

Section 1

Introduction

PREAMBLE

This section introduces the proposal of Big Island Mining Pty Ltd to develop and operate the Dargues Reef Gold Project ("the Project") and includes:

- *an outline of the scope and format of the document;*
- *details about the Proponent, Big Island Mining Pty Ltd;*
- *relevant background to the Project including a review of the history of mining and exploration in the area surrounding the Project Site and an overview of the Project resources and reserves;*
- *information on the approvals process; and*
- *identification of the personnel involved in the Project design, document preparation and specialist consultant investigations.*



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1.1 SCOPE

This *Environmental Assessment* has been prepared by R.W. Corkery & Co. Pty. Limited to support an application for project approval by Big Island Mining Pty Ltd (“the Proponent”) to construct and operate the Dargues Reef Gold Project (“the Project”) (PA 10_0054). The Project would comprise an underground gold mine, a run-of-mine (ROM) pad/temporary waste rock emplacement, a processing plant and tailings storage facility, as well as associated infrastructure and ancillary activities. The application is made possible by virtue of the fact that mining is a permissible land use (with consent) within the relevant zone (Zone 1(a) (General Rural)) of the prevailing *Tallaganda Local Environment Plan 1991* (“Tallaganda LEP”).

The Project is classified as a “Major Project” in accordance with Paragraph 5 of Schedule 1 of *State Environmental Planning Policy (Major Development) 2005* (“Major Projects SEPP”), given capital expenditure would be more than \$30 million. As such project approval is required under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This document has been prepared in satisfaction of that requirement and in accordance with Section 75H of the EP&A Act.

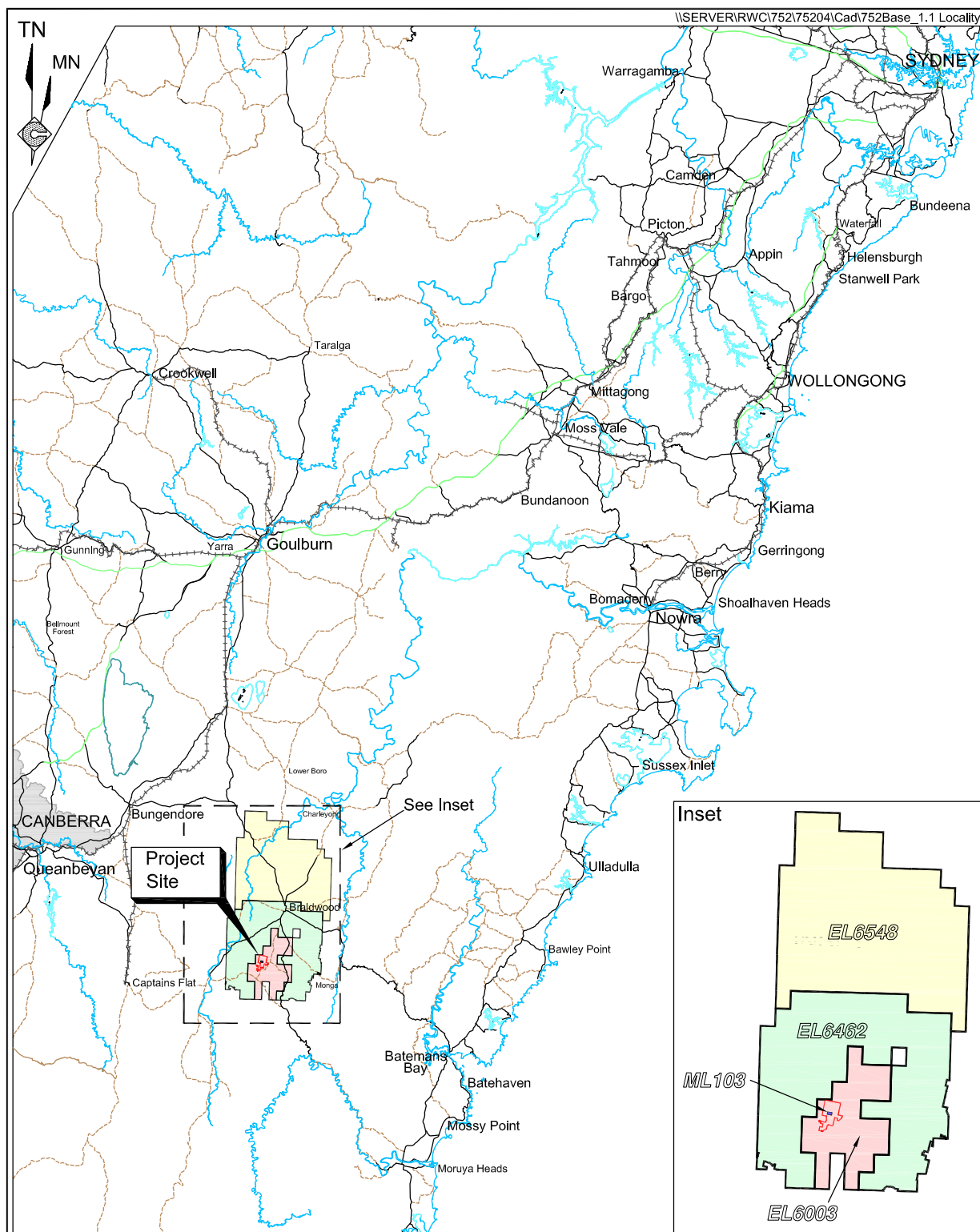
Figure 1.1 presents the location of the Project on the western slopes of the Great Dividing Range, approximately 60km southeast of Canberra, to the north of Majors Creek and approximately 13km south of Braidwood. **Figure 1.2** and **1.3** provide the regional and local setting for the Project respectively. The Project is located on freehold land. That land is referred to hereafter as “the Project Site” and is described in more detail in Section 1.3.2. A copy of the application for project approval is included as **Appendix 1**.

The information provided in this document is presented to a level of detail which addresses all relevant issues identified by the various stakeholders including Government agencies, Palerang Council, surrounding residents and the local community (refer to Section 3 and **Appendix 2**). In accordance with the Director-General’s requirements from the Department of Planning dated 23 April 2010, this *Environmental Assessment* addresses the following issues.

- Background on the development of the Project.
- An outline of the Project.
- Details of the permissibility and relevant statutory controls.
- An overview of the local area/land uses surrounding the Project Site.
- An overview of the environmental issues (including identification and consideration of the key issues).
- The outcomes of consultation program(s) conducted by the Proponent.
- An assessment of residual impacts on the environmental issues identified, including proposed operational controls, safeguards and mitigation measures.
- A statement of the commitments made by the Proponent with respect to the development and operation of the Project and management of environmental issues.

Emphasis has been placed upon comprehensively addressing the key issues and limiting coverage of those issues that are not central to the determination of the project application.





REFERENCE

- Project Site Boundary
- Major Road
- Minor Road
- Railway
- Creek / River

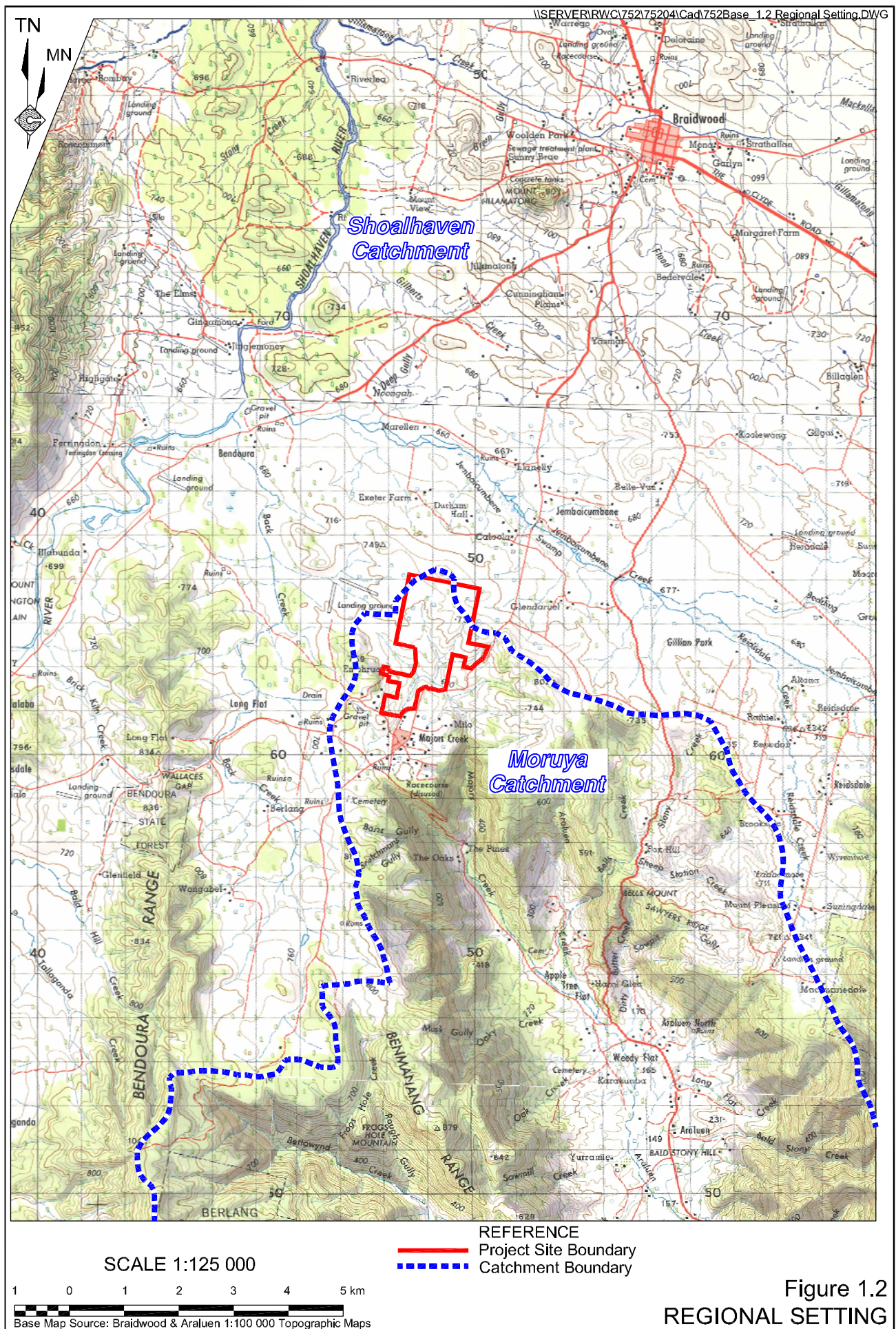
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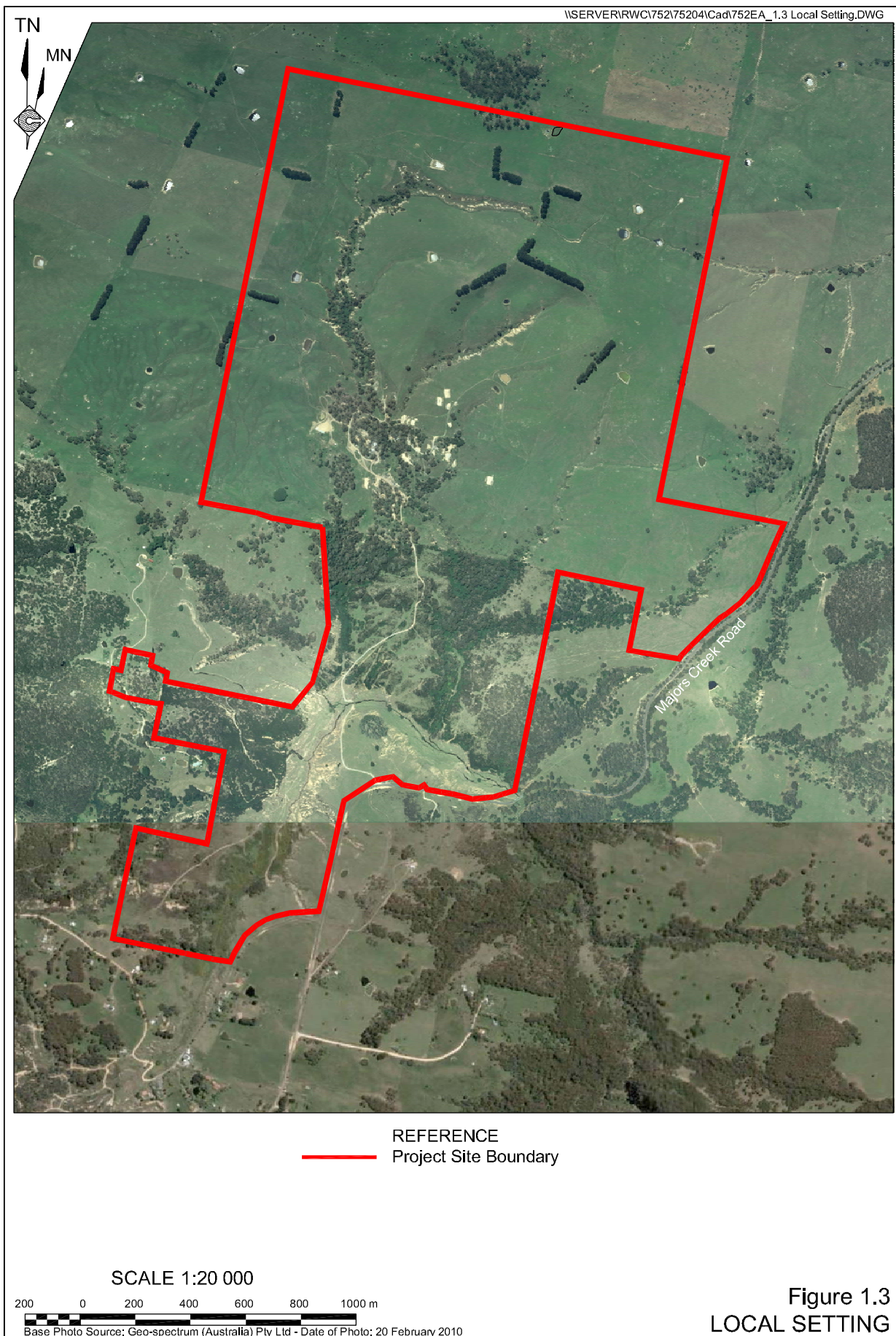
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Mineral Authority Source: Big Island Mining Pty Ltd

Note: A colour version of this Figure is available on the Project CD

Figure 1.1
LOCALITY PLAN





1.2 FORMAT OF THE REPORT

The *Environmental Assessment* has been structured to address the general requirements and key issues nominated by the Director-General of the Department of Planning (the Director-General's Requirements (DGRs)), which themselves have been based on the requirements of the Department of Planning and other relevant State and local government agencies. The *Environmental Assessment* has been compiled in a single volume which includes six sections of text, a reference section, glossary, and a set of appendices.

The format of the *Environmental Assessment* has been structured as follows.

- Section 1:** introduces the Project, the Proponent (Big Island Mining Pty Ltd) and provides relevant background information. Information on the approvals process is provided together with information on the management of investigations for the *Environmental Assessment*.
- Section 2:** describes the Proponent's objectives and proposed mining, processing, product despatch, hours of operation, infrastructure and services, water and waste management and rehabilitation activities. This Section also describes the feasible alternatives considered by the Proponent during the design of the Project.
- Section 3:** provides a description of the process used to identify and prioritise the key issues for assessment with reference to the Director-General's Requirements for the Project, stakeholder consultation through the Project planning stages and a general environmental risk analysis undertaken to establish the specific environmental risk(s) posed by issues identified.
- Section 4:** presents the environmental setting of the Project Site, including information on topography, meteorology, geology, land ownership and land use. The section also describes the existing environment, proposed management, assessment of potential impact and maintenance/monitoring requirements for the key issues identified in Section 3.
- Section 5:** provides a draft statement of commitments compiled by the Proponent in relation to environmental management and monitoring for the entire Project.
- Section 6:** evaluates the Project in terms of biophysical, economic and social considerations, and the goals and guidelines of Ecologically Sustainable Development. A conclusion relating to the acceptability of the Project based on the above is presented to conclude the *Environmental Assessment*.
- References:** lists the various source documents referred to for information and data used during the preparation of the *Environmental Assessment*.
- Glossary:** explains the technical terms, acronyms, symbols and units used throughout the *Environmental Assessment*.



Appendices: present the following additional information.

- **Appendix 1** - A copy of the Proponent's application for project approval.
- **Appendix 2** - The Director-General's Requirements and tabulated summary of the requirements of the consulted government agencies, including where each requirement is addressed in this document.

The *Environmental Assessment* has been prepared with the input of seven specialist consultancies to prepare specialist environmental assessments. Their reports have been compiled into the *Specialist Consultant Studies Compendium* which has been placed on exhibition with the *Environmental Assessment*. The contents of these reports are summarised into the appropriate section(s) of the *Environmental Assessment*.

1.3 THE PROPONENT, PROJECT SITE AND PROJECT TERMINOLOGY

1.3.1 The Proponent

The Proponent, Big Island Mining Pty Ltd, is a wholly owned subsidiary of Cortona Resources Limited (Cortona). Cortona is an Australian listed public gold mining and exploration company which has been in existence since 2006. Cortona has a portfolio of gold projects in NSW and Western Australia and its principal focus is on the continued expansion of its gold resource inventory with the primary objective of becoming a successful and profitable gold producer.

Cortona has approximately 1 800 shareholders of which Baker Steel is the largest with a 16.6% stake in the Company. Cortona is controlled by a board of four individuals with a combined experience in mining-related industries of more than 90 years. Cortona recently raised \$10 million, providing sufficient funding to complete a project feasibility study and environmental assessment, as well as ongoing exploration.

The Proponent is committed to continue the development and operation of the Project in a manner that achieves environmentally responsible outcomes. The Proponent recognises that the mining, processing, loading and transportation of the gold ore and gold concentrate should not be achieved to the detriment of the local community and the environment. Rather, the Proponent intends, as a responsible corporate citizen, to develop, operate and rehabilitate the Project in a manner that minimises the potential for adverse Project-related environmental impacts while providing economic and other benefits for all stakeholders, including the surrounding community, government, Palerang Council and the Company's stakeholder.

1.3.2 The Project Site

The Project Site comprises nine separate freehold land titles, eight of which are owned by the Proponent (see **Figure 1.4**). **Table 1.1** presents land titles within the Project Site.



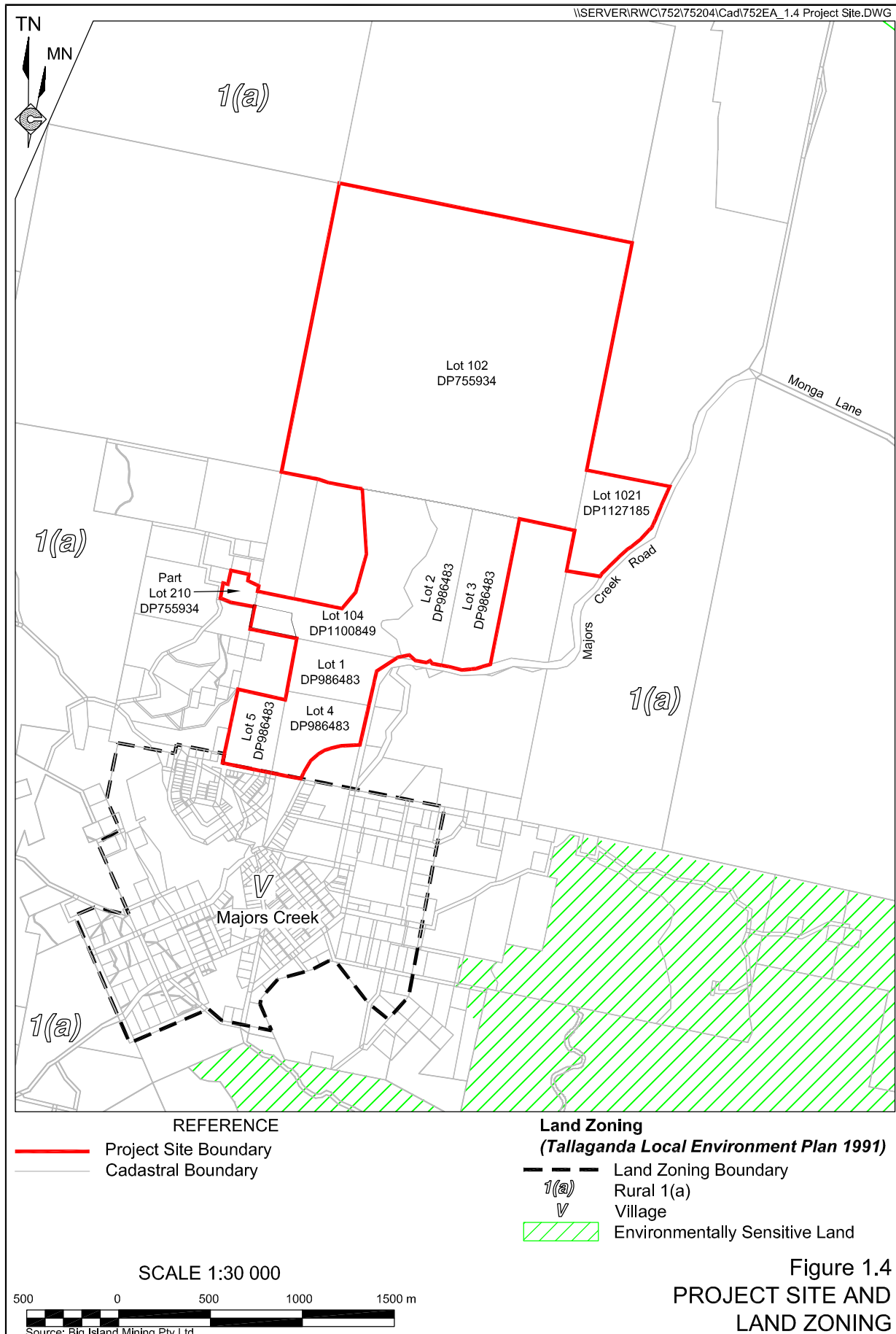


Table 1.1
Project Site Land Titles

Lot	DP	Lot	DP
102 ¹	755934	4 ¹	986483
210 ²	755934	5 ¹	986483
1 ¹	986483	104 ¹	1100849
2 ¹	986483	1021 ¹	1127185
3 ¹	986483		
Note 1: Land registered to the Proponent			
Note 2: Land registered to B and C James. Part Lot only.			
Source: Big Island Mining Pty Ltd			

It is noted that one parcel of land, namely Lot 210, DP755934 is registered to B and C James. This land has been included within the Project Site to allow construction of a bore to access the former Snobs Mine workings (see Section 2.10.2.6). No other activities are proposed within that parcel of land. The Proponent has commenced negotiations in relation to the proposed activities with the registered land owners.

The Project Site in its entirety occurs within Zone 1(a) (General Rural) of the Tallaganda LEP, although bounded to the south by the Zone 1(v) (Village) zone of Majors Creek (**Figure 1.4**). The majority of the eastern boundary of the Project Site is aligned along Majors Creek Road while to the west and north of the Project Site is a continuation of the rural lands of Zone 1(a).

The majority of the Project Site, and all Project activities, would be located within the Moruya Catchment. A small portion of the Project Site is located within the Shoalhaven Catchment.

1.3.3 Project Terminology

Table 1.2 provides the key project terminology, and relevant parameters, referred to throughout the *Environmental Assessment*.

A glossary of all other mining and environment-related terminology is presented in Section 8.

1.4 BACKGROUND TO THE PROJECT

1.4.1 Introduction

The Proponent and its associated predecessors have controlled exploration licences over the Project Site since 2002. At that time, an exploration program was commenced to identify additional hard rock gold resources associated with the historic Jembaicumbene, Majors Creek (also known as Elrington) and Araluen alluvial goldfields.

This sub-section provides an overview of the mineral authorities held by the Proponent, a description of historic mining operations of the local area, a summary of the exploration activities undertaken which have led to the confirmation of an economically recoverable gold resource and an overview of the resources and reserves within the Project Site. More detail on the regional and local geology is provided in Section 4.1.4.



Table 1.2
Project Terminology

Terminology	Area	Description
Project Site	396ha	The area relevant to the application for project approval.
Site Access Road	3 278m	A proposed unsealed road that would permit site access from Majors Creek Road to the Site Infrastructure Area.
Box Cut	1.17ha	An excavation of approximately 286m long, 64m wide and 29m deep providing an entry point to the underground mine.
Temporary Waste Rock Emplacement	0.68ha	Location for initial stockpiling of waste rock mined from the proposed underground mine. This waste rock will ultimately be returned underground as part of stope backfilling activities.
Run-of-Mine (ROM) Pad	0.69ha	Hardstand area providing for the storage of the gold-bearing ore mined from the underground mine prior to processing. It is noted that the Temporary Waste Rock Emplacement and the ROM pad will be integrated, with waste rock material used to construct the ROM pad.
Processing Area	1.34ha	Incorporating both the grinding, gravity recovery, flotation and dewatering processes to create the final gold bullion and concentrate product.
Tailings Storage Facility	8.2ha	Above ground dam used to store the water and fine waste generated by the processing operations.
Site Infrastructure Area	1.34ha	Area of the Project Site incorporating all offices, workshops and ancillary buildings.

1.4.2 Existing Mineral Authorities

Figure 1.1 and Table 1.3 present the Mineral Authorities held by the Proponent.

Table 1.3
Mineral Authorities

Authority ¹	Act year	Date Granted	Mineral Groups ²
ML103	1973	15 Dec 1975	1
EL6548	1992	05 Apr 2006	1
EL6003	1992	03 Oct 2002	1
EL6462	1992	01 Sep 2005	1
MLA 355	1992	Yet to be granted	1
Note 1: See Figure 1.1.			
Note 2: Mineral groups as defined under the <i>Mining Act 1992</i> .			
Source: Big Island Mining Pty Ltd			

1.4.3 Historic Mining Operations

The Proponent's mineral authorities encompass the Majors Creek, Jembaicumbene Goldfield and a portion of the Araluen alluvial goldfields. The Majors Creek and the Araluen Goldfields represent the largest alluvial goldfield in NSW. Alluvial gold was first discovered at Majors Creek on 5 October 1851. Historical records indicate that more than 40 tonnes of gold has been produced from alluvial deposits in the Braidwood-Araluen area, the vast majority being won in the mid to late 1800's. An estimated 98% of gold produced was from alluvial workings, with the remainder from lode gold workings.



The Dargues Reef ore body was discovered in the 1870's when James Dargues, who had been washing alluvium in Spring Creek came across an ant bed and washed it, he obtained £20 of gold from the process. He was convinced that a good reef lay underneath and eventually located the source. The reef cropped out on both sides of Spring Creek and the gold was scattered throughout the weathered granitic host material. The claim was opened on both sides of Spring Creek as an open cut and a shaft was sunk on both sides of the reef to 10m. Twenty miners and about seven to nine horses and carts were employed, each of which carted ore to the crushing plant on Majors Creek. Historic records indicate that 180 tons of ore yielded, an average of 60oz of gold per week. After expenses were paid, the shareholders received between £10 and £15 a week. The crushing machinery paid for itself in a few weeks.

Following initial mining activities, further shafts were excavated between 1870 and 1891 and then again between 1914 and 1916. The Dargues Reef shaft was sunk to 67m with 3 levels, 2 on Big Blow Lode and one on Main Lode. Historic production from Dargues Reef was minimal, approximately 2 000t at a grade of approximately 14g/t gold.

The Proponent is not aware of cyanide or mercury having ever been used during gold mining operations within the Project Site. As a result, the presence of cyanide- or mercury-contaminated soils is considered to be highly unlikely.

1.4.4 Exploration Operations

Modern exploration commenced in the 1980's when Canyon Resources and Horizon Pacific explored the Dargues Reef area, drilling 8 surface and 12 underground drill holes. However, very few of these holes penetrated beneath the existing workings and results were mixed.

In 2002, Moly Mines Ltd applied for and was granted EL6003 over the Dargues Reef deposit (**Figure 1.1**). Around the same time, Molly Mines Ltd purchased ML103 from Mr A.F Jordan. In 2004, Molly Mines Ltd commenced a drilling program consisting of a number of deeper drill holes to test for depth extensions of the known mineralisation at Dargues Reef and to explore for additional lodes. That drilling program established that the lodes could occur up to 60m north of the contact with the 'footwall' diorite dyke. Since 2004, approximately 220 holes have been drilled at Dargues Reef, firstly by Moly Mines Ltd, then by the Proponent.

In addition to exploration activities at Dargues Reef, the Proponent has identified a number of other areas of mineralisation which are progressively being tested and explored. Extraction of material within those areas does not form part of this application. However, subsequent applications may be made to include mineralisation that can be viably extracted.

1.4.5 Identified Resources and Reserves

A Joint Ore Reserves Committee (JORC) Code compliant Resources and Reserves statement was prepared by Runge Limited. That statement indicates that the identified resources and reserves within the Project Site are approximately 1.4Mt @ 6.2g/t Au for 286,000oz Au. It is noted that the Proponent anticipates updating the resource and reserves statement in light of subsequent and future drilling and announcements will be made on the Company's website when these are available.



1.5 APPROVALS PROCESS FOR A MAJOR PROJECT AND THE PROJECT TIMETABLE

Table 1.4 presents the component stages of the approvals process under Part 3A of the EP&A Act and provides an indicative Project timetable currently being followed by the Proponent. It is noted that a number of the component stages, namely those stages that are managed by the Department of Planning (DoP), have not been given an indicative timing as the Proponent does not control the completion of those components. However, based upon the submission of an adequate *Environmental Assessment* to be made publicly available in September 2010 and the subsequent granting of project approval, assuming it is granted, the Proponent proposes to commence construction operations in the first quarter of 2011 and produce the first gold bullion/concentrate in the third quarter of 2011.

1.6 MANAGEMENT OF INVESTIGATIONS

The preparation of this document has involved a study team managed by Mr Mitchell Bland (B.Sc (Hons), MEcon Geol, LLB (Hons)), Principal Environmental Consultant with R.W. Corkery & Co Pty. Limited, with the assistance of Mr Alex Irwin (BSc(Hons)), Senior Environmental Consultant with the same Company. Peer review of the *Environmental Assessment* has been undertaken by Mr Rob Corkery (B.Sc. (Hons), M.Appl. (Sc)), Principal with the same Company.

Several professional representatives of the Proponent assisted with the preparation of this document including, but not limited to:

- Mr Ajanth (AJ) Saverimutto, Operations Manager;
- Mr Greg Cozens, NSW Exploration Manager; and
- Mr Peter van der Borgh, Managing Director.

In addition, third party advisers to the Proponent also assisted with the preparation of this document including, but not limited to:

- Mr James Dornan, Environmental Consultant, Mining Plus Pty Ltd.
- Mr Ken Larwood, Business Excellence Manager, Mining Plus Pty Ltd.
- Ms Kylee Miller, Operations Manager – Consulting, Independent and Metallurgical Operations.



Table 1.4
Approvals Process for a Major Project and the Proponent's Indicative Timing

Activity	Indicative Timing
1. A preliminary Environmental Assessment of the Project is prepared and submitted to the Department of Planning for distribution to relevant government agencies.	Completed - March 2010
2. A Planning Focus Meeting is convened for all relevant government agencies to attend a briefing about the Project and a site inspection.	Completed - March 2010
3. The Proponent writes to the Department of Planning lodging its Application for Project Approval.	Completed - 19 April 2010 - Amended Application 27 July 2010
4. The Department of Planning receives the written requirements of the government agencies consulted and issues the Director-General's Requirements for the Project.	Completed - 23 April 2010
5. The Proponent undertakes consultation with the local and wider community – which continues throughout the entire process.	Ongoing - From November 2008 (see Section 3.2.2.1)
6. An <i>Environmental Assessment</i> is provided to the Department of Planning for consideration and assessment of adequacy by the Department and other government agencies (prior to it being placed on public exhibition).	Completed - 30 July 2010
7. The <i>Environmental Assessment</i> is lodged with modifications reflecting the comments provided by the various government agencies. The Department of Planning will place all documents on public exhibition and notify neighbours and other stakeholders about the Project and the exhibition period.	<i>September 2010</i>
8. Review of the <i>Environmental Assessment</i> during the exhibition period by the community and government agencies.	<i>Timing not indicated</i>
9. The Department of Planning seeks from the Proponent, a response / clarification of issues raised in the submissions from government agencies and the community.	<i>Timing not indicated</i>
10. The Proponent provides a response to the issues raised and, if necessary, a revised Statement of Commitments.	Variable, depending on issues raised
11. The Department of Planning prepares its assessment report based on all documentation submitted by the Proponent, government agencies and the community. If considered appropriate by the Minister, the application will be referred to a Planning Assessment Commission.	<i>Timing not indicated</i>
12. Determination by the Minister for Planning.	<i>Timing not indicated</i>
13. Completion of required management and other plans and documents, including a Mining Operations Plan or Rehabilitation and Environmental Management Plan.	Within 2 months of receipt of project approval
14. Commencement of Construction Operations.	<i>1st Quarter 2011</i>
15. Production of first gold bullion/concentrate.	<i>3rd Quarter 2011</i>
Note *: Estimated timing only	



Strong emphasis has been placed upon a multi-disciplinary team approach to the design of the Project, the description of the existing environment, identification of key issues, development of appropriate safeguards and assessment of impacts. The following specialist consultancies have been commissioned to undertake the following assessments of the Project.

- Ecology – Gaia Research Pty Ltd.
 - Mr Garry Daly (B.Sc (Zoology), Dip Ed).
- Heritage – Archaeological Surveys & Reports Pty Ltd.
 - Mr John Appleton (BA (Hons).
- Noise and blasting – Spectrum Acoustics.
 - Dr Neil Pennington (PhD, B.Sc (Physics), B.Math (Hons)).
- Air quality and greenhouse gasses – PAE Holmes.
 - Judith Cox (B.Eng (Hons)).
- Surface water, soils and land capability – SEEC Pty Ltd.
 - Mr Andrew Macleod (B.Sc (Hons)).
- Groundwater – Australasian Groundwater & Environmental Consultants Pty Ltd.
 - Mr Errol Brieze (B.Sc (Hons), Grad Dip (Management)).
- Traffic and transportation – Transport & Urban Planning.
 - Mr Terry Lawrence (M. Urb. Plan).



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