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APPENDIX

Appendix A

SPECIFIC ACTIVITY CALCULATION

The activity per unit weight of a given nuclide was calculated using the following formular.

$$I = \frac{C \times A \times \exp(0.693147 \times T_d / T_{1/2})}{T_1 \times Y \times \Sigma \times W}$$

where

C = correctionfactor

$$= 0.693/T_{1/2} \times T_c / (1 - \exp(-0.693147/T_{1/2} \times T_c)),$$

A = peak area,

T_d = decay time,

$T_{1/2}$ = isotope half-life,

T_1 = live collection time,

Y = gamma-ray yield,

Σ = detection efficiency,

W = sample weight.

Appendix B

ENRICHMENT FACTOR CALCULATION

The enrichment factor (EF) for radionuclide in ash resulted from combustion process was obtained from the following formular.

$$EF = \frac{[\text{radionuclide}]_{\text{ash}} / [\text{K-40}]_{\text{ash}}}{[\text{radionuclide}]_{\text{orig}} / [\text{K-40}]_{\text{orig}}}$$

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