

Newmont NFM Limited

Newmont Tanami Operations

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ANNUAL REPORT FOR MLS8 (THE GRANITES) COVERING WORK UNDERTAKEN FROM 15 MAY 2001 TO 14 MAY 2002

1:250,000 SHEET REFERENCE: THE GRANITES SF52-3

1:100,000 SHEET REFERENCE: GRANITES 4956

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☐ THE GRANITES GOLD MINE

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VOLUME 1 OF 1

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I BAMBOROUGH AUGUST 2002 NEWMONT RN:30713

Title: Annual Report for MLS8 (The Granites) Covering Work Undertaken From 15 May 2001 To 14 May 2002

Report No: Newmont Report No 30713

Author: I. Bamborough



SUMMARY

In the year to May 2002 no exploration work was undertaken on MLS8. The main focus of the Newmont Tanami Operations Mine Site Exploration Team moved to the Dead Bullock Soak Mining Lease MLS154.

Other work undertaken on MLS8 included open cut mining operations on the Quorn Pit at the Western end of the lease. A small amount of ore (approximately 9900 tonnes) was mined as a test parcel and processed through the Granites Mill. Mining operations at Quorn and Bunkers Hill are scheduled to continue in the next reporting period.

The probable continuation of the encouraging lithology's at Ivy West still requires follow up work and further interpretation. Aeromagnetic information obtained in a survey flown over EL4529 by Newmont NFM in August 2001 has given strength to the theory that the mine sequence continues to the West. Further exploratory work may be undertaken in MLS8 and EL4529 in the future.

Minor rehabilitation work was undertaken on two diamond drill sites to the East of Bunkers Hill.

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Scale

1. INTRODUCTION

Gold mineralisation was discovered at The Granites by A. A. Davidson in 1900 (Davidson, 1905) and intermittently worked along 9km of strike until the 1950's, yielding a recorded production of 470kg of gold. The geological environment, pre-existing exploration drilling results and an optimistic view on gold prompted acquisition of the property by Normandy NFM in 1975 (then North Flinders Mines Limited). An agreement was signed with the Central Land Council in August 1983 and drilling commenced in the same month. Production commenced on 1st July 1986.

Development and production priorities at the Callie deposit (MLS154) resulted in the suspension of mining activities and a significant reduction of the exploration program at The Granites.

All economically significant mineralisation at The Granites occurs within iron/sulphide silica rich zones adjacent to a major structure. Secondary influences include the presence of cross cutting structures, competency contrasts and favourable geochemistry.

2. TENEMENT DETAILS

MLS8 is a single mining tenement comprising an area of 2186 hectares. It is completely surrounded by EL4529, also held by Normandy NFM (Figure 1). Within MLS8 are eleven gold mining leases (GML), listed in Table 1. These leases were all allocated a MLS number for ease of reference. Exemption from work in the GMLs was granted by the Department in accordance with Section 71 of the Mining Ordinance 1939-1979.

MLS8 was granted to Normandy NFM in May 1984, and gold production commenced on 1st July 1986. Tenure is held until the year 2009.

TABLE 1: Tenement Summary

Title	Name	Hectares	Grant Date	Expiry Date
MLS8	The Granites	2186	15/05/84	14/05/09
MLS134 (GML60)	Shaman Hills	8	29/11/83	31/12/03
MLS135 (GML61)	Bunkers Hill	8	29/11/83	31/12/03
MLS136 (GML62)	Twin Hills 1	8	29/11/83	31/12/03
MLS137 (GML63)	Twin Hills 2	8	29/11/83	31/12/03
MLS138 (GML64)	Bullakitchie 1	8	29/11/83	31/12/03
MLS139 (GML65)	Bullakitchie 2	7.95	29/11/83	31/12/03
MLS140 (GML66)	Long Bottoms	8	29/11/83	31/12/03
MLS141 (GML67)	Golden Shoe 1	7.50	29/11/83	31/12/03
MLS142 (GML68)	Golden Shoe 2	8	29/11/83	31/12/03
MLS143 (GML69)	Quorn 1	8	29/11/83	31/12/03
MLS144 (GML70)	Quorn 2	8	29/11/83	31/12/03

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3. LOCATION, ACCESS AND PHYSIOGRAPHY

MLS8 is situated on the Granites (4956) 1:100,000 map sheet. It is located 550km north-west of Alice Springs and 50km south-east of Rabbit Flat, accessed by the Tanami Road which bisects the lease (Figure 1).

The field camps are located within MLS8 one to service mining personnel (Twin Hills) and the other to support regional exploration staff (Ivy).

The Tanami region is an arid zone and is largely covered by a veneer of windblown sand creating a gently undulating land surface. Cherty iron rich horizons form prominent crests.

4. EXPLORATION MINING HISTORY

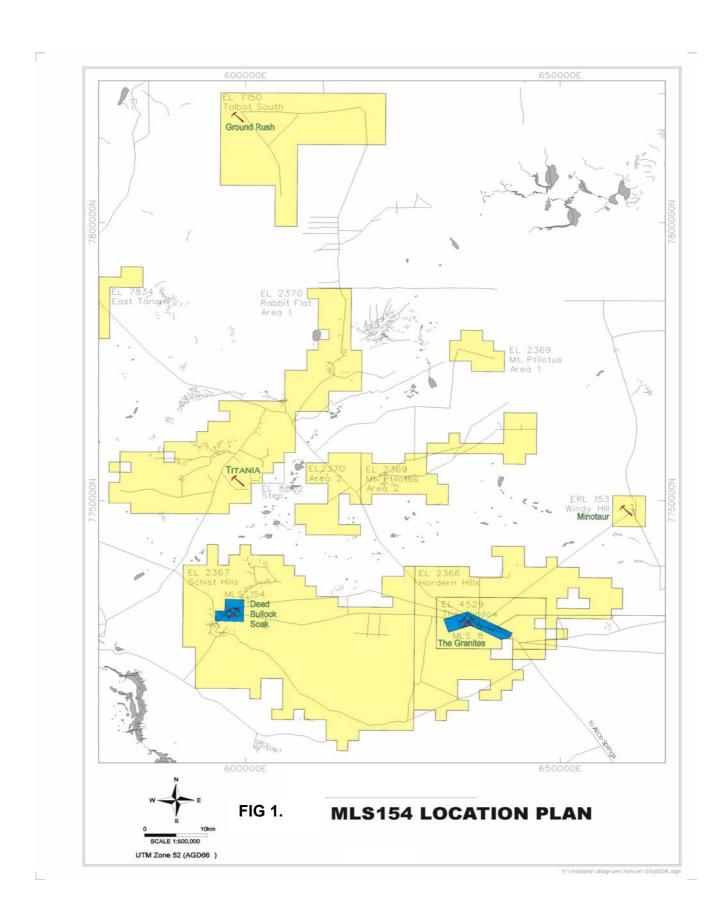
Gold was discovered at the Granites by Allan Davidson in 1900 (Davidson, 1905). Prospecting between 1910 and 1932 led to minor production from narrow quartz veins and from limited alluvial and eluvial zones at Bunkers Hill (Ellis, 1927). The discovery of further rich but narrow quartz veins at the Burdekin Duck Deposit on Chapmans Hill, and the occurrence of a small patch of rich alluvial ground nearby produced a brief gold rush in 1932 (Baume, 1933, Madigan, 1944). Charles Chapman took up leases at The Granites in 1932 and for the next twenty years, Chapmans Gold Mines NL (CGM) continued small scale mining at several locations (Bullakitchie, Shoe and near Chapmans Hill). A total of 420kg of gold was produced from the area prior to 1961. Chapmans leases were explored by Anglo Queensland Mining Pty Ltd between 1938 and 1948 outlining a possible resource at Bullakitchie and Shoe of 250 000t at 11.5g/t gold (Hall, 1953). Exploration was also undertaken by Northern Mines Development NL between 1954 and 1955 and later by Geopeko Ltd (between 1965 and 1970) who tested prominent magnetic anomalies at Twin Hills and Ivy.

Normandy NFM acquired the property in 1975 but did not commence exploration until August 1983 due to political and legal constraints (den Dryver, 1984; Ireland and Mayer, 1984). By June 1985 reserves at Bullakitchie and Shoe totaling 1.9Mt at 8.0g/t had been calculated after the drilling of 57 diamond drillholes and 75 reverse circulation drillholes (Mayer, 1990).

Production commenced on 1st July 1986.

During the nine years of mining on this lease to 1995, 329,931oz of gold were produced from underground and open pit sources.

Mining of the Quorn Open Pit recommenced in early 2002. A small amount of ore (approximately 9900 tonnes) was mined as a test parcel and processed through the Granites Mill. Mining operations at Quorn and Bunkers Hill are scheduled to continue in the next reporting period.



5. REGIONAL GEOLOGY

The Granites Goldfield lies in the eastern part of the Early Proterozoic Granites-Tanami Inlier which is part of the Northern Australian Orogenic Province (Plumb 1990). The Inlier abuts the Arunta Complex to the south and east and is onlapped by younger cover sequences including the extensive Palaeozoic Wiso Basin on its north-eastern margin. To the west, clastic sediments of the Middle Proterozoic Birrindudu Basin overlie and separate the inlier from similar age rocks in the Halls Creek Province.

Tertiary drainage channels now completely filled with alluvial and lacustrine clays and calcrete, are major features of the region. Some drainage profiles are 10km wide and 100m deep, presenting a formidable barrier to mineral exploration.

Gold mineralisation within the Normandy NFM tenement holding occurs within the a sequence of fine to medium-grained turbiditic metagreywackes with lesser amounts of metapelite, graphitic schist, banded ironformation, chert and basic volcanic rocks referred to as Mt Charles Beds by Blake et al 1979. Owing to their more resistant nature, only the cherts and iron/silica rich units tend to outcrop above the sand plain.

A suite of syn-to-post deformation dolerites and gabbros frequently invade the carbonaceous rich components of the sequence. Large plutons of mostly undeformed late-to-post orogenic adamellite and minor more mafic variants comprising The Granites Granite suite are widespread throughout the area.

Residual hills of gently folded Carpentarian Gardiner Sandstone unconformably overlie Early Proterozoic lithologies. Younger flat-lying Cambrian Antrim Plateau Basalts are also preserved as platform cover in areas protected from erosional stripping.

Complex, polyphase deformation during the Barramundi Orogeny has affected the entire Granites-Tanami Inlier. It appears to have been largely controlled by two sets of regional scale fundamental crustal fractures that trend NNE and WNW. This is evidenced by the orientation of successive phases of macroscopic folding, shearing and faulting in the region and the consistent sympathetic trends of later tectonic reactivated faults.

Peak metamorphism during the Barramundi Orogeny reached amphibolite facies at The Granites Gold Mine, whilst more generally greenschist facies at Dead Bullock Soak. Contact metamorphic aureoles, commonly identified in pelitic schist units by randomly orientated and alusite porphyroblasts, are well developed at the margins of the post-orogenic granite plutons.

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6. LEASE GEOLOGY

The geology of the lease is shown on Plan No. GRT/GC001.

The Granites derives its name from an impressive cluster of tors that rise to 20m above an otherwise subdued landscape. Westwards from The Granites, an arcuate strike ridge of more resistant units crop out as defined by a line of low hills extending for 9km before disappearing under desert sand plain. This belt of rocks, approximately 200m wide, contains all excavations and mineralisation collectively known as The Granites Goldfield.

The formation exposed has a sub-vertical dip and has undergone several deformation events. Previous work has informally subdivided the main units into Host Unit, Footwall Schist and Hanging Wall Schist; however this terminology can be misleading and more importance should be placed on the geological differences.

The southern units traditionally known as the Footwall Schists are at least 120m thick, comprising biotite, hornblende, andalusite, almandine porphyoblastic finer grained schists with coarser grained quartz, biotite, albite and almandine schist units. Cummingtonite, cordierite rich units and porphyroblasts of almandine garnet are also observed.

The northern units traditionally known as the Hanging Wall Schists are of similar bulk composition to the southern units but with increased graphite content and a finer grain size. Geologically the units are described as a graphite schist with variable proportions of biotite, quartz and andalusite, cordierite and cummingtonite. Ferruginous units containing lensoid pods of garnet schist are also noted.

Between these units lies the mineralised package (traditionally known as the Host Unit) which comprises from north to south: -

0-20m thick quartz, haematite, garnet, amphibolite unit - upper iron silica rich zone

0-5m thick, blocky garnet zone (marker horizon)

0-2m thick, moderately banded laminated zone - lower iron silica rich zone

0-2m thick, blocky garnet zone (marker horizon)

Both pre-metamorphic and post-metamorphic basic to intermediate intrusives invade the sequence. The sequence is sub-vertical and in the absence of firm evidence of facing, is assumed to be young to the north (away from the granite) and variably lateritised.

The mineralised zone is 5 to 35m thick and has been traced by costeaning and shallow drilling for 8.5km from Chapmans Hill to Ivy, although it appears to be consumed by intrusive rocks for up to 2km of strike length. The contact between the mineralised zone and the overlying carbonaceous rich units is usually sharp and distinctive and interpreted to a fault contact. The lower contact is more gradational (over 2 to 3m).

The Granites orebodies are within iron silica rich zones. Some of the ore zones within the mineralised beds comprise a number of steeply plunging ore shoots, eg Bullakitchie, distributed within a structurally thickened portion of this unit. The width of the gold mineralised horizon has been expanded from a characteristic thickness of less than 5m to more than 10m. Individual shoots have a strike length of up to 100m, and a true width of 2 to 15m.

The gold occurs as disseminations in laminated amphibole-quartz and garnet-rich units, frequently accompanied by quartz-carbonate veining and the sulphides pyrrhotite and arsenopyrite. Free gold occurs in association with arsenopyrite and pyrrhotite, with or without quartz-carbonate veining.

7. ESTIMATED RESERVES & RESOURCES

The last published remaining resources at MLS8 are indicated in the table below. A reassessment of the reserve and resource inventory was carried out for the June 2001 figures.

TABLE 2: Summary of Identified Reserves & Resources (June 2001)

Deposit	Туре	Tonnes	Grade (g/t)	Contained Gold (ounces)
Open Pit				
Bunkers Hill	Indicated Resource	655,000	3.0	63,183
Quorn	Indicated Resource	700,000	3.3	74,277
Total Open Pit Resource		1,355,000	3.2	137,460
Bunkers Hill	Probable Reserve	435,000	2.9	40,563
Quorn	Probable Reserve	363,000	3.0	35,016
Total Open Pit Reserve		798,000	2.9	75,579
Underground				
Quorn	Indicated Resource	528 000	5.4	92,358
Total Underground Resources		528 000	5.4	92,358

8. EXPLORATION OBJECTIVES

The probable continuation of the encouraging lithology's at Ivy West still requires follow up work and further interpretation. Aeromagnetic information obtained in a survey flown over EL4529 by Newmont NFM in August 2001 has given strength to the theory that the mine sequence continues to the West. Further exploratory work may be undertaken in MLS8 and EL4529 in the future.

9. WORK UNDERTAKEN & CURRENT EXPLORATION PROSPECTS

9.1 Ivy West

An exploration program at Ivy West in the previous reporting period (15 May 2000-14May 2001) tested for a westerly extension of Quorn mineralisation. A total of 72 RAB holes were drilled on 4 drill lines for 3679m. This program is detailed in the Annual Report on Exploration to the Mines Department on Tenement MLS8 15 May 2000 to 14 May 2001.

Historical RAB drilling in this area had recorded values of up to 3m @ 5.8g/t in auger holes; these anomalies had not been fully explained. A 10ppb geochemical anomaly also extends for over 400m x 800m in this area.

Preliminary logging identified carbonaceous rich units and iron silica rich units at the northern end of one drill line. These units were interpreted as part of the mine sequence. Quartz veining and occasional granites/pegmatites were also noted.

Anomalous results received from this drilling included GNRB001, 3m @0.045g/t from 27m

Aeromagnetic information obtained in a survey flown over EL4529 by Newmont NFM in August 2001 has given strength to the theory that the mine sequence continues to the West.

Further exploratory work may be undertaken in MLS8 and EL4529 in the future.

9.2 Rehabilitation of Diamond Drilling between Bunkers and Twin Hills

Rehabilitation of two diamond drill sites (GCD402, AMG 6 40 800E, 77 26 300N) and (GCD403, AMG 6 40 100E, 77 26 385N) from drilling undertaken to the East of Bunkers Hill in the last reporting period was completed in June 2001. A total of \$600 expenditure was actualised.

10. CONCLUSIONS & RECOMMENDATIONS

The probable continuation of the encouraging lithology's at Ivy West requires follow up work and further interpretation.

Re commencement of mining is planned for Bunkers Hill in the next reporting period (approximately July 2002). Mining at Quorn Pit will continue in the next period.

11. EXPENDITURE INCURRED FOR THE REPORTING PERIOD

TABLE 3: Details of Exploration Expenditure for the Year to 30th May 2002

COST CENTRE	May 2000-May 2001
Equipment Hire	\$600
TOTAL \$	\$600

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- Sivwright, P & Sieradzki, S, 2000. Annual Report for MLS8 (The Granites) covering work undertaken from 15th May 1999 to 14 May 2000. Normandy Report No: 27105
- Sivwright, P., 2001. Annual Report for MLS8 (The Granites) covering work undertaken from 15th May 2000 to 14 May 2001. Normandy Report No: 29108

13. APPENDIX A, CD OF DIGITAL DATA

14. BIBILIOGRAPHIC DATA SHEET

REPORT NUMBER 30713

REPORT TITLE ANNUAL REPORT FOR MLS8 (THE GRANITES)

COVERING WORK UNDERTAKEN FROM

15 MAY 2001 TO 14 MAY 2002.

PROSPECT NAME Granites

TENEMENT NUMBERS MLS8

OWNER/JV PARTNERS Newmont NFM Limited 100%

COMMODITIES Gold

TECTONIC UNITS Granites Tanami Block (Inlier)

STRATIGRAPHIC UNITS Arunta Complex

1:250,000 MAPSHEET The Granites SF52-3

1:100,000 MAPSHEET Granites 4596

KEYWORDS Granites, Ivy West, Aero Magnetic Surveys, RAB, Quorn,

Bunkers Hill, Rehabilitation