹⁶ Po(ThA)	0.0025	277.2589
²¹² Pb(ThB)	638.4	0.0011
²¹² Bi(ThC)	60.55 min	0.0114

ตัวอย่างการคำนวณสำหรับ impactor stage 3 ที่ cut off diameter 0.5 μm

Geometric eff.= 0.33

Actual Timetable

Sampling period(T_s)= 40	(min)
1st waiting period(T_w)= 1.33	(min)
1st measurement period(T_m)= 5	(min)
2nd waiting period(T_w)= 5	(min)
2nd measurement period(T_m)= 10	(min)
3rd waiting period(T_w)= 10	(min)
3rd measurement period(T_m)= 10	(min)

Date: 16/2/2010
 Time: 13:20
 Place: HSE office

Flow rate(L/min)= 4.00

Counts	Gross counts
1st measurement period	33
2nd measurement period	71
3rd measurement period	70

RaA= **10.3319** ± **20.3217** Bq/m³
 RaB= **5.8378** ± **1.4604** Bq/m³
 RaC= **0.2345** ± **0.0237** Bq/m³
 PAEC(Rn)= **22.2367** ± **12.4528** nJ/m³
 EERC= **3.9994** ± **2.2397** Bq/m³

For radon progeny

Iaa(1)=	9.716262738		
Iac(1)=	7.201045386		
Ibc(1)=	71.42988596		
Icc(1)=	94.55281892		
Iaa(2)=	1.322571762		
Iac(2)=	17.63244969		
Ibc(2)=	159.2935013		
Icc(2)=	122.8173642		
Iaa(3)=	0.014042747		
Iac(3)=	16.76922781		
Ibc(3)=	141.6543792		
Icc(3)=	61.19515842	detA=	-63933.4
(1,1)=	16.91730812	new(1,1)=	0.11965
(1,2)=	71.42988596	new(1,2)=	-0.14113
(1,3)=	94.55281892	new(1,3)=	0.098365
(2,1)=	18.95502145	new(2,1)=	-0.0141
(2,2)=	159.2935013	new(2,2)=	0.008628
(2,3)=	122.8173642	new(2,3)=	0.004465
(3,1)=	16.78327056	new(3,1)=	-0.00018
(3,2)=	141.6543792	new(3,2)=	0.018732
(3,3)=	61.19515842	new(3,3)=	-0.02097
		Xa=	0.619914
		dXa=	1.219303
		Xb=	0.350269
		dXb=	0.087624
		Xc=	-0.10975
		dXc=	0.179726