
4 ENVIRONMENTAL BASELINE STUDY

4.1 Environmental Baseline Study Area

The extent of the Environmental Baseline Study (EBS) area has been previously defined, as the area within and immediately around the mine license area relating to permit PE 591.

The project socio-economic impacts will, to some extent, affect a greater geographical area than the direct environmental impacts, even though there is a relatively short lifespan to the mining operation.

4.2 Scope of Work

A study of the physical, chemical, biological and social environment was carried out on the EBS study area to provide a baseline for the EAP of the project.

The Kalukundi Copper-Cobalt Project EBS includes: -

- A desk study of all the available information on the project area;
- Visits to government departments, non-government organizations, local authorities and other relevant authorities;
- An investigation/assessment of environmental baseline conditions including: -
 - Topography;
 - Geology;
 - Soils;
 - Local hazards;
 - Noise and vibration;
 - Climate;
 - Air quality;
 - Hydrology;
 - Hydrogeology;
 - Terrestrial flora and fauna;
 - Aquatic flora and fauna; and
 - Socio-economic aspects including infrastructure and communications.

4.3 Physical Environment

4.3.1 *Topography, Geology and Land Use*

Topography

Field observations together with topographical maps, satellite data and a regional terrain model have been used to define the topography and landscape of the study area.

Regional Topography

Regionally the site lies on a plateau that is aligned with the regional structural feature known as the Lufilian Arc. The plateau is incised by streams and rivers, which form gently sloping, shallow valleys. The height of the plateau is between 1200-1600 m.a.s.l (metres above sea level). Regional topography is incised by the Lualaba River and its tributaries. The Lualaba flows in a northerly direction towards its confluence with the Congo River. Its watershed

extends to include PE 591 and beyond. The Lualaba River is located 25km west of PE 591 (see Figure 4.1).

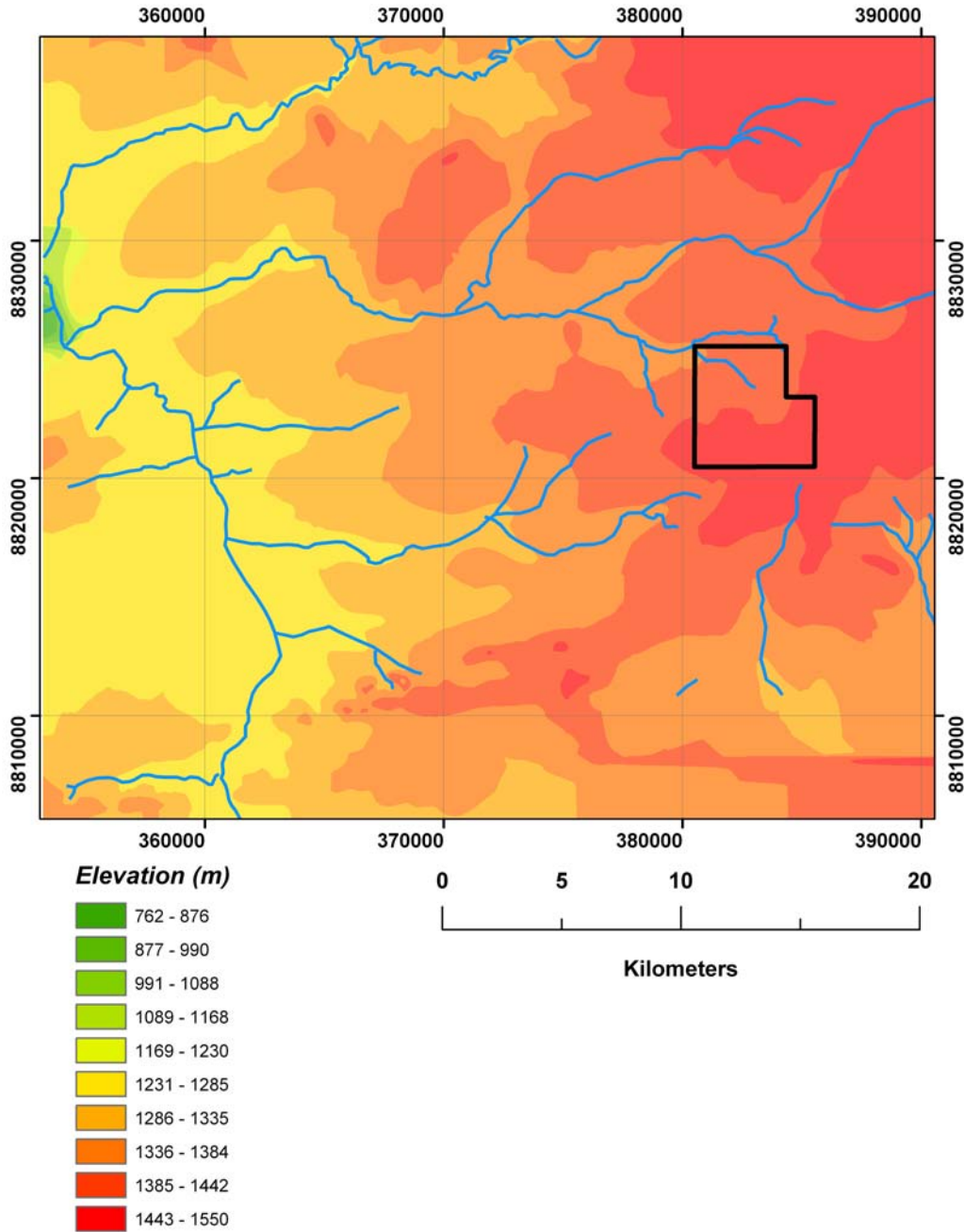


Figure 4.1 Regional Digital Elevation Model (DEM)

Local Topography and Landscape

Two small tributaries define the topography of PE 591. These are the Kii Stream, the source of which is located to the north-east of the permit area and the Kisankala Stream, the source of which is located in the centre of the permit area. The Kisankala Stream flows into the Kii Stream, and this confluence is located 200m outside the north-western corner of the permit area. The land generally slopes west-northwest, with the Kisankala stream draining in a north-westerly direction with a gradient of 1.6% and the Kii Stream draining in a westerly