**Table 1 - Analytical Methods and Sample Requirements**

| MATRIX | CONTAINER | PRESERVATIVE | ANALYTE | VOLUME OR MASS REQUIRED | METHOD REFERENCE | MDA [a] |
|---|---|---|---|---|---|---|
| Soil | 0.5 liter large-mouth Nalgene jar or plastic ziplock bag | None | Isotopic Uranium | < 10 g | EML U-02 Modified | <1.0 pCi/g [b, c] |
| | | | Isotopic Thorium | < 10 g | EML Th-01 Modified | <1.0 pCi/g [c] |
| | | | Gamma emitters including: Bi-214 & Pb-214 (Ra-226) Ac-228 (Ra-228), and K-40 | 400-500 grams | LANL ER-130 Modified | <1.0 pCi/g [c] |
| Water | 1 Gallon Cubitainer | pH <2.0 $HNO_3$ | Gross Alpha & Beta | Two gallons in 1-Gal Cubitainers | EPA 900.0 Modified or EPA 900.1 Modified [d] | <5 pCi/L |
| | | | Isotopic Thorium | | EML Th-01 Modified | <1.0 pCi/L |
| | | | Radium-226 | | EPA 903.0 Modified | <1.0 pCi/L |
| | | | Radium-228 | | EPA 904.0 Modified | <2.0 pCi/L |
| Air | 47mm Filter | None | Gross Alpha & Beta | Air volume sampled $\geq 1 \times 10^8$ mL | EPA 900.0 Modified | $<5\times10^{-14}$ µCi/mL [e, f] |
| | | | Isotopic Thorium | | EML Th-01 Modified | $<5\times10^{-14}$ µCi/mL [e, f] |

[a] MDA = method detection activity

[b] pCi = picoCuries

[c] Standard MDA. Lower MDA's available.

[d] Dependent on dissolved solids content.

[e] uCi = microCuries

[f] Dependent on volume of air sampled.



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