Abstract Submitted for the DNP20 Meeting of The American Physical Society

Shallow underground lab for low-background measurements¹ SAMUEL MEIJER, STEVEN ELLIOTT, RALPH MASSARCZYK, DONALD COX, MELISSA BOSWELL, Los Alamos National Laboratory — This talk will discuss both the design and operation of a low-background germanium detector for various sensitive measurements. The detector system is located in a shallow underground facility, with approximately 300 feet of overburden, reducing cosmogenic backgrounds considerably from ground level. The design of the shield and veto system are described, as well as the efficiency measurement and simulations performed. This detector system is now acting to produce sensitive assay of materials for the LEGEND collaboration.

¹This material is based upon work supported by the U.S. Department of Energy, Office of Science, Office of Nuclear Physics.

Samuel Meijer Los Alamos National Laboratory

Date submitted: 26 Jun 2020 Electronic form version 1.4