MCs 38
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GHEKO PROSPECT
NORTHERN TERRITORY

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1. INTRODUCTION

The copper, lead and zinc gossan of the Gheko Prospect is located approximately 50km north-east of Alice Springs, in the Northern Territory (Figure 1). The summit of Bald Hill is the nearest topographic feature, about 1.6km to the north. The mineralisation was discovered in 1969 as a result of stream sediment geochemical sampling in the area of former Authority to Prospect 1721 (Clarke, 1969).

2. TENURE

The area was initially held as part of AP 1721. MCs 38 (formerly MC 463H) of 33 hectares was granted to Central Pacific Minerals NL on 22\textsuperscript{nd} March 1984. An application for renewal of MCs 38 for a further 10 years was lodged with the N.T. Department of Minerals & Energy in September 1993.

Formal notification of the renewal of MCs 38 for a period of 5 years ending 31 December 1999 was received from the NTDME on 9\textsuperscript{th} February 1996.

3. GEOLOGICAL SETTING

The rocks of the prospect area consist of crystalline basement assigned to Early Proterozoic Division Two rocks of the Arunta Block near the north-eastern margin of the Late Proterozoic to Late Palaeozoic, Amadeus Basin (Alice Springs 1:250 000 Geological Sheet SF 53-14). Gneiss, schist, amphibolite, marble and calc-silicates of the Sliding Rock metamorphics are the principal rock types. The metamorphic grade is as high as the almandine-amphibolite facies. Small pegmatite and microdiorite intrusions are common but no large igneous intrusions are present. A retrograde schist zone, possibly related to similar more widespread zones to the north, transects the Prospect.

Further to the north the two lowermost formations of the Amadeus Basin, the Late Proterozoic Heavitree Quartzite and the Bitter Springs Formation, are in-folded into the Arunta Block to form the Arltunga Nappe Complex.

4. GENERAL GEOLOGY OF THE GHEKO PROSPECT

Low-grade, lead-zinc mineralisation is associated with gossans flanking lenticular developments of garnetiferous metaquartzite. The metaquartzite occurs along the contact of a sequence of biotite gneiss with a sequence of fine-grained, even-textured amphibolite (Figure 2). Extremely complex and tight folding, particularly in the north-east corner of the mapped area complicates this relatively simple lithological relationship. The similarity of both the position of the gossan and the presence of
similar gneiss and amphibolite with equivalent units at Rankin’s Prospect mine (7km to the west-northwest) strongly suggests that the Gheko Prospect mineralisation occurs on the same stratigraphic horizon.

The lead-zinc mineralisation is inferred to be principally sphalerite, with some galena and chalcopyrite associated with magnetite and quartz. The mineralisation appears to be stratigraphically controlled as it occurs in gossanous haematite-actinolite rocks marginal to garnetiferous quartzite with the actinolite rocks presumably replacements of former calcareous lenses. At surface, gossanous ironstones in quartz-haematite and quartz-magnetite rocks represent the mineralisation. The ironstones display a form of folded layering which suggests that they have undergone deformation and metamorphism with the country rocks. The garnet quartzite is intensely recrystallised; no quartz grain boundaries can be discerned and the quartzite superficially resembles a garnetiferous quartz vein. In several places decomposed amphibole and pyrite occur in the quartzite.

5. MINERALISATION

The percussion drilling in 1971 intersected several sulphide zones that were recorded principally as pyrite and chalcopyrite. The presence of sphalerite and galena is inferred from the assays that reached 7.8% zinc and 8.5 g/t silver over a 1.5m interval (PH2) and 1.42% lead and 37 g/t silver over a 1.5m interval (PH3). Copper reached 0.5% in PH3. No significant concentrations of other elements were found although checks were done for cobalt, cadmium, bismuth, silver, vanadium, tungsten and molybdenum.

6. CURRENT PROGRAMME

Potential

The potential of the Prospect was kept under review during 1998. However, the location and small size of the currently known mineralisation coupled with the prevailing metal prices of the commodities involved is such that the property is to continue for the time being on a care and maintenance basis.

Informal contact was made with the holder of the Exploration Licence surrounding MCs 38 during the previous year. The area was for a time under joint venture, however following informal contact with the joint venture party; no interest was shown in pursuing exploration on MCs 38 as the commodities represented in the tenement were not being explored as a target.
7. REFERENCES AND BIBLIOGRAPHY


McPhar Geophysics, 1970  Report on the Induced Polarisation and Resistivity Survey on Several Areas in A to P 1721, Northern Territory, Australia, for Central Pacific Minerals N.L.


