

Chapter 6 Conclusion and Recommendation

The mineral exploration project was implemented in the area of Terektinsky Uplift (6,900km²) during the three year period between 1997 and 1999 in accordance with the Scope of Work agreed upon between the MMAJ and the Committee of Underground Resources Geology, Protection and Use, Ministry of Energy and Natural Resources of the Republic of Kazakhstan. The results of the three years' investigations are summarized hereunder and the recommendations, as the outcomes of the investigations are presented in this chapter.

6-1 Conclusion

(1) Zalturbulak Area

1) The investigations for Zalturbulak Area comprise detailed geological mapping, geophysical IP survey, rock geochemical prospecting and diamond core drilling. As the results of the investigations, two mineral occurrences of some interest are located and verified for their characteristics; they are the disseminated Cu mineralization related to the Devonian diorite porphyry in Aktau West and the disseminated Cu-Mo mineralization related to the late Carboniferous granite in West Zalturbulak and Aktau West.

Mineralization Related to Diorite Porphyry, in association with quartz-sericite alteration, is characterized by Cu and Au concentrations. The features of the mineralization and alteration are similar to those associated with porphyry style ore deposits in general. The noteworthy copper and gold values obtained are, however, 1308 and 934 ppm Cu and 470 ppb Au for two 3-m sections of the drill hole, MJTA-4 and are only of geochemical significance. There will be a little possibility to locate mineralization with any economic significance in size and grade, taking account of its occurrence being confined within Ordovician series with limited distribution.

Mineralization Related to Granite is distributed in Western Zalturbulak and West Aktau, and is characterized by Cu, Mo and Au concentrations. The mineralized zone is characterized by development of abundant quartz-pyrite networks and/or pyrite-chalcopyrite dissemination. Overprinting these quartz-pyrite networks and pyrite-chalcopyrite, a number of quartz veinlets are occasionally observed in MJTA-5 and are concentrated with Au, Ag, Pb and Zn as well as Cu and Mo. Relatively noteworthy mineralization is observed in several 10m-sections between 120 and 240 m of MJTA-3 indicating Cu contents of 500 ppm or higher.

No geochemical concentration of Mo, Cu and Au are located in association with

granites other than those drill tested by MJTA-3 and-5. Therefore, no target for further exploration virtually remains for this type of mineralization in West Zalturbulak and West Aktau.

2) Central Zalturbulak Zone

The investigations for Central Zalturbulak Zone comprise detailed geological mapping, geophysical IP survey and diamond core drilling. The mineralization consists of a number of gold quartz veins and zones of gold quartz vein networks. According to the past report, the total estimated resource (C2 category) exceeds 8 ton of gold with the average ore grade of 3.0g/t Au, which may be sub-economic for underground exploitation. At this stage, however, it is very difficult to undertake a proper economic assessment for the gold deposit, because the drill holes are too widely spaced and the past core sampling and assay appear to be incomplete according to the available records.

(2) Akmola area

Mineralization with an average grade of 0.045 % Mo is intersected for the 38.0 m section between 210 and 248 m of MJTA-9 drilled in the center of quartz-sericite alteration zone.

The mode of occurrence imply that the mineralization is of a porphyry style. Although the degree of Mo concentration is considered sub-economic at this stage, the drill holes to date are too scarce in number and too widely spaced to verify its economic significance.

(3) Arlan area

The mineralization consists of gold quartz veinlet networks developed in crushed zones adjacent to the contact to the diorite bodies. Although some quartz veinlet networks show appreciably high gold contents, zones of quartz veinlet networks with widths of a meter or so laterally continue for a few hundred meters or less.

(4) Bidaik area

The Bidaik Area including the Bidaik, Taguloba and NE Bidaik Prospects has regionally undergone alteration-mineralization possibly of epithermal nature, judging from the occurrences of mineralization and alteration. The surface geological mapping and geochemical sampling show significant gold mineralization with extremely high gold values in a few samples from the NE-2 vein system in the NE Bidaik Prospect.

The NE-2 vein System, having been traced for a strike length of 100 m, is covered by alluvials for its southern continuations and remains as a target for further prospection.

(5) Kuzultas area

Gold mineralization is not identified in this area in spite of detailed prospecting.

(6) Other area

No mineral indication which warrants further exploration is identified other than those above described, as the result of examination of a total of 41 mineral occurrences in the project area.

6-2 Recommendation

According to the results of three year's investigations in Terektinsky Uplift, follow-up exploration may be recommended for the following three Areas/Prospects.

1. Drilling exploration in order to assess economic significance of the mineralization in Akmola

2. Grid drilling in order to reevaluate gold resources in the Central Zalturbulak zone.

3. Trenching and drilling survey to confirm the southward and down dip continuation of No.2 vein in Bidaik NE Prospect.