 CONTENTS

1. INTRODUCTION  
2. TENURE  
3. GEOLOGICAL SETTING  
4. GENERAL GEOLOGY OF THE GHEKO PROSPECT  
5. MINERALISATION  
6. CURRENT PROGRAMME  
   Regional Geophysical Data  
   Potential  
7. REFERENCES & BIBLIOGRAPHY

FIGURES

1. Locality Plan  
2. Gheko Prospect - Regional Geological Setting  
3. Gheko Prospect - Geology and Drillhole Locations  
4. Gheko Prospect - Local regional 1VD Image  
5. Copper price changes for the 18 month period to end of May 2001 (price data from Kitco)  
6. Lead price changes for the 18 month period to end of May 2001 (price data from Kitco)  
7. Zinc price changes for the 18 month period to end of May 2001 (price data from Kitco)

TABLES


K:\Exploration\arghko2000_R2653.doc
1. **INTRODUCTION**

The copper, lead and zinc gossan of the Gheko Prospect is located approximately 50 kilometres northeast 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).

![Figure 1: Gheko Prospect Locality Plan](image)

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\(^{nd}\) 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 with renewal granted to 31 December 1999.

A renewal was lodged with the NTDME on 29 June 2000 and notification of the renewal of MCs 38 for a period of 5 years ending 31 December 2004 was received from the NTDME on 22 October 1999.
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). On a more local scale the prospect is located in the central part of the Ankala Block adjacent to the Bald Hill Fault (Figure 2). 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-amphibolitic 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.

![Figure 2: Ghoko Prospect – Regional Geological Setting (background geology from the 1:100 000 Geology of the Strangways Region, 1984)](image)

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 3). Extremely complex and tight folding, particularly in the northeast 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 (7 kilometres 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 1.5 metre 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

Regional Geophysical Data

Regional geophysical datasets for the Alcoota/Alice Springs Geophysical Survey flown in 1997 covered the region surrounding the Gheko Prospect. Data from this survey covering the region and the Laughlen 1: 100 000 sheet area have been obtained from the NTGME Geological Survey. The prospect occurs on the northern margin of more the magnetically active terrain of the Sliding Rock Metamorphics south of the Bald Hill Fault. No additional work has been completed on potential for mineralisation similar to the Gheko Prospect in the region using the regional magnetic and radiometric data as indicated in the previous annual report.

Figure 4: Gheko Prospect – Local regional IVD Image
Potential

The potential of the Prospect was kept under review during 2000. 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.

Copper, lead and zinc price trends are shown in Figures 5 to 7 in both Australian and US dollars. The increase in price trend for all three commodities before October 2000 was magnified in A$ terms due to the fall of the A$ relative to the USS. The downward price trend in copper and zinc, and to a lesser extent lead, in USS since October 2000 has not been offset by a falling exchange rate. More recently, the fall in metal prices has continued but with the exchange rate steady over the last six months the fall in commodity prices in USS terms is fully reflected in A$ terms (Table 1).

Informal contact has been made in the past with the holders of other surrounding Exploration Licence holders however no interest was shown in pursuing exploration on MCs 38 as the commodities represented in the tenement were not being explored as a target. More recently, contact has been made with Teck Australia Minerals, the applicant for the surrounding EL 22759, however the company has at this point not expressed any interest in a farm-in on the Ghcko Prospect.

![Copper Price Chart](image)

**Figure 5:** Copper price changes for the 18 month period to end of May 2001 (price data from Kitco)
Figure 6: Lead price changes for the 18 month period to end of May 2001 (price data from Kitco)

Figure 7: Zinc price changes for the 18 month period to end of May 2001 (price data from Kitco)
<table>
<thead>
<tr>
<th>Commodity</th>
<th>2000 % Change ($US)</th>
<th>2000 % Change ($A)</th>
<th>2001 % Change ($US)</th>
<th>2001 % Change ($A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>-5.0</td>
<td>9.6</td>
<td>-10.0</td>
<td>-3.0</td>
</tr>
<tr>
<td>Lead</td>
<td>-1.5</td>
<td>13.6</td>
<td>-6.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Zinc</td>
<td>-18.2</td>
<td>-5.6</td>
<td>-12.1</td>
<td>-5.3</td>
</tr>
<tr>
<td>A$/US$</td>
<td>-13.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. REFERENCES AND BIBLIOGRAPHY

Clarke, D., 1969

Fidler, R.W., 1989

Fidler R.W., 1992

McIver, R.G., 1988

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.

Paine, G., 1971
Report for Wimmecke, Percussion Drilling Programme at the Gheko Prospect, CPM Report No. NT 3.

Pope, G.J., 1993

Pope, G.J. 1994

Ransom, D.M., 1970
“Geology of the Gheko Prospect”, CPM File Note NT 04.

Scerri, F.M., 1991

Shaw, R.D. & Langworthy, A.P., 1984
Stragways Range Region, Northern Teritory. 1:100 000 Geological Map Commentary. BMR. Canberra 1984.