Geological exploration for 2022

Summary

- New mineral deposit discovery "Zafar" at Gedabek
    - Final mineral resource published on 21 March 2022
    - In-situ JORC mineral resource of 28,000 tonnes of copper, 73,000 ounces of gold and 36,000 tonnes of zinc
    - Additional exploration and geotechnical drilling carried out in 2022
- New mineral deposit discovery "Gilar" at Gedabek
    - Preliminary non-JORC mineral resource published on 19 December 2022
    - In-situ non-JORC mineral resource of over 135,000 ounces of gold, 21,500 tonnes of copper, and 23,000 tonnes of zinc
    - Considerable exploration activity carried out in 2022 with "bonanza" gold grades returned
- Exploration continued throughout 2022 in the Gedabek open pit and the Gedabek and Gadir underground mines to define ore zones and extensions.
- New sub-vertical gold vein, "Hasan", discovered at Gosha
    - Located to the immediate south of the existing Gosha mine
    - Vein can be accessed from existing underground mine workings
- Extensive historic exploration data acquired for the Garadag and Xarxar deposits
- Exploration work commenced at Xarxar in 2022
    - 10 surface core drill holes were completed with a total length of 3,479 metres
    - New portal constructed and 470 metres of underground tunnelling completed
- Very limited geological field work was carried out at Ordubad during 2022 due to COVID-19 travel restrictions
- Exploration work commenced at the Vejnaly deposit
    - Soviet mineral resources of the Vejnaly deposit shows 142,000 ounces of gold and 2,942 tonnes of copper
    - Existing galleries have been mapped and vein sampling and ore modelling is now being carried out

Gedabek

Zafar deposit

Zafar is a new discovery located 1.5 kilometres north-west of the existing Gedabek processing plant.

The geology of the area is structurally complex, comprising mainly of Upper Bajocian-aged volcanics. The mineralisation seems to be associated with a main north-west to south-east trending structure, which is interpreted as post-dating smaller north-east to south-west structures. In the south-west area, outcrops with tourmaline have been mapped, which can be indicative of the potential for porphyry-style mineral formation. The exploration area is located along the regional Gedabek-Shekarbek fault system, with Shekarbek being another target area known to host copper mineralisation, situated in the north-west of the zone.

19 core drill holes with a total length of 5,045 metres were completed at Zafar in 2022. Four drill holes returned grades above reportable limits. 14 drill holes were for the purpose of geotechnical and metallurgical test work. Grades of up to 1.5 grammes per tonne of gold and 3.95 per cent. copper were reported. Bench scale X-ray diffraction ("XRD") analysis of drill core samples was routinely used during 2022. This uses a portable XRD machine to undertake mineralogical analyses of core samples. The results are obtained in "real time" without the need to wait for laboratory analysis, which enables a better focused drill programme.

The final mineral resource estimate for the Zafar deposit was published on 21 March 2022 and is shown in table 5 - "Zafar mineral resources estimate at 30 November 2021".

Gilar

Gilar is a mineral occurrence located in the Gedabek contract area, approximately seven kilometres from the Company's processing facilities and approximately two kilometres south of Avshancli-1. The area hosts two styles of mineralisation, gold in quartz veins and hydrothermal gold-copper.

The maiden Non-JORC mineral resources estimate was published in March 2023 which contained over 249,000 ounces of gold, 46,000 tonnes of copper, and 49,000 tonnes of zinc. The mineral resource estimate (which is not a JORC resource) was compiled by an independent consultant and was based on stage one drilling. The mineral resources were estimated using the JORC guidelines, but because the mineral resource estimate is subject to validation, classes 1, 2, and 3 are stated, instead of the usual Measured, Indicated and Inferred classifications. The mineral resource estimate is contained in Table 6 - "Latest Non-JORC mineral resources estimate of the Gilar deposit".

Extensive exploration drilling was carried out at Gilar in 2022. 48 surface core drill holes were completed with a total length of 16,577 metres. Four geotechnical surface core drill holes totalling 930 metres were also drilled for underground mine development purposes. The drilling demarcated six zones of mineralisation with drilling in the second half of 2022 extending and confirming the deeper zone of continuous mineralisation hosting significant gold, copper and zinc with an intercept thickness of over 65 metres as follows:

Borehole 22GLDD127: 68.35m @ 2.40g/t gold, 2.89% copper and 1.58% zinc from 320.00m, including:

- *55.4m @ 2.7g/t Au, 3.5% Cu and 1.4% zinc at 1.5g/t gold cut-off from 331.00m, including at a 2.0 g/t Au cut-off*
    - *33.3m @ 3.0g/t Au, 5.4% Cu and 2.0% zinc from 333.00m*
    - *14.4m @ 2.8 g/t Au, 0.4% Cu and 0.2% zinc from 372.00m*

One drill hole in the centre of Gilar also intersected significant mineralisation.

The Group acquired the technology to make and microscopically examine thin sections of ore in 2022 using System*Abele®.* This system identified the free gold in the Gilar deposit.

Gedabek open pit
14 surface core drill holes were completed in 2022 with a total length of 2,938 metres and 139 reverse circulation drill holes completed with a total length of 20,258 metres to define the ore zone and extensions. The majority of the gold grades returned were in the range 0.01 to 0.99 grammes of gold per tonne and copper grades of 0.01 to 0.49 per cent. of copper.

Gedabek open pit - underground
The Gedabek and Gadir underground mines are connected, and form one continuous underground network of tunnels, accessible from both the Gadir and Gedabek portals. However, a significant fault structure separates the two mines. In 2022, tunnelling of 742 metres was completed from the existing Gadir underground mine to underneath the northern end of the Gedabek main open pit. Nine core drill holes (HQ/NQ size) totalling 1,125 metres were completed, along the length of the tunnel, which showed significant mineralisation. The tunnelling provides access to the mineralisation between Gadir and the main open pit.

Gadir underground mine
During 2022, six underground exploration core drill holes (HQ/NQ size) were completed with a total length of 944 metres. 1,140 metres of underground sidewall and tunnel roof mapping were completed. This defined zones for continuation of mining and extended the down dip footprint of the mineralisation. As part of the mining activity, 15 core drill holes (HQ/NQ size) with a total length of 2,056 metres were completed for ore zone definition. 100 metres of underground development tunelling was also completed.

Avshancli
Avshancli is a mineral district which is 10.5 kilometres north-east of the Gedabek open pit. In 2022, four core drill holes were completed totalling 1,316 metres. The geological work to date at Avshancli-1 shows discontinuous surface mineralisation with gold grades dropping off from the surface as the structures narrow with depth. Given the distribution of mineralisation, economic volumes of ore are likely to be small.

Ugur open pit and Ugur Deeps
The Ugur pit has now been fully exhausted. In 2022, drilling was carried out in the vicinity of the depleted open pit (Ugur Deeps region) to locate possible extensions to the deposit. Two core drill holes were completed with a total length of 515 metres targeting high-grade copper-silver mineralisation. Five trenches of length 65 metres were sampled, and 250,000 square

metres of lithological-alteration structural mapping was completed. No significant results were obtained.

Gosha

The Gosha contract area, which hosts the Gosha mine, is located next to the Armenian border. Surface core drilling which commenced in 2021, resulted in the discovery of a new sub-vertical high gold grade mineralised vein ("Hasan"), after surface mapping suggested the presence of gold at the location. The discovery was announced in March 2022. The new gold vein can be accessed via a short tunnel from the existing tunnelling at 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. Hasan 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.

68 metres of underground mapping and 204 metres of channel samples were taken from the Gosha mine in 2022. Five underground core drill holes totalling 1,144 metres were also drilled in 2022.

The Group is also carrying out surface magnetometry geophysical exploration work at Asrikchay. The work is to determine the mineralisation potential for planning the next stage of exploration. Asrikchay is a copper-gold target in the Gosha Contract Area which was discovered in 2018.

Xarxar

Xarxar is a known area of copper mineralisation which had been explored in the Soviet era. Exploration by the Group began in the second half of 2022 immediately upon acquisition of the Contract Area. The area contains a portal and exploration tunnel constructed during the Soviet era. However, the tunnel was found to be of very limited length and collapsed in places. A new portal has therefore been constructed and 470 metres of underground tunnelling completed in 2022.

Ten surface core drill holes totalling 3,479 metres were drilled and 147 channel samples were collected. These returned copper grades of around an average of 0.6 per cent. Structural mapping and a geotechnical study of the deposit was also completed by an independent contractor. The Group also acquired historic exploration results as set out above in "Xarxar".

Garadag

No field exploration work was carried out at Garadag in 2022. However, the Group acquired considerable geological data about the deposit as described above in "Garadag". 538 metres

of drill core from the Azergold CJSC was geologically logged and assayed in the Group's laboratory.

Ordubad

Due to COVID-19 restrictions, drill access was proscribed during 2022 and therefore very limited geological field work was completed. To better understand the geology of the region, 3,397 metres of drill core previously drilled by the Group were relogged and some intervals resampled.

Vejnaly

The Vejnaly deposit is located within the volcanic-plutonic structure of the Kafan structure formation and incorporates twenty-five 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 Soviet mineral resource estimate for the Vejnaly deposit is contained within Table 7 - "Soviet resource of the Vejnaly deposit" and shows a total C1 and C1 resource of 141,000 ounces of gold and 2,942 tonnes of copper. However, the Vejnaly deposit has been extensively mined whilst under Armenian occupation.

A geological team was established at Vejnaly in early 2022 and commenced vein sampling and ore modelling. The logging of historic drill holes of the deposit was also carried out throughout 2022. Vein sampling assays of the deposit show significant high gold grades. The rebuilding and cleaning of collapsed areas of the underground gallery is also ongoing to allow assessment of previously mined areas.