

in Methods and Chain of Custody for Measurements of Soil Gas Samples

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An important aspect of on-site inspection (OSI) is a rigid chain of custody, where the risk of human error is minimized. Since 2016, FOI has conducted four field campaigns in Kvarntorp (Sweden), with the aim of understanding the radioactive xenon background in uranium-rich soil. During these campaigns, we have developed methodologies for sample collection and analysis. During the most recent campaigns, we utilized Wi-Fi controlled soil gas samplers with automatic logging of relevant quality parameters (e.g. pressure, flow, volume, CO₂, O₂, Rn). Sample information and metadata are transferred to a digital field protocol and written to a RFID-tag when the collected air sample is compressed and transferred to a pressurized bottle. The SAUNA Field system, used for processing and analysis of the samples, has been equipped with a multi-sample inlet module that holds six bottles. The inlet automatically reads the information from the RFID tags, making it easy to start a measurement by selecting samples in the system GUI. This minimizes the risk of human error as well as ensures a tracking of the samples and all associated data. In this work, we aim to present lessons learned and how this could help to improve the chain of custody in an OSI context.

Promotional text

Improvements in methods and chain of custody for measurements of soil gas samples.

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Oral preference format

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