

Evaluation of Gold Potential, Bukambe District, Tanzania

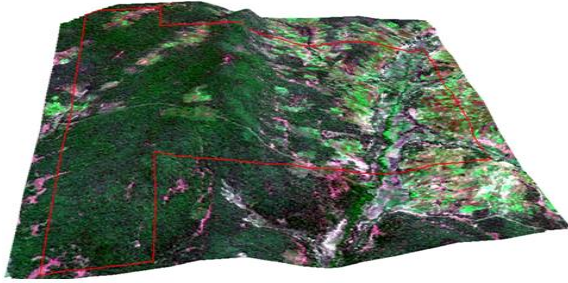


Figure1. Map Showing ASTER Satellite Image of the Study Area

Business Need:

A company had a leased area for gold mining in the Bukombe district of Lake Victoria region in Tanzania. They wanted us to evaluate the leased area for the potential of gold, so that based on our study they could take decision for further investment for the development of mines.

The business need was to mark the gold potential zone of the study area using High Resolution ASTER Satellite Image.

Area Covered:

The study area covered License no 7101/2011 with an area of 36.6 sq. km

Inputs Used:

- Satellite Image
 - ASTER image
 - GoogleEarth image
- Archived data
 - Geological Map
 - Magnetic Map

Business Solution:

Excel Geomatics proposed to use ASTER multispectral image to analyze the study area.

Existing Geological map was modified by the analysis of satellite image and GPS aided field survey.

Band rationing and PCA technique was used in this study to enhance the spectral differences between surface materials and also to extract hydrothermal altered zones.

Soil sampling and analysis was also done in a reputed laboratory to know the gold potential in the samples.

Maps were verified in the field and further analyzed in GIS environment by expert geologists to identify few areas which had more potential for gold as compared to other areas.

These Gold potential zones were marked for further detailed investigation. A detailed report was also prepared describing in details the study area, methodology used for investigation and observations by expert geologists.

Project Shipment:

The following shipments were made-

- i) Geological map, Clay and Iron Alteration map, limonitic Clay and Propylitic Alteration map, Magnetic data map, Future Exploration Gold Potential Zone Target map
- ii) Report

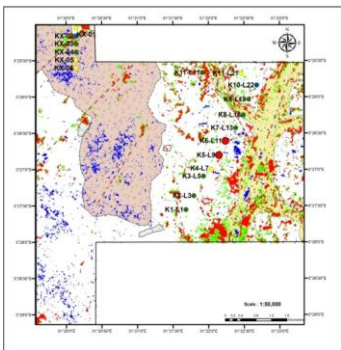


Figure2. Clay and Iron Alteration map

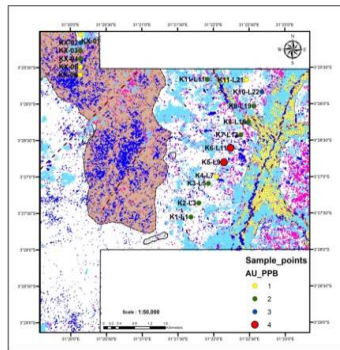


Figure3. Limonitic Clay and Propylitic Alteration map

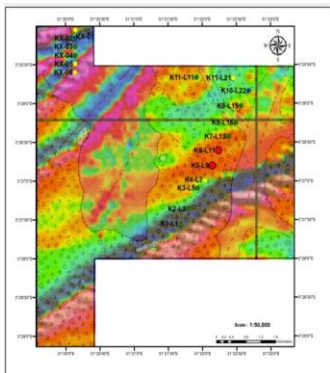


Figure4. Magnetic map

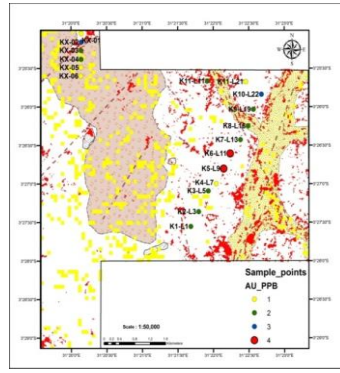


Figure5. Silicification and Iron Oxide Alteration map

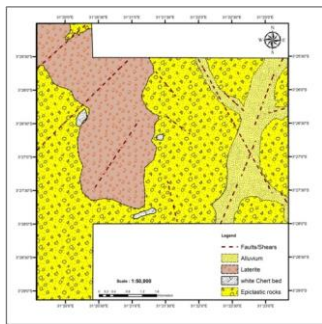


Figure6. Geological map

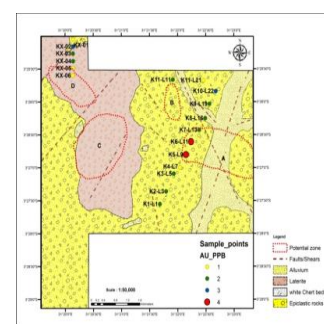


Figure7. Map showing Potential Zones

