



## ***Kemir Potential Ore Cluster (Early Stage of Exploration)***

### **Location**

The Kemir Potential Ore Cluster is located in Southern Kazakhstan. The nearest settlement is the village of Akbakai, located 50 km to the west of the area. There is a railway station 60 km to the south-east.



### **Valuable Components**

The valuable components are Cu, Az, Ag, Bi, Mo, Pb, Zn, and W.

### **Subsoil Use Contract**

The current Subsoil Use Contract for Geological Prospecting is concluded for 6 years. The signature bonus has been paid. The work programme is executed in full within 2 years. The allotment's area is 465.28 km<sup>2</sup>.

### **Intended Purpose of Investments**

Searching for a potential joint venture partner to develop the project.

### **Investment Attractiveness of the Kemir Area**

- Favourable geological and geophysical forecasts for the increase in resources of various metals within the area.
- High potential for the increase in resources of copper and associated components at the Kemir deposit.



## Project Summary

Most of the mineralisation is confined to vein-stockwork zones, which are accompanied by intense secondary alteration, probably by gumbaites and argillizites. Copper ore objects with copper-porphyry bismuth could be identified.

The **Kemir deposit** is located within the multi-phase Akmanglai massif of granodiorites of the Kokdombak Sequence, near its contact with the Devonian effusive-pyroclastic rocks. The ore field stretches north-westward for 6 km with a width of 1.5-2 km. It is controlled by northwest and northeast-trending faults. It is mainly composed of granodiorites and granosyenites, and less frequently of small bodies of diorites and porphyritic gabbrodiorites, interrupted by small (1-2.1x1.3-0.95 km) bodies of fine-grained porphyritic granodiorites.

Ore mineralisation is represented along the microfractures by shots, veinlets and films of pyrite, chalcopyrite, bornite, covellite, bismuthite, and rarely molybdenite, in some cases sphalerite, galena, arsenopyrite, and sometimes native gold. In the oxidation zone, distributed to a depth of 20-40 m, limonite, malachite, chrysocolla, azurite, basobismutite and scorodite occur. Three northwest ore-bearing zones with a length of 1-3.5 km and a width of up to 1.5 km have been identified in the occurrence. More than 40 ore bodies ranging in length from a few tens of metres to 300-400 m and with a thickness from 0.5-1 m to 4.5-29 m have been uncovered in the zones at a depth of 100-300 m.

Contents are copper from 0.1-0.5% to 3.48%, bismuth 0.1-0.3%, rarely 0.48-1.0%; molybdenum up to 0.01-0.03%, silver 3-10 g/t, rarely up to 65.3 g/t; gold 0.2-5.5 g/t, arsenic up to 1-2.4%, lead up to 0.15-0.5%, zinc up to 0.8%, tungsten up to 0.03%, boron up to 0.6-2.8%, five-oxide phosphorus up to 0.39%.

Estimated P1 inferred resources to a depth of 300m are:  
copper 0.7 million tonnes, bismuth 6 thousand tonnes. Inferred resources of the whole ore field up to 500 m depth by category P2 are estimated at 7 million tonnes.

## Reserves and Resources

Summary table of reserves and resources:

	Cu, thou. t	Cu Content, %	Bi, thou. t	Bi Content, %
P <sub>1</sub>	700	0,3-3,48	6	0,1-0,3
P <sub>2</sub>	7 000			



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