

## **Geological exploration for 2023**

### **Summary**

- Surface core and reverse circulation drilling continued to define the Gedabek open pit ore zone
  - Four surface core drill holes completed with a total length of 600 metres
  - 35 reverse circulation drill holes completed with a total length of 2,939 metres
  - Additional resource of approximately two million tonnes of ore defined
- Mineralisation significantly extended at Gilar and a maiden JORC mineral resources estimate published
  - 21 surface core drill holes completed with a total length of 8,650 metres
  - Maiden JORC mineral resources estimate published on 11 December 2023 containing 255,000 ounces of gold, 54,000 tonnes of copper and 46,000 tonnes of zinc
- Significant copper deposit at Xarxar
  - 24 surface core drill holes completed with a total length of 10,795 metres
  - Six underground core drill holes completed with a total length of 1,149 metres
  - Maiden JORC mineral resources estimate published on 20 February 2024 containing approximately 25 million tonnes of copper ore
- Over 300,000 tonnes of copper identified at Garadag
  - Comprehensive assessment of historical geological data continued
  - Initial non-JORC assessment showed potential of deposit to produce over 300,000 tonnes of copper
- Drilling recommenced at Ordubad
  - Five core drill holes were completed for a total length of 2,684 metres
  - Trenching continued at the Dirnis-Dastabashi area

### **Gedabek**

#### *Gedabek open pit mine*

Four surface core drill holes were completed with a total length of 600 metres and 35 reverse circulation drill holes completed with a total length of 2,939 metres to further define the ore zone. The drilling was mostly located in Pits 6, 8, 9, 10 and 11. Based on the reverse circulation drilling, a new mineral resource of about two million tonnes was defined as a northerly continuation of pits 10 and 11. This is currently being explored.

#### *Gedabek underground mine*

177 metres of underground development below pit 4 was completed. No underground drilling was carried out.

#### *Gadir underground mine*

53 metres of exploration tunnelling was completed. No underground drilling was carried out.

### *Gilar*

The area hosts two styles of mineralisation, gold in quartz veins and hydrothermal gold-copper. Three mineralisation bodies have been discovered at the occurrence.

Extensive geological exploration was carried out at Gilar in 2023. This significantly extended the mineralisation. 21 surface core drill holes were completed with a total length of 8,560 metres. A magnetometry geophysical programme was completed and a surface Induction Polarisation ("IP") survey was carried out which was in its completion stage by the end of 2023. This survey will be used to define the mineralisation footprint of the deposit and any extensions.

A maiden JORC mineral resources estimate was published on 11 December 2023 which contained 255,000 ounces of gold, 54,000 tonnes of copper and 46,000 tonnes of zinc. This mineral resources estimate is set out in Table 5.

### *Zafar deposit*

The geology of the area is structurally complex, comprising mainly of Upper Bajocian-aged volcanics. The mineralisation seems to be associated with a main northwest to southeast trending structure, which is interpreted as post-dating smaller northeast to southwest structures. In the southwest area, outcrops with tourmaline have been mapped, which can be indicative of the potential for porphyry-style mineral formation.

There was no geological exploration carried out at Zafar in 2023.

### *Gosha*

The Gosha mine was previously thought to consist of two narrow gold veins, zone 13 and zone 5 to the south. Mining has previously taken place from both veins. However, the recent discovery, the Hasan vein, is located immediately south of the zone 5 and intersects it at one point. The host rock mostly exhibits silicification and kaolinisation alteration, which changes to quartz-haematite alteration in andesite.

Four underground core drill holes totalling 551 metres were drilled in the Gosha mine in 2023. A detailed underground sampling programme was also completed in the "Akir" high gold grade zone. 37 metres of channel samples were taken from "vein 3" from underground which shows high gold grades. 95 field samples were collected and 8.4 metres of trenching completed in the vicinity of the Gosha mine and the Shamliq exploration area.

Surface magnetometry geophysical exploration work was carried out at Asrikchay in 2023, a highly prospective area separate in the Gosha Contract Area. A second stage magnetometry programme was completed and a data interpretation was received from Reid Geophysics

Limited. The advice from Reid was to carry out an Induction Polarisation ("IP") geophysical programme to try and identify massive sulphide bodies for future exploration.

### ***Xarxar***

#### *Xarxar deposit*

Tunnelling from the new portal continued during the year with a total of 465 metres developed. 24 surface core drill holes were completed for a total length of 10,795 metres. These drill holes targeted the central copper mineralisation zone and intercepted significantly high and continuous grades of copper with intercepts of continuous copper for up to 380 metres. These drill holes defined high and low grade zones within the copper mineralisation zone. Six underground core drill holes were completed for a total length of 1,149 metres.

Analysis of the historical geological data acquired in 2022 continued throughout 2023. From these data, together with Company exploration data, an initial geological block model and open pit optimisation study were completed during the year.

A maiden JORC mineral resources estimate was published on 20 February 2024 and is set out in Table 6. This shows the deposit contains approximately 25 million tonnes of copper ore.

### ***Uluxanli***

This is a new exploration area where a high-grade quartz gold vein has been discovered. Field exploration of the area took place in the second half of 2023. A magnetometry survey was carried out using 68 profiles. The total length of the profiles was 235 kilometres and covered an area of 24 square kilometres.

### ***Garadag***

No geological field work was carried out at Garadag in 2023. However, assessment of the acquired historical geological data continued throughout the year. Geological re-logging of six core drill holes was completed which will assist in understanding the porphyry copper potential of the deposit. A photographic unit was established to photograph all 23,000 metres of drill core acquired as part of the historic data.

A mineral resource estimation based on geostatistical techniques and three-dimensional modelling of data received from AzerGold CJSC was completed in 2023. This showed an "Indicated" plus "Inferred" mineral resource of over 66.3 million tonnes of ore at 0.49 per cent. copper, containing some 324,688 tonnes of copper, which further confirmed the copper potential of the Garadag deposit.

### ***Vejnaly***

The Vejnaly deposit is located within the volcanic-plutonic structure of the Kafan structure formation and incorporates 25 gold-bearing vein zones. Ore veins and zones of the deposit

are mainly represented by quartz-sulphide and, rarely, by quartz-carbonate-sulphide veins and hydrothermally altered, disintegrated and brecciated rocks. Sulphides are dominated by pyrite with subordinate chalcopyrite. There are prospects for porphyry, epithermal and skarn type deposits.

A geological exploration team and fire assay laboratory was established at Vejnaly in 2023. Underground sampling in Zone 2 and logging of historic drill holes was carried out during the year. Some assays of historic core samples show high grade gold. Vein sampling assays of the deposits also show significant high-grade gold.

"World View 3" satellite image data for the entire Vejnaly Contract Area was obtained in 2023. A geological map of the Vejnaly deposit and Contract Area was completed in 2023. These data are currently being analysed to identify potential exploration targets.

### ***Ordubad***

The COVID-19 restrictions, which had prevented access to Ordubad, were lifted during 2023 and the Company recommenced its drilling programme. Five core drill holes were completed for a total length of 2,684 metres on the flank of the Kalaky mineral occurrence targeting porphyry copper potential. The drill holes mainly intercepted weak altered intrusive rocks within a silica halo. One of the drill holes at intercepted high gold grades at three intervals of 7.2, 11.3 and 13.8 grammes per tonne at depth. These will be further explored. Trenching was also conducted in the Dirnis-Dastabashi area. A high potential copper vein was detected.

Based on our latest understanding of porphyry mineralisation, a reassessment of the Shakardara deposit commenced in 2023. 2,908 metres of previously drilled core were relogged and some intervals were resampled.

Dr. Robin N. Armstrong, mining sector leader of the Natural History Museum, London, visited Ordubad during 2023. During his visit, geological logging of the last phase of the core drill holes was carried out. Samples were also selected for a pathfinder geochemistry study which will assist in identifying possible copper porphyry mineral targets.

The Company is awaiting results from the samples collected by the geological team from the Natural History Museum London as part of their ongoing "From Arc Magmas to Ores" ("FAMOS") international research project. This study is being carried out to determine whether there are any indications of a porphyry system within the Ordubad Contract Area.