RELINQUISHMENT REPORT

EXPLORATION LICENCE No 7868

11 December 1992 - 11 August 1993

1:250000 - HELEN SPRINGS (SE53-10)

Compiled: R D Sowerby
November, 1993

Report No NT93/03S
SUMMARY

Exploration Licence 7868 is located approximately 20km south-west of Renner Springs and 140km north of Tennant Creek and is contained within the Helen Springs 1:250 000 map sheet. The EL was acquired to evaluate a possibly discrete gravity anomaly defined by regional BMR gravity surveys. The Tomkinson Creek beds have been considered prospective for stratiform base metal mineralisation by numerous workers. A review of previous exploration data that became "open file" after the granting of EL7868, indicated the gravity anomaly to be due to a levelling error in the original survey. Examination of this data by Geopeko personnel confirmed the error. As a result it was decided to relinquish the exploration licence without further delay. EL7868 was relinquished on 11/8/93.
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# FIGURES

- **Figure 1**: 1:250 000 EL7868 Location Diagram
- **Figure 2**: 1:100 000 Helen Springs - Elevation
- **Figure 3**: 1:100 000 Bouguer Corrected Gravity
1. **INTRODUCTION**

This report covers exploration activities undertaken by Geopeko (A Division of Peko Wallsend Operations Ltd) within Exploration Licence No 7868 from 14-10-92 to 13-08-93.

The EL covered a total of 52 graticular blocks (180 sq km), located approximately 140km north of the township of Tennant Creek and is contained within the Helen Springs 1:250 000 map sheet (refer to Figure 1).

The licence area is located on the Helen Springs and Muckaty pastoral leases.

The region is subject to a warm dry climate from April to October, and hot and humid from November to March with occasional thunderstorm activity. The average rainfall is 330mm.

Work completed over the area was directed at interpretation of previous geophysical survey data.
2. PREVIOUS EXPLORATION

Exploration in the Tomkinson Creek area has previously been undertaken by Clifford Minerals and MIM Exploration Co.Pty.Ltd. Reconnaissance by Don F.Ward & Associates Pty.Ltd. on behalf of Clifford minerals identified striking similarities between the Tomkinson Creek Beds and the McArthur Group. Detailed mapping was followed by a program involving gravity, magnetics, Sirotex surveys and percussion and diamond drilling carried out in 1986/87. MIM carried out further magnetic and gravity surveys as well as stream sediment sampling in 1990/91.

3. REGIONAL GEOLOGY

The majority of the licence area is covered by Cainozoic alluvium and sandy soils which overlie rocks of the Carpentarian age Tomkinson Creek Beds. Quartz arenite and siltstone outcrop along the eastern edge of the EL. A major west-north-west trending lineament crosses the southern half of the EL. More regionally the Tomkinson Creek beds consist of Sandstone, dolomite, chert and carbonaceous shales. Outliers of Cambrian basalt (Helen Springs Volcanics) occur to the east of the licence area.
4. WORK COMPLETED DURING 1993

Initial work was directed at compilation of existing exploration and government survey information relevant to the Tomkinson Ck. area. The main aim of this work was to evaluate the nature of a single point gravity anomaly centred on AMG 355700E 7957600N. During the course of this work, the relinquishment report for the previous E.L. held over this area (CR92/351),EL7020,MIM) became "open file". Examination of this report revealed that MIM had investigated the cause of the anomaly and found it to be due to an error in elevation of about 80 metres in the BMR survey. Some of the data from the MIM survey was obtained and is presented in figures 2 and 3. The approximate location of the BMR reading is also shown in these diagrams.

EXPENDITURE

A total of $5788 was spent during evaluation of E.L. 7868 in the period 11/12/92 to 11/8/93.

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TOTAL 5788

The total compares with the covenant of $15 000 for the first tenure year. The shortfall was due to the EL being relinquished after only 8 months after evaluation of data that became available after granting of the EL.
5. CONCLUSIONS

a) EL7868 was acquired to evaluate a single point BMR gravity anomaly that was not explained by the known geology.

b) The Tomkinson Ck. beds are similar in lithology and age to the McArthur Gp. rocks and may be prospective for stratiform base metal mineralisation.

c) Evaluation of gravity survey data produced by the BMR in conjunction with follow up surveys by MIM indicates the single point gravity anomaly to be due to a levelling error in the original survey.

d) Evaluation of all remaining data does not show further potential to justify a full field program.