MOUNT ISA MINES

A GLENCORE COMPANY

Technical Report
No. 4067

Exploration Permit for Minerals No. 17621
'Bundy's Bore'
Partial Relinquishment Report
For the Period Ended 5 May 2016

MIM RESOURCE DEVELOPMENT PTY LIMITED

TECHNICAL REPORT
No. 4067

TITLE:	EXPLORATION PERMIT FOR MINERALS No. 17621 'BUNDY'S BORE', QUEENSLAND PARTIAL RELINQUISHMENT REPORT FOR THE PERIOD ENDED 5 MAY 2016
HOLDER:	MOUNT ISA MINES LIMITED
OPERATOR:	MIM RESOURCE DEVELOPMENT PTY LIMITED
1:250,000 SHEET:	SF54-06 'DUCHESS'
1:100,000 SHEETS:	6855 'DUCHESS'
INVESTIGATIONS CONDUCTED BY:	MIM RESOURCE DEVELOPMENT PTY LIMITED
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COPY:	2

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SUMMARY

Aim of Project

The exploration programme undertaken on Exploration Permit for Minerals (EPM) 17621 'Bundy's Bore' is aimed at the discovery of economic copper mineralisation.

Object of Report

This report documents work conducted by MIM Resource Development Pty Limited (MIMRD) on the seven sub-blocks relinquished on 5 May 2016.

Location

The Bundy's Bore tenement covers approximately 57 km2 and is located 63-72 km SE of Mount Isa, and 8-22 km north of Duchess, between latitudes 21°18'0" and 21°10'0" south, and longitudes 139°47'57" and 139°55'01" east. Access is via station tracks from the Duchess Road and Cloncurry Highway. Station tracks provide reasonable access to the tenement.

Tenure

Bundy's Bore, comprised of eighteen sub-blocks, was applied for in June 2008 and was granted to Mount Isa Mines Limited on 6 May 2013 for a period of five years. Following the 5 May 2016 relinquishment of seven sub-blocks reported here, the tenement now totals eleven sub-blocks.

Summary of Work

Exploration work conducted by MIMRD over the sub-blocks relinquished during the period of tenure comprised of open-file data compilation, an airborne magnetic-radiometric survey, a soil survey, a stream sediment surveys, and field reconnaissance.

Conclusions and Recommendations

Exploration work failed to identify targets of significant size or interest to MIMRD and seven sub-blocks were recommended for relinquishment.

1 INTRODUCTION

Exploration Permit for Minerals (EPM) 17621 'Bundy's Bore' was identified as prospective as part of regional desktop target generation activities completed by Xstrata Copper Exploration (now MIM Resource Development Pty Limited – MIMRD) in 2006. The Bundy's Bore area was included in the assessment due to its elevated stream and rock chip copper-gold geochemistry and an abundance of large faults in favourable orientations. Targeting utilised a number of remotely-sensed datasets, namely magnetic, radiometric, and ASTER data in combination with open-file data from previous exploration.

Bundy's Bore has potential for copper-gold mineralisation in the following styles:

- Shear-hosted sulphide vein systems associated with zones of enhanced magnetic response with a strong structural control. These metasomatic zones may potentially host iron oxide copper gold (IOCG) systems.
- Skarn hosted mineralisation development within Corella Formation rocks on the margin of the Revenue Granite.
- Quartz sulphide vein systems developed in strongly foliated amphibolite. This style of mineralisation appears to host moderate to locally high-grade copper±gold mineralisation.

This report documents work conducted by MIM Resource Development Pty Limited (MIMRD) on EPM 17621 within the seven sub-blocks relinquished on 5 May 2016.

2 LOCATION AND ACCESS

The Bundy's Bore tenement covers approximately 57 km2 and is located 63-72 km SE of Mount Isa, and 8-22 km north of Duchess, between latitudes 21°18'0" and 21°10'0" south, and longitudes 139°47'57" and 139°55'01" east. Access is via station tracks from the Duchess Road and Cloncurry Highway. Station tracks provide reasonable access to the tenement.

3 TENURE

Bundy's Bore, comprised of eighteen sub-blocks, was applied for in June 2008 and granted to Mount Isa Mines Limited on 6 May 2013 for a period of five years. Following the 5 May 2016 relinquishment of seven sub-blocks reported here, the tenement now totals seven sub-blocks.

The sub-blocks relinquished and retained from the project area are listed below and location details are shown in Drawing 58918.

Sub-Blocks for Relinquishment:

BIM	**Block**	**Sub-Blocks**
CLON	1031	m, n, q, r, w
CLON	1102	o
CLON	1103	b
Total		**7 Sub-Blocks**

Sub-Blocks Retained:

BIM	Block	Sub-Blocks
CLON	1030	t, y
CLON	1031	e, g, k, o, p, v
CLON	1102	d, j
CLON	1103	a
Total		**11 Sub-Blocks**

4 REGIONAL GEOLOGY

Bundy's Bore is located two to fifteen kilometres west of the Pilgrim Fault, a major, long-lived, thick-skinned structure. The Shinfield Zone, interpreted to be a high strain zone developed as a detachment structure during the Wonga Extension, marks the western boundary to the area. Large northeast trending dextral faults have disrupted the central part of the belt between the Shinfield Zone and the Pilgrim Fault. Corella Formation, comprising mostly calc-silicate, psammite, amphibolite, and minor felsic volcanics occupy the majority of the tenement. The Revenue Granite, which belongs to the suite of Wonga aged granites (1750-1730 Ma) intrudes the Corella Formation in the central part of the tenement (Bultitude et al., 1982). The tenement area on 1:125 000 scale regional geology is shown in Drawing 63429.

5 PREVIOUS EXPLORATION ACTIVITY

The majority of exploration in the region has been completed by CRA Exploration, Aquitane Minerals, MIM, Western Mining Corporation, Battle Mountain Inc, Bruce Resources, Queensland Minex, and more recently, Kings Minerals and Syndicated Metals. Exploration activities include geologic mapping and geochemical sampling; however, the focus has been on copper-gold occurrences outside the tenement area.

Geochemistry at Bundy's Bore includes stream sediment, soil, and rock chip sampling. The eastern portion of Bundy's Bore has only a few soil samples, while the western sub-blocks have reasonable coverage. A few high Cu-Au rock chips are located in the western sub-blocks. Low Cu rock chips are scattered through the eastern portion of the tenement.

6 EXPLORATION COMPLETED DURING THE TERM OF TENURE

Exploration work conducted by MIMRD over the sub-blocks relinquished during the period of tenure comprised of open-file data compilation, an airborne magnetic-radiometric survey, a soil survey, a stream sediment survey, and field reconnaissance.

6.1 Airborne Magnetic-Radiometric Survey

In July to August 2012, while the tenement was under application, an airborne magnetic-radiometric survey was conducted by Fugro Airborne over the tenement. Survey parameters comprised 50 metre spaced east-west flight lines at 40-45 metre terrain clearance, with 500 metre spaced north-south tie lines. Digital data are found in Appendix 1.

6.2 Soil Survey

In 2014, thirty-six soil samples (100x200m) were collected for XRF analysis to test a uranium anomaly coincident with a subdued magnetic feature identified in the 2012 geophysical survey. The samples were collected at 100m spacings along east-west lines with 200m between lines. Further work is not required; copper assays were low and anomalism was not detected. Drawing 63596 shows location of soil samples. Digital data is found in Appendix 2.

6.3 Stream Sediment Survey

A stream sediment programme was designed to infill gaps in historic stream sediment datasets and identify elevated copper and gold occurrences. Five of these samples are within the relinquished sub-blocks. Samples were assayed using Aqua Regia for 35 elements and Fire Assay for gold. Drawing 63596 shows location of collected stream sediments samples. Digital data is found in Appendix 3.

7 CONCLUSIONS AND RECOMMENDATIONS

Exploration work failed to identify targets of significant size or interest to MIMRD and seven sub-blocks were recommended for relinquishment.

8 REFERENCES

Bultitude, R. J., Black, D. H., Donchak, P. J. T., Mock, C. M., 1982. 1:100 000 Geological Map Commentary, Duchess Region, Queensland. Department of National Development & Energy, Bureau of Mineral Resources, Geology and Geophysics.

DRAWINGS

APPENDICES