Sources of background and background variation in a BEGe type HPGe detector located in a surface laboratory were identified. Different strategies for background reduction were applied. A cosmic veto was installed, and optimised using a digital acquisition system in list-mode with time-stamped data. This resulted in the reduction of total background by a factor of 1.4. Thermal and fast neutron fluxes were also calculated. The radon induced background component and its variation were significantly reduced.