

Section 1

Introduction

This section introduces the Project to develop an open cut coal mine, centred on the “Sunnyside” property located approximately 15km west of Gunnedah.

This section includes:

- *an outline of the scope and format of the document;*
 - *an introduction to the Proponent;*
 - *relevant background to the Project including a review of the history of mining and relevant information on ongoing and approved mining developments in the Gunnedah/Boggabri area;*
 - *a discussion on the proposed approach towards environmental management and documentation; 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 Olsen Environmental Consulting Pty. Limited to support an application for project approval (application number 06-0308.) This application has been made by Namoi Mining Pty Ltd (“the Proponent”) to develop and operate a 1.0 Mtpa open cut coal mine centred on the “Sunnyside” property to be known as the Sunnyside Coal Project (“the Project”). A copy of the application for project approval is included as **Appendix 1**.

For the purposes of this document, the area that encompasses the proposed open cut mine, overburden emplacements and surface infrastructure associated with the Project is referred to as the “Project Site”. **Figure 1.1** places the Project Site in its setting within the Gunnedah Basin of northern New South Wales, approximately 320km northwest of Newcastle. **Figure 1.2** presents the regional setting of the Project Site, approximately 15km west of Gunnedah.

The Proponent’s existing Whitehaven Coal Mine and the Tarrawonga Coal Mine are located approximately 28km and 40km respectively to the north of the Project Site.

The Project, if approved, would produce up to 1.0 Mt run-of-mine (ROM) coal annually and have a mine life of an estimated 5 to 7 years. The Project would involve a number of component activities, all of which are described in this *Environmental Assessment*, namely:

- coal mining by open cut and potentially auger mining methods;
- crushing, screening and stockpiling of the ROM coal;
- installation and/or construction of Project Site infrastructure and services, eg. power supply, water management structures, internal access roads;
- upgrading of existing local roads and construction of a purpose-built road on Proponent-leased property as part of the proposed coal transport route;
- the transportation of coal from the mine via the purpose-built road parallel to and on the eastern side of Coochoonah Lane between the Project Site and the Oxley Highway along the Oxley Highway to Blackjack Road to Quia Road and Torrens Road to the Whitehaven Coal Handling and Preparation Plant (CHPP) and Rail Loading Facility; and
- final rehabilitation of the areas of surface disturbance within the Project Site following completion of the Project.

All coal mined on the Sunnyside Project Site would be despatched from the Whitehaven Rail Loading Facility to Port Newcastle. Both the Whitehaven CHPP and Rail Loading Facility are approved by virtue of Development Consent No 0079.2002 issued by Gunnedah Shire Council on 2 October 2002, and as such are not considered part of this Project. It is noted that Whitehaven Coal Mining Pty Ltd has lodged an application with Gunnedah Shire Council to increase the throughput at the rail loading facility to accommodate the planned coal production at the various Gunnedah district mines including the Sunnyside Coal Project.

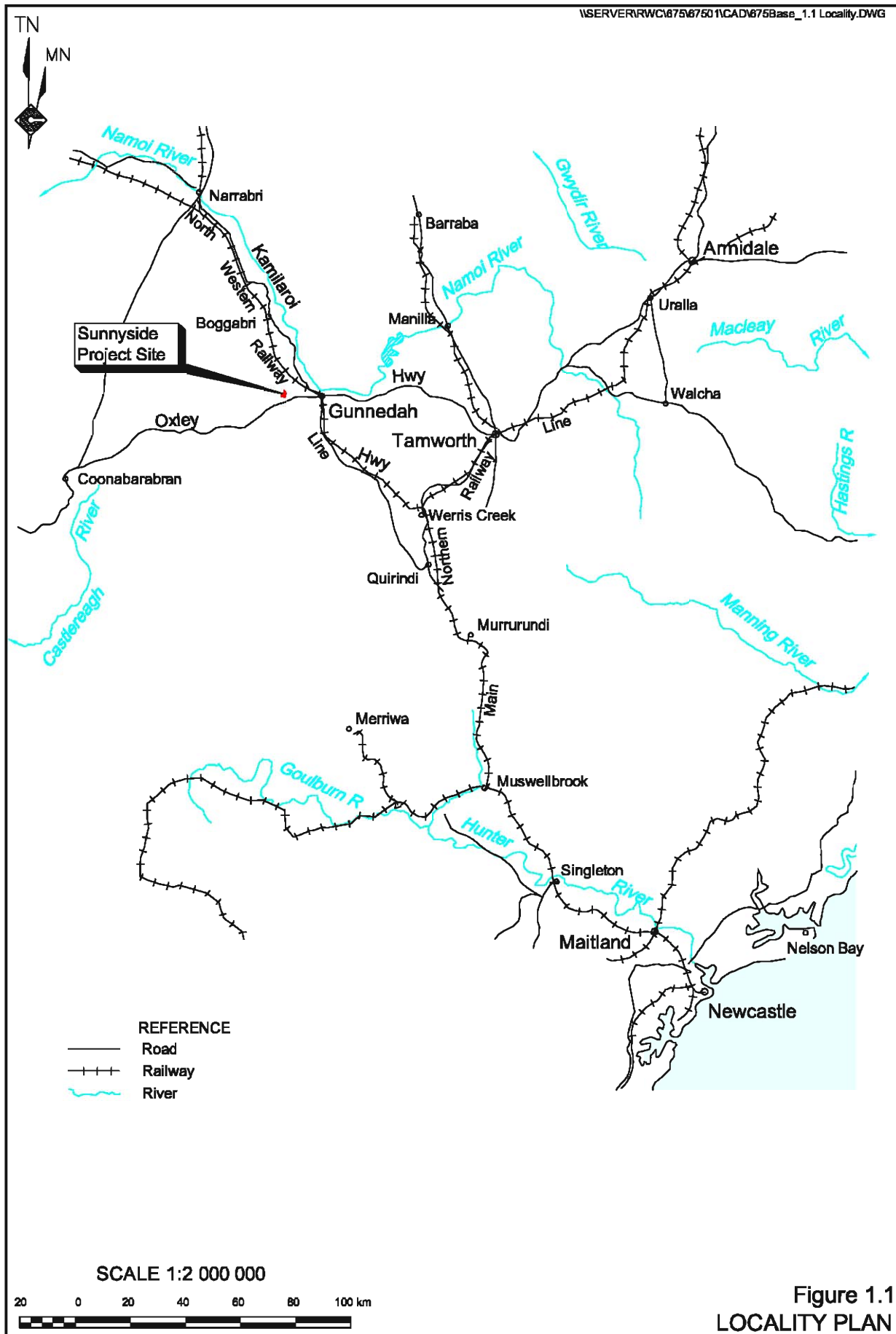
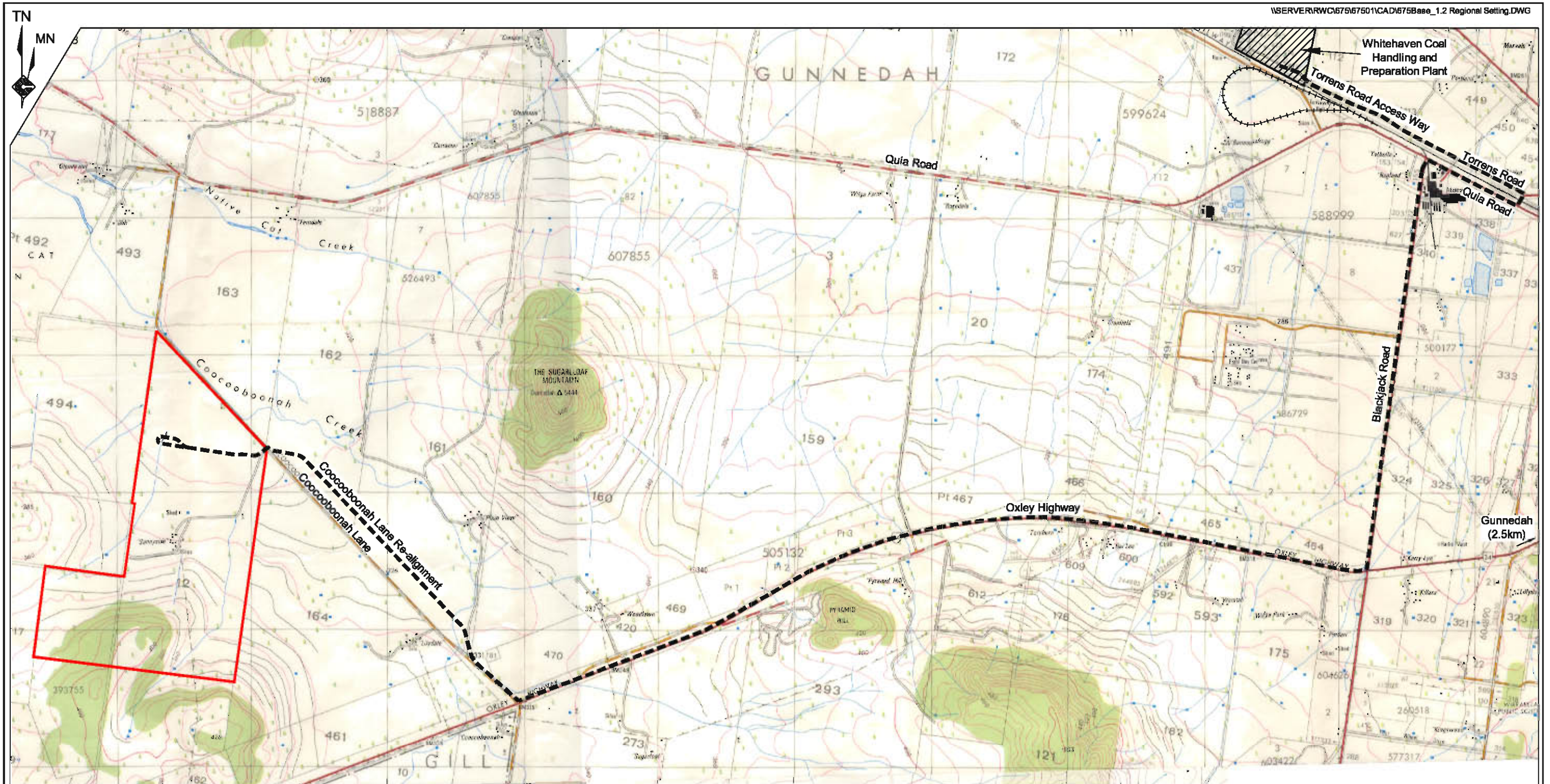


Figure 1.1
 LOCALITY PLAN

Figure Prepared by R.W. Corkery & Co. Pty Ltd





REFERENCE
— Project Site Boundary
 - - - - Coal Transport Route

SCALE 1:30 000

500 0 500 1000 1500 m

Base Map Source: Emerald Hill & Wandoba 1:25 000 Topographic Maps

Figure Prepared by R.W. Corkery & Co. Pty Ltd

Figure 1.2
REGIONAL SETTING

The Project is classified as a Major Project in accordance with the State Environmental Planning Policy (Major Projects) (2005). Consequently, the Minister for Planning is the approval authority and an *Environmental Assessment* report is required to be submitted to support the project approval application. The application is made possible by virtue of the fact that coal mining is a permissible land use within the Project Site, ie. under Clause 3 of the Gunnedah LEP 1998 which encourages the proper management and development of natural and man-made resources.

In addition to describing the Project, the *Environmental Assessment* also provides relevant background information and a description of the existing environment within and surrounding the Project Site and adjacent to the proposed coal transport route. The environmental safeguards and/or procedures that would be adopted to minimise or ameliorate the impacts associated with all proposed activities are outlined, together with the predicted impacts once those safeguards are adopted.

The information presented in this document covers all aspects of the planning, development, operation, rehabilitation and environmental management and monitoring of the Project at a level of detail consistent with industry standards, the scale of the proposed operations and the potential for environmental impact. These aspects are presented in a manner that addresses the specific requirements of the Director-General of the Department of Planning and other State and local government agencies, together with those issues raised during the community consultation process.

1.2 FORMAT OF THE REPORT

The *Environmental Assessment* includes six sections of text, a reference section, glossary and a set of appendices. The key environmental issues, the risks posed by these, and their relative importance to the assessment of the Project, have been identified through consultation with government authorities, local stakeholders, surrounding landowners and specialist consultant assessments.

The format of the *Environmental Assessment* is as follows.

Section 1: introduces the Project, the Proponent and Project Site and briefly describes the history of coal mining in the Gunnedah Basin. Background information is provided to the Project including information on existing, approved and proposed mines and related developments within the Gunnedah-Boggabri-Narrabri area. The section concludes with an outline of the ongoing environmental management and documentation proposed for the Project and information on the management of investigations for the *Environmental Assessment*.

- Section 2:** describes the Proponent’s objectives and proposed mining, coal processing, transportation, waste management and rehabilitation activities.
- Section 3:** provides a description of the process used to identify and prioritise the key environmental issues for assessment with reference to the Director-General’s requirements for the Project, stakeholder consultation through the Project planning stages and an environmental risk analysis undertaken to establish the specific environmental risk(s) posed by the issues identified.
- Section 4:** presents a description of a range of environmental features of the local environment that may or would be influenced by the Project. The design and operational safeguards, and where appropriate, the management procedures that have been incorporated into the Project design to protect the local environment, are also presented. This section also analyses the potential impact the Project would have on the physical, biological and social environment once the safeguards and procedures are adopted. Section 4 has been prepared in two parts as follows.
- Part A: presents background information on topography, climate, land ownership and land use which influence the impact of the Project on a range of other environmental parameters.
 - Part B: focuses on the key environmental issues and the environmental impacts associated with the development and operation of the Project.
- Section 5:** provides a draft statement of commitments the Proponent is prepared to implement with respect to environmental management and monitoring for the entire Project.
- Section 6:** provides a conclusion to the document which justifies the Project in terms of biophysical, economic and social considerations and records the consequences of not proceeding with the Project.
- Section 7:** list the various source documents referred to for information and data used during the preparation of the *Environmental Assessment*.
- Section 8:** presents a glossary of acronyms, symbols and units and technical terms, used throughout the *Environmental Assessment*.
- Appendices:** present the following additional information.
1. A copy of the Proponent’s application for project approval.
 2. An itemised and tabulated summary of the Director-General’s requirements, including the requirements provided by the various government agencies consulted, and reference to the section within the *Environmental Assessment* or *Specialist Consultant Studies Compendium* where these are addressed.



3. A SEPP 33 hazardous substance and dangerous goods risk screening based on the document entitled *Applying SEPP 33 2nd edition*, (DUAP, 1997).

A two volume *Specialist Consultant Studies Compendium* has been placed on exhibition with the *Environmental Assessment*. The compendium incorporates a total of nine specialist consultant studies which are summarised into the appropriate sections of the *Environmental Assessment*. A full copy of the two volume compendium is included on the CD-ROM compiled for the Project – a copy of which can be obtained free of charge from either Gunnedah Shire Council or the Department of Planning.

1.3 THE PROPONENT, PROJECT SITE AND PROJECT TERMINOLOGY

1.3.1 The Proponent

Namoi Mining Pty Ltd (NMPL) is a 100% owned subsidiary of Whitehaven Coal Limited (WCL), a recently listed public company. The Whitehaven Coal Mine and Whitehaven CHPP and Rail Loading Facility is owned and operated by Whitehaven Coal Mining Pty Ltd (WCM). WCL maintains common shareholder and directors with a number of other private mining companies which operate, or have in various stages of development, other coal mining operations including the Werris Creek Coal Mine, the Tarrawonga Coal Mine and the Narrabri Coal Project. NMPL operated the Gunnedah Colliery Underground Mine and the Brickworks Open Cut Mine until their closure in 1999.

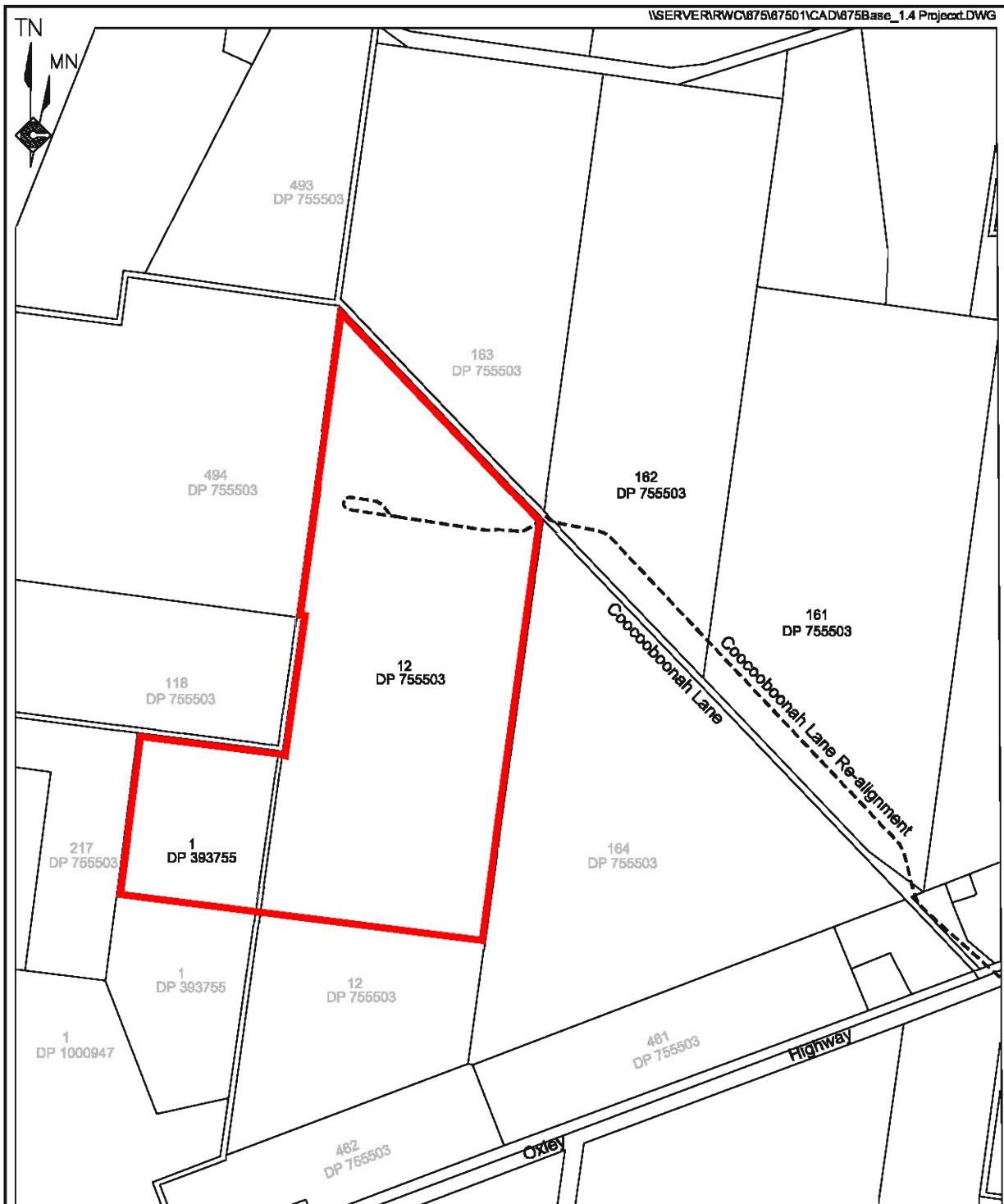
1.3.2 The Project Site and Proposed Coal Transport Route

The area of land on which mining and mining-related activities are proposed is referred to throughout this document as the “Project Site”. The Project Site covers an area of approximately 231ha within Exploration Licence (EL) 5183 and Consolidated Coal Lease (CCL) 701 and incorporates part of the “Sunnyside” property (see **Figure 1.3**). The Project Site lies within the Parish of Gill and incorporates:

- Part Lot 12 DP 755503; and
- Part Lot 1 DP 393755.

The proposed coal transport route to connect to the Oxley Highway passes through:

- part Lots 162 and 163, DP 755503; and
- within Council roads and road reserve.



- REFERENCE**
- Project Site Boundary (Coincident with MLA)(Offset for Clarity)
 - - - Coal Transport Route
 - Cadastral Boundary
 - == Road Reserve
 - 12 DP 766603 Project-related Land Title
 - 482 DP 755503 Non - Project-related Land Title

SCALE 1:25 000



Figure 1.3
PROJECT SITE

Figure Prepared by R.W. Corkery & Co. Pty Ltd



The proposed coal transport route from the Project Site to an established coal transport route (Oxley Highway and Blackjack Road) to the Whitehaven CHPP and Rail Loading Facility is also presented on **Figure 1.2** and would incorporate a 3.6km section of a “purpose-built” road from the southeastern corner of the Project Site parallel to and east of the existing Coocooboonah Lane on the “Plain View” property. This section of the proposed coal transport route would become a public road throughout the life of the Project. The proposed coal transport route would then proceed for approximately 6.6km along the Oxley Highway and approximately 3.0km on Blackjack Road before intersecting with Quia Road. The proposed coal transport route would then proceed eastwards along Quia Road for approximately 0.8km, travel under the North-western Railway viaduct and then proceed westwards along Torrens Road and the Torrens Road Access Way for approximately 2.0km before entering the Whitehaven CHPP and Rail Loading Facility.

Both the activities within the Project Site and the use of the proposed coal transport route are fully assessed in this *Environmental Assessment*.

1.3.3 Project Terminology

The Project component areas regularly referred to throughout this document are described as follows.

Project Site: (231ha)	the area relevant to the major projects application.
Limit of open cut mining: (43ha)	the area bound by the indicative limit of the open cut.
Site facilities area: (2ha)	the area incorporating offices, amenities, workshops, a fuel farm and parking areas for the Project workforce.
Coal handling and processing area: (2ha)	the area where ROM coal from the open cut is stockpiled, crushed, screened and stockpiled as product coal for despatch from the Project Site.
Out-of- pit Overburden emplacement: (28ha)	the area designated for the placement / storage of overburden and interburden removed from the open cut to expose the mineable coal seams.
In-pit emplacement:	the mined-out section within the limit of the open cut where overburden and interburden is placed.
Soil stockpile areas:	the areas where topsoil and subsoil would be stockpiled for rehabilitation of the disturbed areas of mining.

Table 1.1 presents a number of abbreviations, acronyms and symbols which are frequently used throughout this document. A more extensive glossary of terms, abbreviations, acronyms and symbols is presented in Section 8.

Table 1.1
Frequently Used Abbreviations, Acronyms and Symbols

Terms		Symbols	
CHPP	Coal Handling and Preparation Plant	bcm	bank cubic metre
Council	Gunnedah Shire Council	ha	hectare
DEC	Department of Environment and Conservation (now DECC)	km	kilometre
DECC	Department of Environment and Climate Change	lcm	loose cubic metre
Director-General	Director-General, Department of Planning	L	Litre
DNR	Department of Natural Resources (now DWE)	M	Million
DoP	Department of Planning	ML	Megalitre
DPI-MR	Department of Primary Industries - Mineral Resources	Mt	Million tonnes
DWE	Department of Water and Energy	Mtpa	Million tonnes per annum
EP&A Act	Environmental Planning and Assessment Act, 1979	t	tonne
RLF	Rail Loading Facility	tpa	tonnes per annum
ROM	Run-of-Mine	>	Greater than
the Minister	The Minister for Planning	<	Less than
WCL	Whitehaven Coal Limited		
WCM	Whitehaven Coal Mining Pty Ltd		
NMPL	Namoi Mining Pty Ltd		

1.4 PROJECT BACKGROUND

1.4.1 Introduction

Coal mining has been undertaken in the Gunnedah Basin for over 120 years and the Project would represent a continuation of the mining that has been undertaken principally in the southern part of the basin. This subsection provides a brief overview of this history as well as relevant information on previous, operational, approved and proposed coal mines within the Gunnedah Basin.

1.4.2 History of Coal Mining in the Gunnedah Area

The Gunnedah Basin covers an area of approximately 15 000km² extending from the Liverpool Ranges in the south to Moree in the north. The Boggabri Ridge, a north-northwest trending basement ridge, divides the basin into two Sub-basins, the Mullaley Sub-basin to the west and Maules Creek Sub-basin to the east.

Coal was first discovered within the Gunnedah Basin in the late 1870s in the vicinity of Black Jack Mountain by farmers boring for water for agricultural purposes. In 1877, a well referred to as “Melville’s Well”, was sunk near Wandobah Road, about 11km south of Gunnedah, in which 2m of “good steaming coal” was discovered in what is now known as the Melville Seam. After further prospecting, notification to commence mining on the southeastern slopes of Black Jack Mountain was given in 1895 and became what is now referred to as the Gunnedah Colliery No. 1 Entry. The Preston Colliery had also opened in around 1890.

The Gunnedah and Preston Collieries mined reserves in the Hoskissons and the Melville Seams by underground methods for most of the 20th Century, producing high quality thermal and semi-soft coking coal for domestic and export markets. The Preston Colliery closed in 1998 and the Gunnedah Colliery in mid 2000 as economic coal reserves in both collieries were exhausted.

In the Maules Creek Sub-basin, significant coal deposits have been identified. The Vickery Coal Mine, an open cut mine, operated between 1991 and 1998 and the site is now fully rehabilitated. Whitehaven Coal Mine currently operates in an area to the southeast of Boggabri. Tarrawonga Coal Mine, located approximately 10km north of Whitehaven Coal Mine, commenced operation in May 2006. To the northeast of Boggabri, two large scale multi-seam open cut mining developments have been approved, namely the Boggabri Coal Project owned by Idemitsu Boggabri Coal Pty Ltd (IBC) and the Maules Creek Project (owned by Coal and Allied Operations Pty Ltd). IBC has commenced the operation of the Boggabri Coal Project (located directly north of the Tarrawonga Coal Mine) which, along with the Maules Creek Project, had previously been deferred awaiting improved market conditions.

Figure 1.4 presents the various locations of the completed, operational and proposed coal operations, the ownership of which are outlined as follows.

Operating and Producing Coal

- Whitehaven Coal Mine owned by WCM – operational until approximately 2008.
- Werris Creek Coal Mine owned by WCL, – commenced operations in April 2005 for a period of approximately 7 years.
- Tarrawonga Coal Mine owned by Tarrawonga Coal Pty Ltd, a joint venture between WCM (70%) and IBC (30%) – commenced operating in May 2006 for a period of approximately 12 years.
- Boggabri Coal Project owned by IBC – commenced operations in March 2006 for at least 20 years.
- Whitehaven Coal Handling and Preparation Plant (CHPP) owned by WCM - currently processes coal from both the Whitehaven and Tarrawonga Coal Mines. This plant and the associated rail loading facility is also intended to accept coal from future projects in the Gunnedah area including both Belmont and Sunnyside open cut mines.

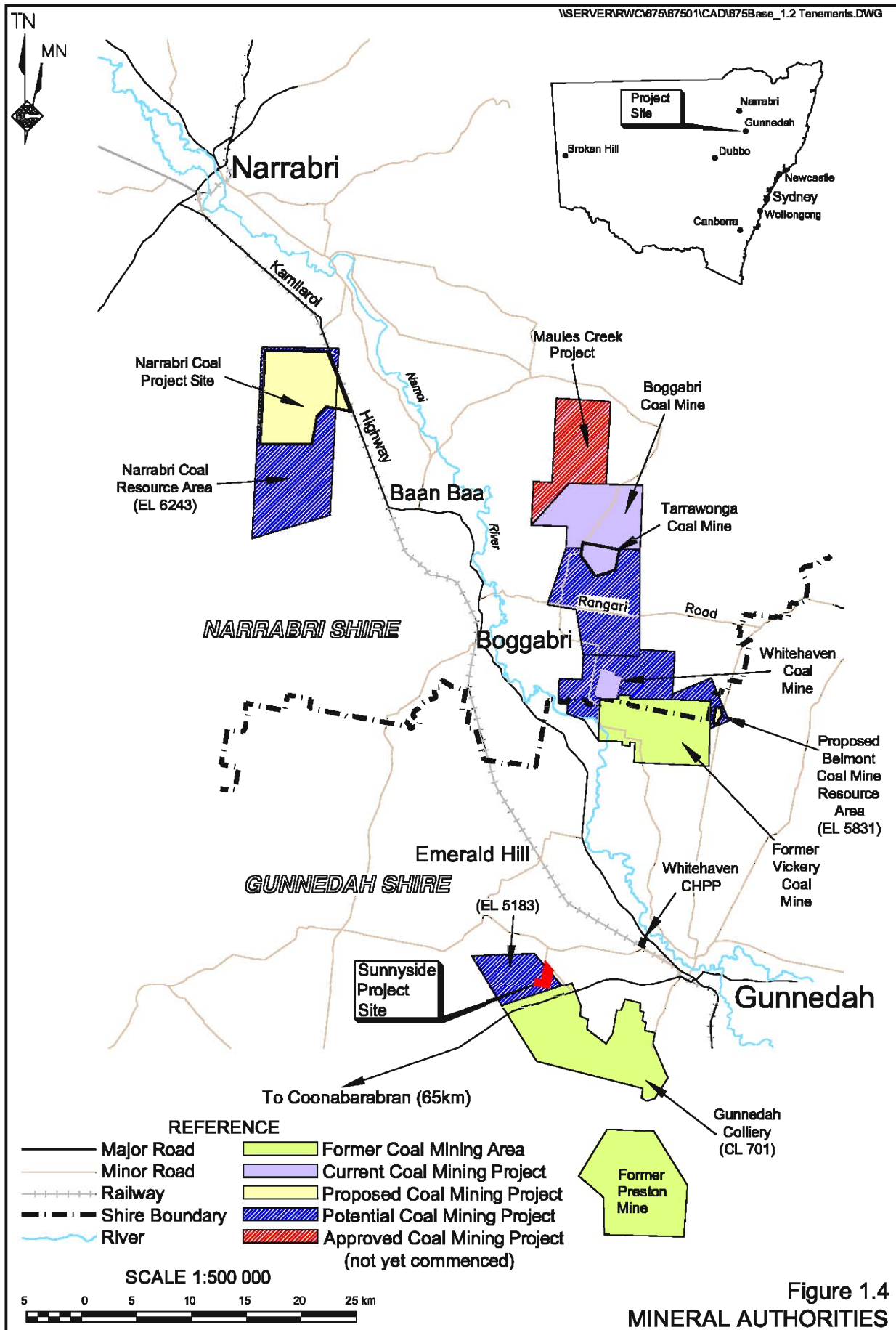


Figure 1.4
 MINERAL AUTHORITIES

Figure Prepared by R.W. Corkery & Co. Pty Ltd



Approved Coal Operations – Not Yet Producing

- Narrabri Coal Project - Narrabri Coal Pty Ltd, a company with directors common with WCL – the project was approved by the Minister for Planning on 13 November 2007. Site works commenced on 18 March 2008.

Closed / Inactive Coal Mines

- The former Gunnedah Colliery now owned by NMPL.
- Preston Colliery formerly operated by Centennial Coal Limited.
- Vickery Coal Mine formerly owned by Nova Coal Australia Pty Ltd.

Identified Coal Resources

- Belmont Coal Project proposed by WCM (an application for project approval is currently being assessed by the Department of Planning).
- Caroon Coal Project proposed by BHP Billiton.
- Maules Creek Coal Project proposed by Coal and Allied Operations Pty Ltd.

1.4.3 NMPL's / WCL's Involvement

NMPL/WCL have secured long-term markets for the coal produced from the Gunnedah Basin and intends to increase production to expand these markets principally in Japan and other Asian countries. The low ash and low sulfur content of the coal provides further potential for the coal to be used in blends with other coals, eg. for use in steel mills, power utility, and general industrial markets. In particular, the low sulfur content of the coal is attractive for blending to enable the use of higher sulfur coals to meet strict environmental standards.

The Whitehaven Coal Mine has less than 1 year of production remaining, hence the requirement by NMPL/WCL and the associated companies to identify and obtain approval for a number of additional coal projects, including the Sunnyside Coal Project, to ensure that the markets already secured by the company can continue to be provided with high quality Gunnedah Basin coal.

1.4.4 Ongoing Exploration Programs in the Gunnedah Region

As a key strategy to WCL's ongoing consolidation and growth of its coal production in the Gunnedah Basin, an extensive exploration program has been underway across its existing exploration leases since 2001.

Table 1.2 presents a summary of current exploration projects in the region and their primary purpose.

**Table 1.2
 Current Exploration Projects**

Project Name	Primary Purpose	Category
Narrabri South	New Resources	UG
Tarrawonga Open Cut	Mine Development	OC
Tarrawonga Open Cut Extension	Mine life Extension	OC
Tarrawonga Seam Project	New Resources	UG
Belmont Open Cut Project	Mine Development	OC
Belmont North	New Resources	OC
Sunnyside Open Cut Project	Mine Development	OC
EL 5183 (Sunnyside North)	New Resources	OC
Werris Creek Open Cut	Mine Development	OC

UG = Underground OC = Open Cut

1.5 ENVIRONMENTAL MANAGEMENT AND DOCUMENTATION

1.5.1 Environmental Management

Ongoing environmental management at the proposed Sunnyside Coal Project, including NMPL’s performance with respect to this document and the implementation of any lease, licence or project approval conditions, would be the responsibility of the Mine Manager. The Mine Manager would also be responsible for day-to-day on-site supervision including the integrated implementation of all environmental safeguards identified in this document and additional documentation developed throughout the life of the mine. WCM would employ an Environmental Officer to oversee the various environmentally-related tasks on the Sunnyside Project Site, together with other tasks at other WCM sites. Assistance would be provided by specialist consultants as and when required.

The Proponent is committed to undertaking all component activities in a responsible and pro-active manner which:

- (i) enables the co-existence of the various land uses in the area;
- (ii) is environmentally and socially responsible; and
- (iii) minimises any real or perceived impacts on other members of the community. Central to this approach would be regular contact with neighbours, an open-door policy, and a willingness to openly discuss actual or perceived problems and to implement appropriate changes to operational procedures.

1.5.2 Environmental Documentation

Successful environmental management invariably involves regular, organised documentation to ensure that, irrespective of personnel changes, all aspects of planning, environmental control, monitoring and responses to problems are properly recorded.

Should a mining lease be granted for the Project, the Proponent would be committed to the Mining, Rehabilitation and Environmental Management Process (MREMP) managed by the Department of Primary Industries (Mineral Resources) with input from other relevant government agencies. This process involves the preparation of:

- a Mining Operations Plan (MOP) to provide more detailed mining design and operational information; and
- Annual Environmental Management Reports (AEMRs) to record operational progress and all relevant environmental issues on an annual basis.

1.6 MANAGEMENT OF INVESTIGATIONS

The preparation of this document has been managed by Mr David Olsen, B.Agric.Sci (Hons), Principal of Olsen Environmental Consulting Pty. Limited.

Mr Rob Corkery, Principal of R.W. Corkery & Co. Pty Limited provided a peer review throughout the preparation of the *Environmental Assessment* and assisted with the preparation of text and figures in various sections. R.W. Corkery & Co. Pty Limited assisted in preparing all *Environmental Assessment* figures, finalising the text and copying / assembly of the final documents.

On behalf of the Proponent, Mr Keith Ross (Managing Director), Mr Chris Burgess (General Manager – New Projects) and Mr David West (Manager – Technical Services) all of WCM, provided further technical information on the Project and assisted with finalising the document.

Additional mine design and geological information has been provided by Mr Jeff Beckett of Belford Dome Resource Assessment, Mark Dawson of WCM and Brian Francis of MMG Pty Ltd.

Strong emphasis has been placed upon a multi-disciplinary team approach to the design of the Project, the description of the existing environment and resultant impact assessment. The following consultancy firms were commissioned by the Proponent to prepare nominated specialist consultant studies for the Project.

- Groundwater Assessment: GeoTerra Pty Ltd
(*Mr Andrew Dawkins – B.Sc, M.App.Sc*)
- Noise and Vibration Assessment: Spectrum Acoustics Pty Ltd
(*Dr Neil Pennington – PhD, B.Sc (Physics), B.Math (Hons)*).
- Fauna Assessment: Kevin Mills & Associates Pty Ltd
(*Dr Kevin Mills – PhD., BA(Hons.)*)
- Surface Water Assessment: Soil Conservation Service (a division of the Department of Lands)
(*Mr David Howley – M.Sc. (Env. Man.) B.Sc., B.Eng.*).
- Air Quality Assessment: Heggies Pty Ltd
(*Mr Scott Fishwick – B.Sc*).

- Traffic and Transport Assessment: Constructive Solutions Pty Ltd
(Mr Ben Rossiter – BE(Env))
- Aboriginal Heritage Assessment: Archaeological Surveys & Reports Pty Ltd
(Mr John Appleton – ACIS, ACIM. BA(Hons)).
- Flora Assessment: Geoff Cunningham Natural Resource Consultants Pty Ltd
(Mr Geoff Cunningham – B.Sc (Hons)).
- Soils Assessment: Geoff Cunningham Natural Resource Consultants Pty Ltd
(Mr Geoff Cunningham – B.Sc (Hons)).