

# HERA GOLD BASE METAL DEPOSIT – THOUGHTS FROM THE PORCH

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## **Introduction**

The Hera gold base metal deposit is located 100 km southeast of Cobar in western NSW (Figure 1). The deposit was discovered after over thirty years of exploration activity in the area. It is a Cobar style polymetallic structurally controlled deposit in strongly altered and deformed shelf and turbiditic sediments located close to the eastern margin of the Cobar Trough.

## **Exploration History**

Hera is a blind deposit commencing 150 metres below the surface. Early exploration concentrated heavily on electrical geophysics, magnetics and geochemistry with drilling to only shallow depths. It appears that Induced Polarisation surveys in 1975 following an airborne Input survey identified the mineralised system containing the deposit. It was not until 2000 however that the discovery drillhole intersected high grade gold, copper, lead and zinc mineralisation 300 metres below the surface and 180 metres below earlier drillholes.

The discovery was made by Pasminco Exploration, the ninth mineral explorer in the area. This company applied their detailed knowledge of the Cobar style of mineralisation to an extensive body of exploration information and, in particular, recognised that Cobar style deposits typically have much longer dimensions in the vertical dimension than along strike thus encouraging deep drilling.

## **Triako's Exploration**

Triako Resources acquired the area in 2003 and is currently proceeding with a feasibility study for the development of an underground gold base metal mine. The deposit includes zones with significant amounts of visible gold contained in massive, brecciated and veined quartz, veined sphalerite, galena and pyrrhotite. The most recent published Indicated and Inferred Mineral Resource estimate in three lenses is 1.94 million tonnes at 6.7g/t gold (uncut), 2.8% zinc, 2.5% lead, 0.2% copper, 8g/t silver (kriged estimate, 2.5g/t gold equivalent cut-off) The deposit has a high nugget effect for gold and moderate nugget effect for zinc. Subsequently a global grade for the resource of 8.1g/t gold (uncut) was estimated, more than 20% higher than the block model grade. The deposit is open downdip and along strike to the north and south. As well, there are mineralised zones with potential to develop into ore grade lenses as exploration progresses. These include wide zinc, lead zones to the west and gold copper bearing structures to the east in the south.

Once Triako completed the acquisition of the Hera exploration licence and neighbouring tenements, a strategic decision was made to proceed with exploration having two objectives:

to attempt to discover sufficient resources in the vicinity of the three ore grade and width Pasminco drillholes to complete a feasibility study and develop a gold and base metal mine and,

to explore the balance of the tenements such that drilling targets were defined and tested.

From September 2003 surface drilling results at Hera have been combined with geological mapping, downhole EM surveys, baseline geochemical surveys, reassaying of previous drillcore by the screen fire method. Metallurgical testwork, geotechnical studies, hydrological

studies, environmental baseline data collection and reviews of environmental factors, infrastructure studies including water, power and site layouts. Capital and operating cost estimates, consent processes and economic evaluations have been carried out. A scoping study in March 2005 indicated that the project had sufficient potential to justify the completion of a prefeasibility study that was completed in the December quarter 2005 and gave a positive result.

### **Feasibility Studies**

Approval was given to commence a feasibility study. This study is considering two development plans and three processing options. The first development plan is a conventional programme with infill drilling from surface and completion of a feasibility study, leading to the decision to develop the mine. The second plan is to develop an exploration decline on the exploration licence ahead of completing the feasibility study. This plan reflects the difficulty of achieving accurate infill drilling from surface and the consequences of the high nugget effect, which makes representative sampling very challenging. Three processing options being considered in the study a) construct a process plant at Hera, b) trucking ore to Mineral Hill plant where the plant would be modified to include gravity separation of gold and increase flotation capacity to produce both a lead and zinc concentrate and c) truck ore to a process plant in the Cobar region for toll treatment.

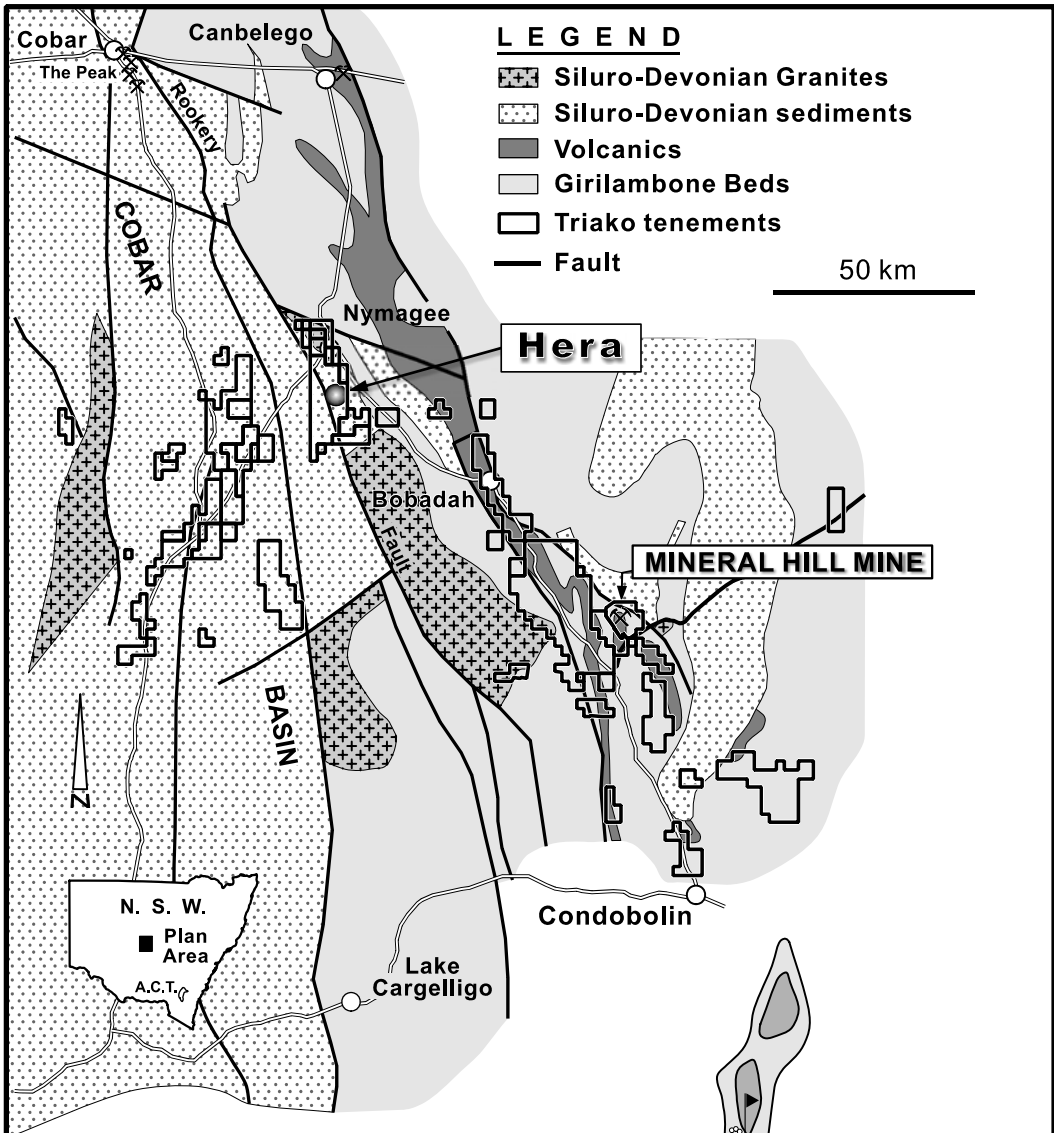
Metallurgical testwork has included flotation and gold gravity recovery tests. A 350 kg sample is currently being tested. From the testwork the following metallurgical performance has been developed:

- recover a gold gravity concentrate containing at least 50% of the contained gold.
- total gold recovery of 92% with about 42% of overall gold to copper and lead concentrates. The majority of this gold in concentrates can be recovered by leaching and combined with the gravity gold as dore bars.
- lead concentrate grade of about 63% Pb and 88% recovery.
- zinc concentrate grade of about 53% Zn at 80% recovery.
- copper concentrate to be produced if copper head grade is >0.2% Cu.
- copper concentrate grade of about 20% Cu with about 70% recovery.

For the project to proceed to production there are several further consents required including development consent, mining lease, environmental protection licence, access approvals, water licences, tailings storage facility approvals.

### **Future Exploration**

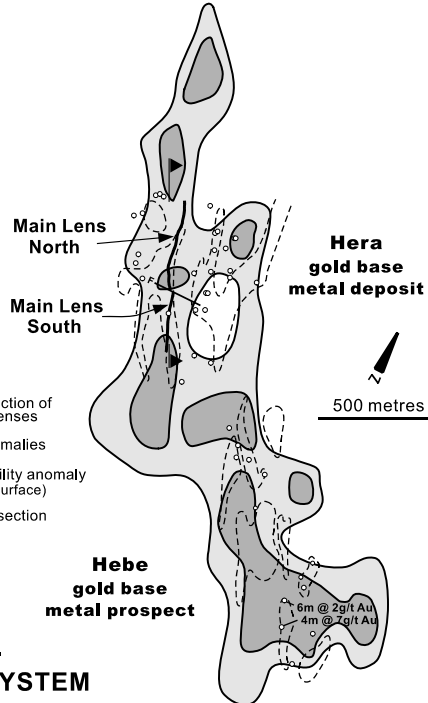
As well as exploration for extensions to the Hera system, regional exploration of the exploration licences has progressed such that drilling targets for gold and base metals are being developed and tested within 25 km of the Hera project (Figure 1). These include targets in the Hera to Hebe corridor where there is extensive anomalous geochemistry, IP anomalism and gold mineralisation discovered by PasmaInco (Figure 2).



**Figure 1.**  
**EXPLORATION**  
**HERA PROJECT AND REGION**

**LEGEND**

- Surface projection of mineralised lenses
- Lead soil anomalies
- I.P. chargeability anomaly (170m below surface)
- Longitudinal section
- Drill hole



**Figure 2.**  
**HERA - HEBE SYSTEM**

