FINAL REPORT

MINERAL LEASE S 71
JERVOIS MINE AREA, NT

23 May 1973 to 31 December 1993

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HUCKITTA SF53-11
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SUMMARY

Mineral Lease S 71 was pegged to cover traces of Mo and W in a Bonya Hill type skarn immediately to the north of the Jervois Mine area in the Northern Territory. Geologically it is situated in the Early Proterozoic Arunta Block, a polydeformed highly metamorphased orogen comprised of sediments and volcaniclastics and intruded by granites.

The Jervois Range area has a number of scheelite and copper shows which occur within a calc silicate gneiss unit and amphibolite member of the Bonya Schist. They are interpreted to be genetically linked to granite emplacements (Shaw, R.D. 1990). The same calc silicate unit is host for copper, lead and silver mineralisation at the Jervois mines nearby.

Mineral Lease S 71 was pegged by a prospector George Tieg and was later acquired with a number of other leases by Petrocarb Exploration NL to search for scheelite and molybdenum mineralisation. There is no record of Petrocarb conducting any substantial exploration on the lease.
1. **INTRODUCTION**

Mineral Lease S 71 is located 250 kms north east of Alice Springs in the Jervois Range area of the Northern Territory and is 6 kms north east of the abandoned Jervois Mine (Figure 1). It is on the Huckitta 1:250,000 geological map sheet.

Access is gained via the Plenty Highway and then northwards along a road to the Jervois Mine.

The lease was held by Petrocarb Exploration N.L. but pegged by a local prospector George Tieg and was taken out in conjunction with a number of other leases in the area to explore primarily for W and Mo along strike from the Jervois Mine.

The aim of this report is to outline the work conducted during the period of tenure.

2. **TENURE**

Mineral Lease S 71 was granted to prospector G Tieg on 23 May 1973 for a period of twenty years. Since the granting, Petrocarb Exploration NL was incorporated into Nicron Resources Ltd which in turn has become a wholly owned subsidiary of Aztec Mining Company Ltd. The lease area comprised 17 hectares.

3. **CONCLUSIONS**

1. The mineralisation within MLS 71 is Bonya Hills skarn type (pers comm L Johannsen).

2. There is no potential to outline significant mineralisation within MLS 71 (pers comm L Johannsen).
4. **PREVIOUS EXPLORATION**

The Jervois Mine (Cu Pb and Ag) workings are located only 6 kms to the south of MLS 71. An operation to produce copper sulphate by leaching commenced in 1957 and continued sporadically during the early 1960’s. A small mining operation (200,000 + pa) commenced production in 1981 (Plenty River Mining Co.) but ceased shortly after opening.

The Bonya Hills area has a number of old tungsten (scheelite) and copper shows which were initially investigated by prospectors. Several shafts were sunk and secondary copper with a little chalcopyrite being won from quartz veins. The workings were systematically investigated in the early 1970’s by Petrocarb, Fama Mines Pty Ltd and Central Pacific; which included drilling and mining. Gepeko conducted extensive exploration throughout the region in the 1980’s.

5. **GEOLOGY AND MINERALISATION**

5.1 **REGIONAL GEOLOGY**

The Jervois - Bonya Hills area is located within the Arunta Block, a polydeformed orogen which originated as a sequence of sediments and volcanoclastics within the period 2400 to 2000 Myr (Stewart, Shaw and Black 1984). The orogen was widely metamorphosed and granites intruded in periods from 1800 Myr to 900 Myr.

The Arunta Block is interpreted to be made up of a partly fault bounded Central Tectonic Province of high grade metamorphic rocks and a few granites, flanked by the northern and southern provinces which contain low grade metamorphic rocks and numerous granite intrusions. (See Figure 2). The block is surrounded on most sides by Proterozoic and Phanerozoic sedimentary cover.

The geology of the block has been subdivided into three divisions and the Jervois - Bonya Hills area is located within Division 2 comprising aluminous and siliceous sediments and a few mafic flows and sills.
5.2 LOCAL GEOLOGY AND MINERALISATION

In the Jervois region, division 2 cordierite - biotite schist and chlorite - biotite schist of the Bonya schist contain copper and lead deposits. Chalcopyrite lodes are localised within narrow boudinaged units of chlorite-garnet rock and small silver bearing galena lodes occur within manganese rich calc - silicate rock. The lodes are essentially stratabound and occur within units of magnetite quartzite, BIF and calc - silicate rock in the Bonya Schist (Shaw et al., 1984; Freeman, 1986; Whiting, 1986).

Scheelite occurrences occur alongside and within the same calc - silicate gneiss unit in the Bonya Schist as the base metals (Shaw et al., 1984; Freeman, 1986) however the scheelite occurrences are also localised in the Kings Legend Amphibolite Member of the Bonya Schist. They show a close spatial relationship to pegmatites and small granitoids, themselves at the margins of the large Jinka and Jervois Granite batholiths. These spatial associations suggest the scheelite deposits are genetically linked to granite emplacement (Shaw R D 1990).

6. WORK CARRIED OUT

Mineral Lease S 71 covers a small Mo and W showing (Bonya Hill skarn type) located 6km north east of the abandoned Jervois Mine. The lease was originally pegged by prospector George Tieg. Lindsay Johannsen indicated that the show is only a small one and there is little or no potential for any substantial resource (pers comm). There are no records held by Aztec Mining that revealed any substantial work has been carried out on the lease by Petrocarb.
7. REFERENCES


Generalized geological map of Arunta Block, showing major stratigraphic subdivisions and granite. Compiled from geological mapping, airphoto interpretation, and aeromagnetic interpretation by BMR, 1956-1976. Inset map shows location of Arunta Block in Southern part of Northern Territory.

Figure 2