Uncertainty in mineral prediction has been popular with geologists problems, how to reduce the uncertainty, preferably prospective area planning is one of the important contents, prospecting by experience and anomaly prospecting are two prospecting method in the new century the most important. In the regional geological survey of Kekexili Gaodi sheet, due to high altitude and the adverse circumstances of filed work, seriously restrict the field investigation. So we should make full use of the GIS technology, under the support of the GIS remote sensing anomaly, geochemical anomaly, anomaly analysis of geological and ore prospect area planning to do some research, and application of geographic information system in microcomputer (MAPGIS) made of mineral resources prediction map.

The survey area is located in the Qin Qikun metallogenic domain and Tethyan metallogenic domain junction, belong to the East KunLun metallogenic belt. Mineralization characteristics and metallogenic types is larger, generally speaking, iron, copper, lead, zinc, cobalt prolific in chaotic environment, mineralization types to volcanic exhalation, volcanic plume type yet, and associated with the orogenic belt about skarn porphyry hydrothermal vein type. The gold deposits are mostly orogenic, subdivision include tectonic altered rock type, quartz vein type.

Bayankala is mainly in gold, mercury, antimony. In the long geological evolution process, experienced multi period, multi-phase complex tectonic-magmatic activity, so huge metallogenic potential. At the end of the early Cretaceous in the Triassic and Yanshan period is an important period of mineralization. At the same time, volcano clastic rock formation in the area with ore source bed to a certain extent, is the source and sedimentary deposits. In the late Yanshan period and Himalayan period, the Jurassic quaternary can be a copper, lead, zinc, gold, silver enrichment mineralization may.

The GIS remote sensing information in many deposits in the survey have achieved good results, in general, copper polymetallic deposits around the hydroxyl abnormal obviously, anomaly and ore (mineralized) point closely, there are iron stained abnormal copper polymetallic ore is usually around the gossans distribution; hypabyssal epithermal deposits around gold, the hydroxyl and iron staining abnormal distribution, and abnormal strength grading obviously, the remote sensing anomaly on the hydrothermal deposit has certain reference significance. According to the existing ore (mineralization) information, combined with different spatial distribution characteristics of mineral information, analysis of the geochemical data and remote sensing interpretation, combining with geological conditions, using the MAPGIS software, this time in the survey region initially delineated two class A prospective areas, three class B prospective areas and C prospective areas are identified final.

**Key words:** GIS, Mineral Exploration, Prediction, Kekexili

**References**