

Section 1

Introduction

This section introduces the project proposed by Narrabri Coal Operations Pty Ltd to increase production at its Narrabri Coal Mine through the introduction of longwall mining.

This section includes:

- *an outline of the scope and format of the document;*
 - *the details about the Proponent, Narrabri Coal Operations Pty Ltd;*
 - *the format of the Environmental Assessment;*
 - *relevant background to the project including a review of the history of mining in the Gunnedah/Boggabri area and operations at the Narrabri Coal Mine to date;*
 - *a discussion on the proposed approach towards environmental management and documentation; and*
 - *identification of the personnel involved in the Longwall 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 (application number MP08_0144) by Narrabri Coal Operations Pty Ltd (“the Proponent”) to increase production at its Narrabri Coal Mine through the introduction of longwall mining (the “Longwall Project”). Progression to a longwall mining operation, from the approved continuous miner operations, has previously been identified as Stage 2 of the Narrabri Coal Mine. A copy of the application for project approval is included as **Appendix 1**.

The Longwall Project would require some minor additions and alteration to surface infrastructure, however, all surface and underground operations would remain within the boundary of Mining Lease (ML) 1609, referred to as the “Mine Site” throughout this document. **Figure 1.1** places the Mine Site in its regional setting in northern New South Wales, approximately 400km northwest of Newcastle. **Figure 1.2** provides the local setting of the Mine Site approximately 30km south-southeast of Narrabri and 10km north-northwest of Baan Baa.

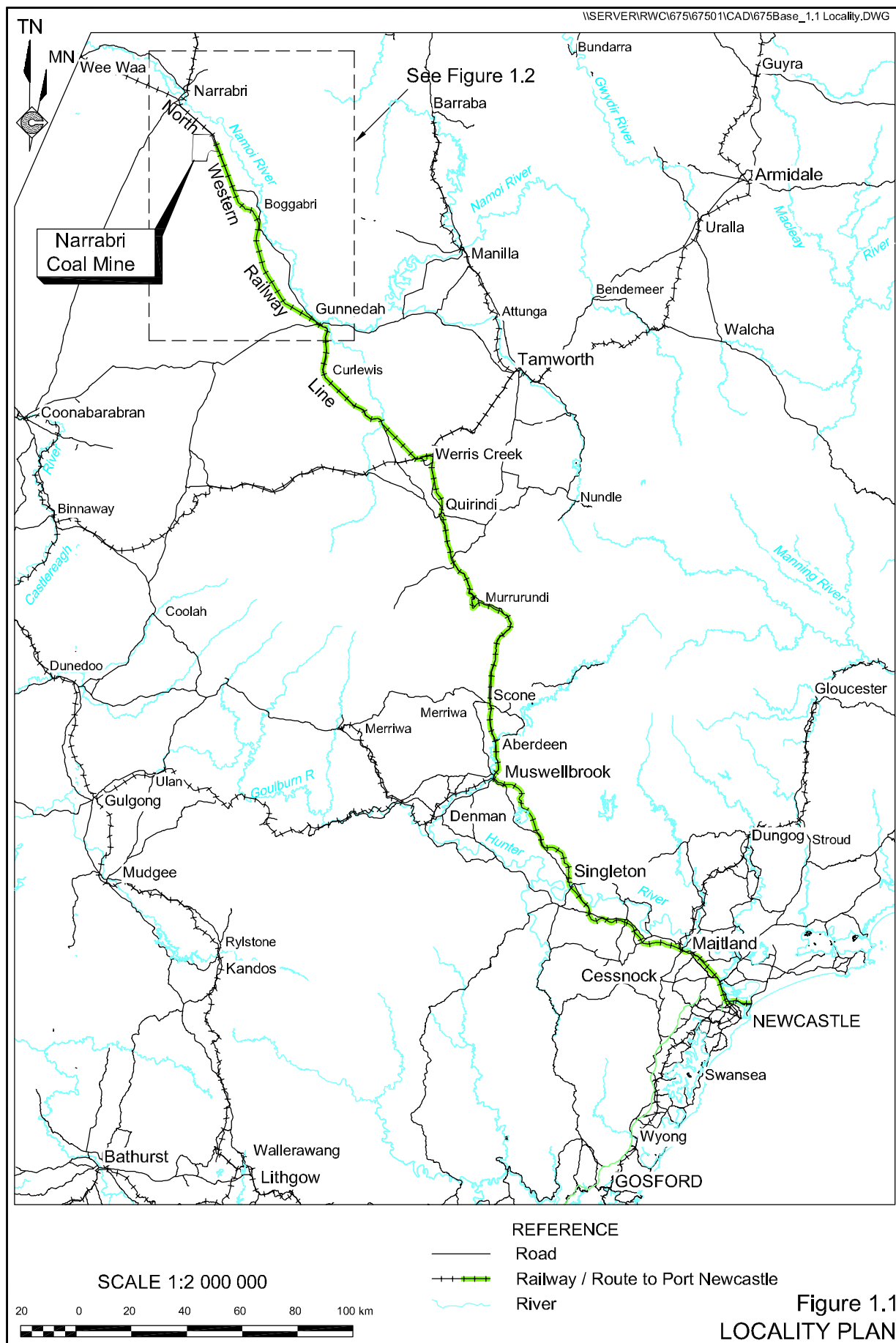
For the purposes of this document, the Longwall Project described and assessed would involve:

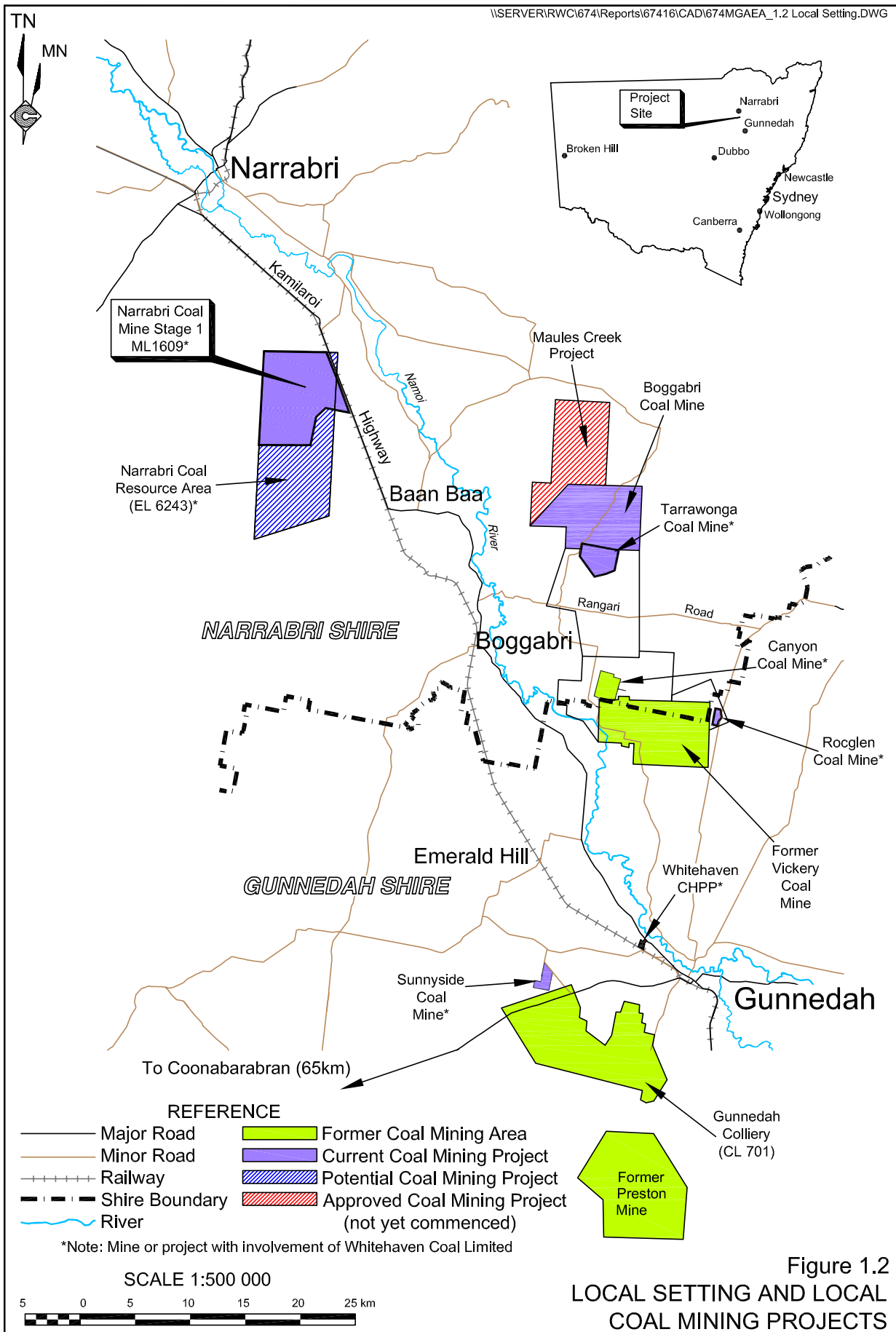
- i) the progression from underground mining by continuous miner to longwall mining methods;
- ii) a range of modifications to the surface infrastructure of the mine;
- iii) an increase in coal production from 2.5Mtpa to 8Mtpa which would continue to be despatched from the Mine Site via rail and involve:
 - larger trains (with a capacity of 5 400t to 6 300t); and
 - an average of five trains despatched daily; and
- iv) final rehabilitation of the areas of surface disturbance within the Mine Site following completion of the Longwall Project.

The Longwall Project is classified as a Major Project in accordance with the State Environmental Planning Policy (Major Development) 2005 and, consequently, the Minister for Planning is the approval authority and an *Environmental Assessment* is required to be submitted to support the major project application. The application is made possible by virtue of the fact that coal mining is a permissible land use within the Mine Site, ie. under Clause 9 of the Narrabri LEP 1992 which promotes the proper management and utilisation of coal resources.

This document provides information covering all ongoing activities approved as Stage 1, together with the Longwall Project referred to Stage 2 as the Narrabri Coal Mine. All components of Stage 1 and Stage 2 are planned to be operated as a single coordinated project in accordance with a consolidated project approval. It is noted that some Stage 2 components are intended to commence prior to other Stage 2 components (see Section 2.1.2). Consequently, the Proponent is applying for a modification of the Stage 1 Project Approval to enable construction of these specific components to commence in early 2010.







The information presented in this document covers all aspects of the planning, development, operation, rehabilitation and environmental management and monitoring of the Longwall 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 (DoP) and other State and local government agencies, together with those issues raised during the community consultation process. The Director-General's Requirements and summarised requirements of all government agencies are presented in **Appendix 2** together with a record of where each requirement is addressed in this document.

1.2 ENVIRONMENTAL ASSESSMENT FORMAT

The *Environmental Assessment* includes six sections of text, a reference section, glossary and a set of appendices. The information presented in this document covers all aspects of the planning, development, operation, rehabilitation and environmental monitoring of the Longwall Project at a level of detail reflecting the environmental risk posed by each issue. The issues and their relevant importance to the assessment of the Longwall Project have been identified through consultation with government agencies, the local communities, stakeholders, surrounding landowners and specialist consultant assessments.

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

- Section 1:** introduces the Longwall Project, the Proponent and the Mine Site. Background information is provided to the Longwall Project including information on the existing approved and ongoing operations of the Stage 1 Narrabri Coal Mine. The section incorporates an overview of the status of the Stage 1 operations together with the environmental management, documentation and performance since the construction of the Narrabri Coal Mine commenced. The section concludes with information on the management of investigations for the *Environmental Assessment*.
- Section 2:** describes the Proponent's objectives and proposed longwall mining, coal processing, transportation, waste management and rehabilitation activities. The project description focuses on the proposed longwall mining operations and the proposed modifications / additions to the currently approved surface infrastructure.
- 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 Longwall Project, stakeholder consultation through the project planning stages and a general environmental risk analysis undertaken to establish the specific environmental risk(s) posed by the issues identified.
- Section 4:** commences by describing the setting of the Mine Site with reference to aspects of the local environment likely to influence the level of impact on other environmental aspects. The section then presents a description of a range of environmental features of the local environment that may or would be influenced by the Longwall Project, ie. the key environmental issues. The order of presentation and level of detail reflects the level of priority attributed to each key issue. The design and operational safeguards, and where appropriate, the management procedures that have been incorporated into the Longwall Project



design to protect the local environment, are also presented. This section also analyses the potential impact the Longwall Project would have on the physical, biological and social environment once the safeguards and procedures are adopted.

Section 5: provides a draft statement of commitments the Proponent is prepared to implement with respect to environmental management and monitoring for the Longwall Project.

Section 6: provides a conclusion to the document which justifies the Longwall Project in terms of biophysical, economic and social considerations and records the consequences of not proceeding with the Longwall Project.

Section 7: lists 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 major project application.
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 each is addressed.
3. A SEPP Risk 33 Screening.
4. Correspondence to and from Gunnedah Shire Council regarding the additional rail movements through Gunnedah.

A two volume *Specialist Consultant Studies Compendium* 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*. A full copy of the compendium is included on the CD compiled for the Longwall Project. The Project CD is available free of charge and available from the Department of Planning, the Proponent or R.W. Corkery & Co. Pty Limited (see inside front cover for contact details).

1.3 THE PROPONENT, APPLICATION AREAS AND LONGWALL PROJECT TERMINOLOGY

1.3.1 The Proponent

Narrabri Coal Operations Pty Ltd is a joint venture between Narrabri Coal Pty Ltd (77.5%), Upper Horn Investments (Australia) Pty Ltd (7.5%), J-Power (7.5%), Daewoo (5%) and Kores (2.5%). Narrabri Coal Pty Ltd is a 100% subsidiary company of Whitehaven Coal Limited (WCL), a publicly listed Company with several mining interests in the Gunnedah-Narrabri region of NSW.

The directors of Narrabri Coal Operations Pty Ltd have considerable coal mining experience in the Gunnedah Basin, particularly since 1999 when WCL became actively involved in coal mining (see Section 1.4.2).



Figure 1.2 displays the various coal mining projects WCL is currently involved in throughout the Gunnedah Basin.

1.3.2 The Mine Site

The Mine Site is depicted on **Figure 1.3** and encompasses all proposed surface infrastructure, and the boundaries of the underground mining area. **Table 1.1** lists the individual lots within the area covered by the Mine Site.

Table 1.1
Mine Site Land Titles

Area of Surface Activities	Land Title Reference
Pit Top Area	Lot 60 DP 757124, Part Lots 151 & 152 DP 816020, Part Lot 115 DP 757124, Lots 381 & 382 DP 1028753.
Mining Area (underground)	Part Lots 57, 58, 63 to 65, 81 to 84 & 115 DP 757114, Lot 61 DP 757124, Part Lot 1 DP 811171, Lot 2 DP 811171, Part Lots 3, 8, 25, 67 & 68 DP 757104, Lot 7 DP 757104, Part Lot 152 DP 816020, Lot 1 DP 659899, Part Lot 3 DP 1005608, Part Pilliga East State Forest and various Crown roads.
Remainder of Mine Site	Part Lots 381 & 382 DP 1028753, Part Lot 1 DP 798487, Part Lots 57, 58, 60, 63 to 65, 81, 83 & 115 DP 757114, Part Lot 1 DP 811171, Part Lots 3, 8, 10, 25, 67 & 68 DP 757104, Part Lot 3 DP 1005608, Part Lots 151 & 152 DP 816020, Lot 1 DP 659899, Part Pilliga East State Forest, Part Jacks Creek State Forest and various Crown roads.

The Mine Site boundary is coincident with ML 1609, with the eastern boundary located immediately west of the North Western Branch Railway and the southern boundary cut back towards the edge of the coal resource.

1.3.3 Namoi River Pipeline Route

The Proponent proposes to construct and use a pipeline between the Mine Site and the Namoi River. The route for the pipeline commences within the Mine Site and then traverses a Crown road adjacent to the North Western Branch Railway Line until it needs to traverse eastwards through the railway line easement (underbored) and the Kamilaroi Highway (also underbored) and finally within the easement for the Old Narrabri Road, a Road Reserve (R28757), Travelling Stock Reserve (Lot 7004 DP 757124) and Lot 89 DP 757124.

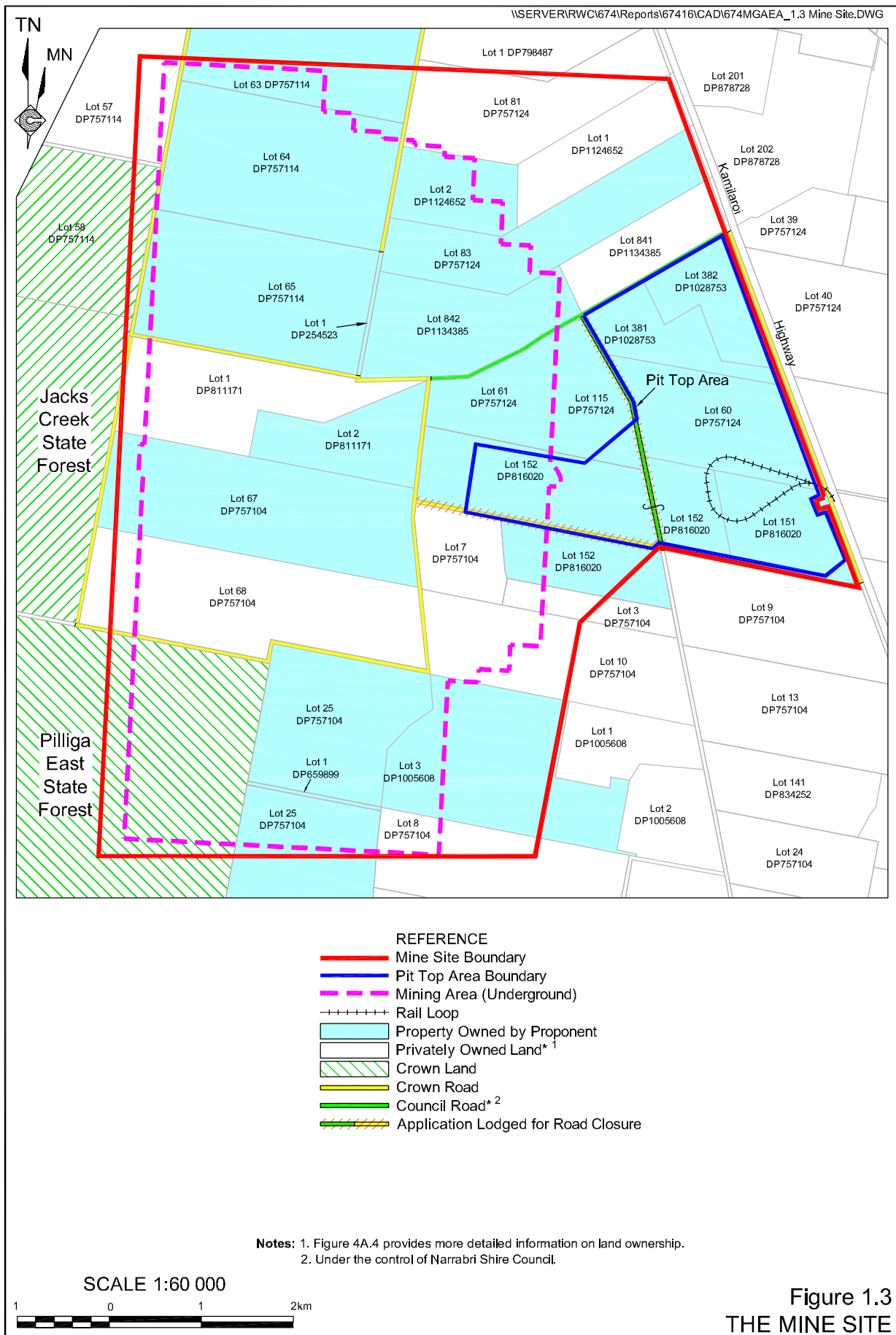
1.3.4 Longwall Project Terminology

Figure 1.3 also displays the following Longwall Project component areas that are regularly referred to throughout this document. Each of these component areas are described as follows.

Mine Site (ML 1609): The area relevant to the application for project approval.
(5 210ha)

Mining Area: Area bound by the indicative limit of underground workings.
(3 630ha)





Pit Top Area: Main area of surface disturbance incorporating the box cut, mine (76ha) portals, surface buildings, rail loop, ROM and product coal stockpile areas, water storage and evaporation dams, longwall unit assembly area, Reject Emplacement Area and Brine Storage Area (see **Figure 2.12**).

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

1.4 LONGWALL PROJECT BACKGROUND

1.4.1 Introduction

Coal mining has been undertaken in the Gunnedah Basin for over 120 years, principally in the southern part of the basin, with WCL and its subsidiary companies actively involved in the region since 1999. The Narrabri Coal Mine represents the commencement of coal mining in the northern part of the Gunnedah Basin. Section 1.4.2 provides a brief overview of the other operational, approved and proposed coal mines within the Gunnedah/Boggabri area.

Section 1.4.3 provides an overview of the status of the Stage 1 operations together with the environmental management, documentation and performance since the construction of the mine commenced.

It is noted that when proposed as a staged mining operation, the Proponent indicated that progression to the second stage of the Narrabri Coal Mine would occur following several years of operations of the Stage 1 continuous miner operation. Section 1.4.3 presents a summary of the studies, assessments and monitoring that has been undertaken since the application for Stage 1 of the Narrabri Coal Mine was lodged with the Department of Planning that has resulted in the accelerated progression to the Stage 2 Longwall Project.

1.4.2 Coal Mining in the Gunnedah Basin

There are a number of operating coal mines in the Gunnedah Basin, as well as a number of coal projects that have been approved and yet to be commenced, other coal deposits and a number of closed mines, most of which are depicted on **Figure 1.2**. A number of the operational and proposed projects are owned and managed by WCL, their subsidiary companies or in joint venture with other companies and are as follows.

Operating and Producing Coal

- Werris Creek Coal Mine owned by Werris Creek Coal Pty Ltd, a subsidiary company of WCL (operating since 2005).
- Tarrawonga Coal Mine owned by Tarrawonga Coal Pty Ltd, a joint venture between WCL and Idemitsu Boggabri Coal Pty Ltd (IBC) (operating since 2006).
- Boggabri Coal Project owned by IBC, the joint venture partner of WCL for the Tarrawonga Coal Mine (operating since 2006).
- Rocglen (formerly known as Belmont) Coal Mine owned by WCL (operating since 2008).



- Sunnyside Coal Mine owned by Namoi Mining Pty Ltd, a subsidiary company of WCL (operating since 2008).
- Whitehaven Coal Handling and Preparation Plant (CHPP) and Rail Load-out Facility owned by WCL. The CHPP currently processes coal from the Canyon, Tarrawonga, Rocglen and Sunnyside Coal Mines. The bulk of the processed coal and the coal not requiring processing is despatched via rail from the rail load-out facility.

Identified Coal Resource – Project Approved but not yet commenced

- Maules Creek Coal Project proposed by Rio Tinto Pty Ltd.

Closed / Inactive Coal Mines

- Canyon Coal Mine owned by WCL (recently closed – operated 1999 to 2008).
- The former Gunnedah Colliery now owned by WCL.
- Preston Colliery formerly operated by Centennial Coal Limited.
- Vickery Coal Mine formerly owned by Nova Coal Pty Ltd.
- Blue Vale Coal Mine, owned and partially developed by Rio Tinto Pty Ltd.

Identified Coal Resources – Project Approval not yet applied for

- Caroon Coal Project proposed by Coal Mines Australia Limited.
- Watermark Project by She-hua Watermark Coal Pty Limited.

WCL has 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 utilities, and general industrial markets. In particular, the low sulfur content of the coal is attractive for blending to enable higher sulfur coals to meet strict environmental standards.

The conversion of the Narrabri Coal Mine to a longwall mining operation will assist to maintain and expand the markets already secured by the Proponent through the supply of high quality Gunnedah Basin coal.

1.4.3 Stage 1 Operations

1.4.3.1 Existing Approvals and Licences

Project Approval

Project Approval (PA) 05_0102 for the Stage 1 Narrabri Coal Mine was granted by the Minister for Planning on 13 November 2007 in accordance with Part 3A of the *Environmental Planning and Assessment Act, 1979*. PA 05_0102 approves the mining and rail transportation of up to 2.5 million tonnes of run-of-mine coal per year for a period of 21 years from the granting of a mining lease. It was intended that Stage 1 coal recovery is achieved solely through the use of continuous miners.



Mining Lease

Mining Lease (ML) 1609 was granted to Narrabri Coal Pty Ltd by the Minister for Mineral Resources on 18 January 2008 in accordance with the provisions of the *Mining Act, 1992*. The boundaries of ML 1609 have been defined by survey and are included on mine plans incorporated within the Mining Operations Plan for the mining lease. Notably, the boundary of ML 1609 coincides with the nominated Mine Site for the Longwall Project.

Environment Protection Licence

Environment Protection Licence (EPL) 12789 was granted to Narrabri Coal Pty Ltd on 20 February 2008 by the then Department of Environment and Climate Change (DECC). The licence was issued in accordance with the provisions of the *Protection of the Environment Operations Act, 1997* for the scheduled activities of coal mining and coal works. EPL 12789 defines monitoring points and concentration thresholds applicable to activities on the Mine Site.

EPL 12789 is due for statutory review on 20 February 2013.

Water Licences

The Proponent has established 20 monitoring piezometers within and surrounding the Mine Site for the purpose of monitoring groundwater levels and quality (see **Figure 1.4**). The licence number and locations for each of these piezometers is presented in **Table 1.2**.

Table 1.2
Monitoring Piezometers

Site ID	Licence No.	Geological Formation	Location
P1	90BL254481	Garrawilla	"Longsight"
P2	90BL254482	Napperby	"Mayfield"
P3	90BL254483	Pamboola	"Bow Hills"
P4	90BL254484	Napperby	"Darjeeling"
P5	90BL254485	Pamboola	Old Narrabri Road
P6	90BL254486	Pilliga	"Moon Hill"
P7	90BL254487	Pilliga	Scratch Road
P8	90BL254663	Purlawaugh	Scratch Road
P9	90BL254958	Purlawaugh	Claremont
P10	90BL254658	Napperby (No sill)	"Mayfield"
P11	90BL254959	Napperby (No sill)	"Mayfield"
P12	90BL254659	Napperby (Above sill)	"Claremont"
P13	90BL254960	Garrawilla	"Claremont"
P14	90BL254661	Napperby (Above sill)	"Omeo"
P15	90BL254961	Garrawilla	"Omeo"
P16	90BL254660	Garrawilla	Scratch Road
P17	90BL254962	Purlawaugh	Scratch Road
P18	90BL254662	Hoskissons Coal Seam	"Willara"
P19	90BL254963	Pamboola	"Willara"
P20	90BL254964	Arkarula	"Willara"
Source: Narrabri Coal Operations Pty Ltd			



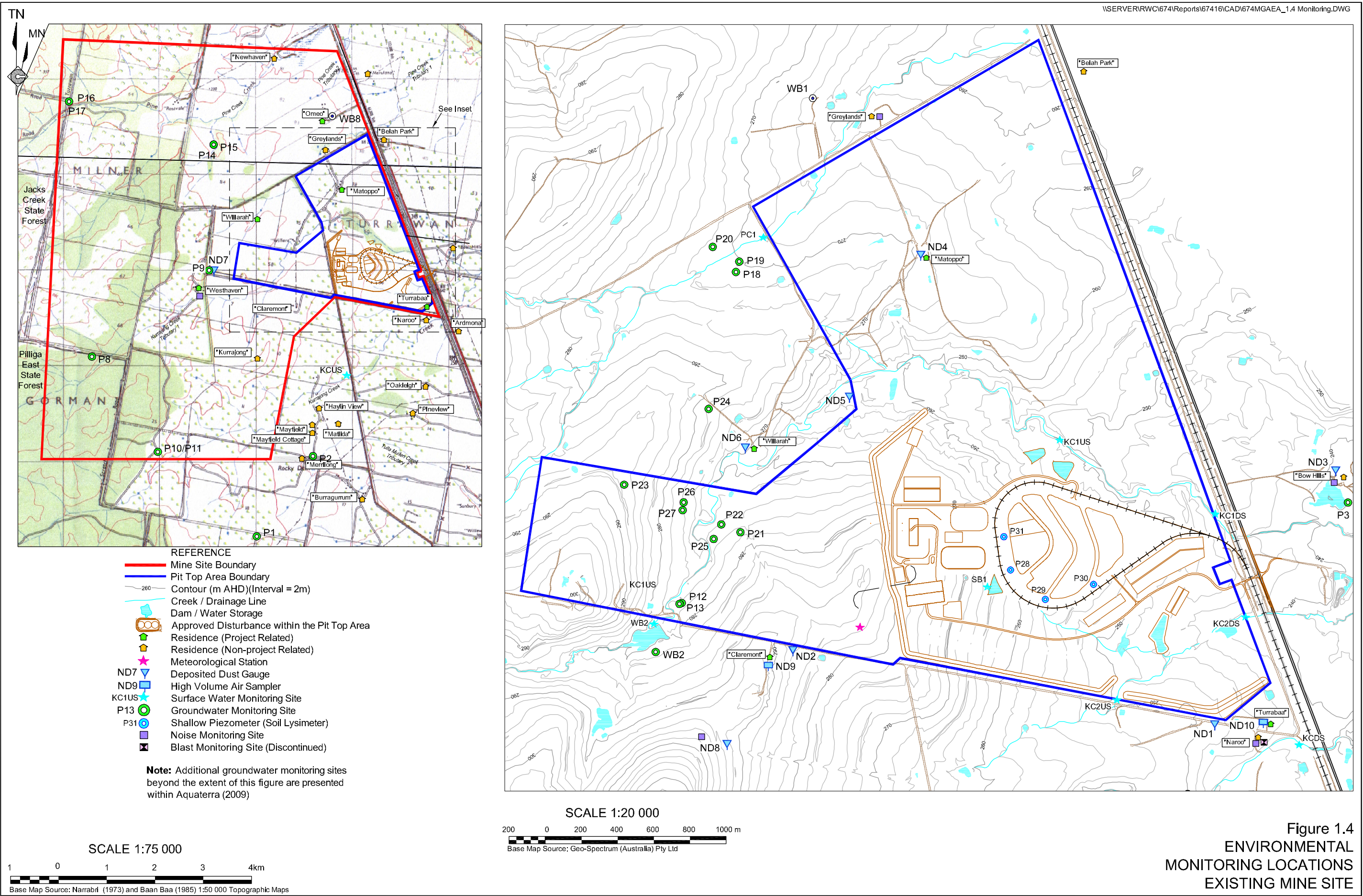


Figure 1.4
ENVIRONMENTAL
MONITORING LOCATIONS
EXISTING MINE SITE

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