

**Explanation of Maps:** Lesotho is a mountainous country of 30 355 km<sup>2</sup> surrounded by the Republic of South Africa. Most of the population of about 2 million live within the low-lying north-western and western fringe of Lesotho where much of the 11% of the land area given over to arable farming is located. According to the World Bank, over 40% of Lesotho's population live at or below the poverty line. During 2004-05 the country has been badly affected by drought that resulted in crop failure. In Lesotho groundwater provides safe and reliable water supplies that contribute to poverty reduction in rural and peri-urban communities located away from rivers and not served by reticulated water supply schemes.

The Lesotho Lowlands area is underlain by low permeability Karoo age sedimentary rocks and basalts intruded by dolerites. Although limited, the groundwater resources of the Karoo formations and recent alluvial sediments are widely developed for rural water supply and some crop irrigation. Data from water supply boreholes installed during the 1981-1990 Water Decade, the hydrogeology map of Lesotho and a national groundwater resources database provide sufficient georeferenced data for the generation of geological formation specific water resources maps using an ArcView based Geographical Information System. These maps show, for each formation:

- the distribution of water supply boreholes
- the basic geology (illustrated by photograph) and hydrogeology
- the main drilling targets
- average aquifer parameters

Many of the existing water supply boreholes in the Lesotho Lowlands area lie within the existing urban areas of Maseru and Roma. Others are found in proposed peri-urban areas south east of Leribe, north-east of Mafeteng and between Maseru and Roma.

The groundwater maps and notes were compiled for the Hydrogeology chapter of the Lesotho Lowlands Water Supply Feasibility Study, led by Parkman Ltd in 2003. They were designed to illustrate the development potential of the limited groundwater resources present within the proposed peri-urban and urban areas. The vulnerability of these groundwater sources to pollution from pit latrines and land-fill sites in the new peri-urban areas can limit their period of use. These and any additional water supply boreholes installed within the peri-urban areas should only be used until alternative piped water supplied became available that obtain water from remotely located wellfields or surface water dam sources.

