Measurements of the kerma environmental in the Caetité-BA mining area using TLD

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Since 2000, the Dosimetry Laboratory (LDOS) from Safety and Radioprotection Coordination (CSPR) from IEN, has been rendering services of environmental dosimetry to mining company in Caetité, State of Bahia. This service happens every quarter with the exhibition of twenty-six TLD installed previously in sampling points, located around of the uranium mine facilities of the Brazilian Nuclear Industries (INB) in Caetité, State of Bahia. Also it takes place monthly the environmental monitoring of the uranium ore pile during the extraction process, performed by this industry.

After the monitoring period, the dosimeters are picked up and substituted by new ones, in continuity to the environmental monitoring program from the installation.

In this program, TLD's LiF: Mg,Cu,P are used, in chips form, as it has a high sensitivity [1] for thus is more appropriated to this environmental studies.

The detectors of LiF:Mg,Cu,P are put in special box to preserve its physical integrities and fastened in PVC tubes to 1 meter of the soil, in conformity with the traditional methodology globally used in environmental studies [2, 3].

The Dosimetry Laboratory (figure 1) has a model 5500 Harshaw Automatic Reader through it the evaluations and thermal treatments of these detectors are carried. This reader is capable of

reading fifty detectors per loading [4], providing larger agility in the process, as well as an improvement in the quality of the analyses and consequently a better attendance to the customer.



Figure-1- The Dosimetry TL-Laboratory (LDOS)

References

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