# CONSIDERATIONS FOR AN AUTOMATED SYSTEM TO DETECT 'HOT' PARTICLES

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## ABSTRACT

As the radiological auditor for the Maralinga Rehabilitation Project, ARPANSA was required to ensure that the remediated areas did not contain any particles highly contaminated with plutonium and that the numbers of moderately contaminated particles met the criterion set for the project. In order to examine a land area exceeding 2,500,000 $m^2$, it was necessary to develop an automated system for detecting 'hot' particles. This paper discusses the technical aspects considered when developing this system. In particular, the basis for optimising the counting interval and an improved counting methodology will be discussed and compared with alternatives. The performance of the system under the conditions found at Maralinga is described.