

of Ar-37 Backgrounds at the Nevada National Security Site

A series of measurements have been undertaken at a test bed site on the Nevada National Security Site as part of a large scale subsurface gas migration experiment. Samples have been collected and analyzed for Ar-37. The Ar-37 is expected to be present in shallow soil gas as a result of natural production and at much deeper depths as part of the gas migration experiment. Radiotracers (Ar-37 and Xe-127) were injected into the underground test cavity, and measurements are being made to track the migration of the injected gases. The initial Ar-37 results have been obscured by an interfering radiometric signature and this signature is present at both shallow and deep sampling depths. This talk will discuss the test bed, the sampling methods and the results of samples collected to date. Additional discussion will detail the methods used to determine that the radiometric signature interfering with the Ar-37 analysis results from the presence of Ar-39 at the site.

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