TEMPERATURE SHORT-TERM STABILITY TEST TO PRODUCE URANIUM SOIL REFERENCE MATERIAL

Fonseca, A.M.G., Clain, A.F., Dantas, V.D.B.,

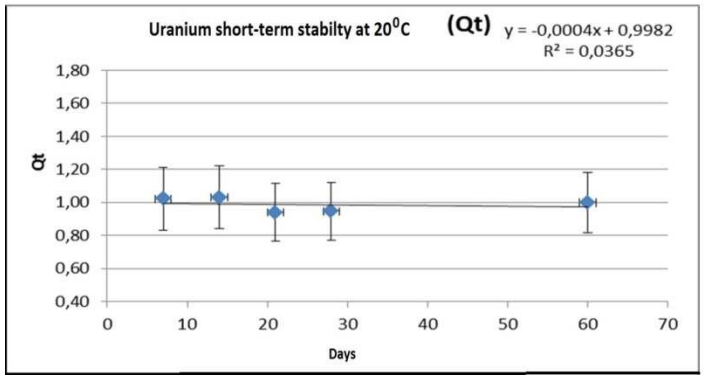
Bragança, M.J.C and Souza, P.S.

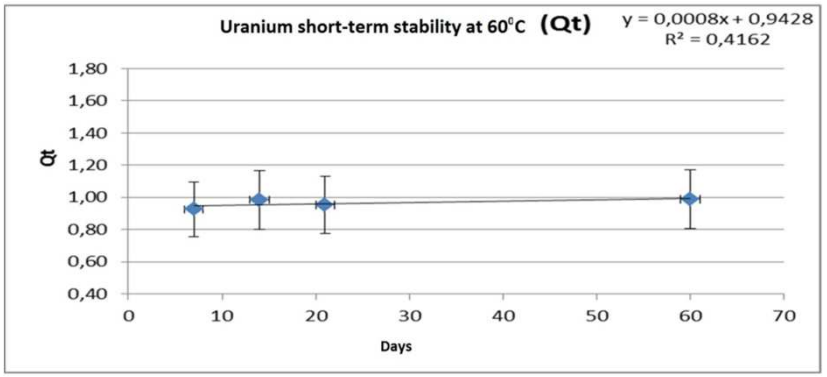
Instituto de Radioproteção e Dosimetria- Brazil

OBJECTIVES AND METHODOLOGY

- Production of soil reference material to be used in intercomparisons and other tests conducted by IRD.
- Advantages: low cost and the material was available.
- First step: collect and prepare the material.
- Reference sample stored at -20^{o}C. Uranium concentration measured after storage at 20^{o} and 60^{o}C
- Uranium concentration determined by thermal neutron activation method.
- Induced gamma activity measured

RESULTS





CONCLUSION

- At 20°C t value was 0.34 and the critical value of t was 2.78.
- At 60°C t value was 1.19 and the critical value of t was 3.18.
- In both cases, the calculated value of t is lower than the critical value.
- At a 95% confidence level no significant changes in U concentration over the studied time at temperatures of 20°C and 60°C was detected.
- The reference material showed short term stability at these temperatures.