



Alan Auld
ENGINEERING

Project Data Sheet - Deep Mine Shaft Engineering



Over the past 20 years the Alan Auld Group has been involved in many deep shafts sunk to access mineral deposits throughout the world. In recent years this has included schematic and detailed shaft designs for new mines and repositories, major repair and renovation works for existing shafts and sub-surface structures, and design verification works. Dr F.A. Auld, a leading authority on the design of deep mine shafts, has guided this work. A brief synopsis of some recent projects follows:

Boulby Potash Mine, North Yorkshire, UK

This Mine extends to over 1300m depth from shafts around 1150m deep, and as such is the deepest mine in the UK. The design of these shafts is complicated by them passing through a layer of squeezing marl at a depth of 1100m. This necessitated the design and installation of a special squeeze resistant lining, as designing the shaft to resist the full geostatic pressure was uneconomical.

Picadilly Potash Mine, New Brunswick, Canada

This new mine for a Potash deposit requires the design of 800m deep shafts and associated insets in part through a challenging evaporite sequence.

National Mining Museum, Caphouse, West Yorkshire, UK

This project required the stabilisation of the old furnace ventilation shaft. This was achieved through the design of new curb rings to support the original brick lining of the shaft that had rotted away. Further works included a roadway and a new pit bottom structure in shotcrete and steel that was then lined with brickwork to replace the original nineteenth century brick lined furnace area.

Lubelska Coal Company, Ukraine

Design review and verification work for a new coal prospect requiring 800m access shafts.

