

**TAHMOOR
UNDERGROUND**

GLENCORE

**Tahmoor Colliery
Development and Extraction of Longwalls 31 to 37**

**SUBSIDENCE MANAGEMENT PLAN
APPLICATION**

Part 1 Written Report

December 2014

TAHMOOR UNDERGROUND

GLENCORE

23 December 2014

Ms Kylie Hargreaves
Deputy Secretary
Resources & Energy
NSW Trade & Investment

c/- Paul Langley
Subsidence Executive Officer
Division of Resources & Energy
Mineral Resources
PO Box 344
Hunter Region Mail Centre NSW 2310

Also by email

Attention: Mr Paul Langley

Dear Ms Hargreaves

Subsidence Management Plan Application for Extraction of Longwalls 31 to 37 at Tahmoor Colliery

In accordance with the Guidelines for Application for Subsidence Management Approvals dated December 2003 (SMP Guidelines 2003), Tahmoor Colliery seeks approval to extract coal by longwall means, in an area held under Mining Lease Number 1376 and Mining Lease Number 1539.

Tahmoor Colliery is an underground coal mine located approximately 4 kilometres south of Tahmoor in the Southern Coalfields of New South Wales.

The extraction will be undertaken by the longwall mining method in the Bulli Seam, which will cause subsidence of the land surface. Development for longwall mining will be undertaken using continuous mining equipment.

The Mine is subject to two (2) different Development Consents and associated Leases as follows:

- a) The majority of the proposed mining area received development consent in 1994 from the Land and Environment Court (DA57/93), as amended. This consent is covered by Mining Lease Number 1376 (ML 1376); and
- b) Mining beneath urban areas and the railway lines received development consent in 1999 from the Minister for Urban Affairs and Planning (DA67/98), as amended. This consent is covered by Mining Lease Number 1539 (ML 1539).

The Application consists of a number of components detailed in the enclosed volumes, and incorporates the combined knowledge, experience and outcomes of subsidence prediction, assessment and management for over 25 years of longwall mining at Tahmoor, supported by relevant knowledge and experience from other mines within the Southern Coalfield of NSW and beyond.

TAHMOOR UNDERGROUND

GLENCORE

The Application Area is shown on the Subsidence Management Plan Approved Plan, and Tahmoor Colliery intends to commence extraction of Longwall 31 within this area from early in 2017.

Detailed Subsidence Management Plans for major built and natural features and items of surface infrastructure will be submitted to the Department in advance of the commencement of each Longwall in this application, building on past knowledge and experience from previous longwalls. Current management plans reflecting the above are included within this application.

Tahmoor Colliery is of the view that the attached information is comprehensive and objective, supporting the application for approval of the proposed mining. Please do not hesitate to contact me if you require any further information or have any queries.

Regards,



Ian Sheppard
Manager Environment and Community
Tahmoor Colliery

Tahmoor Colliery Subsidence Management Plan (SMP)

Application Contents

Volume 1

SMP Application Written Report

Volume 2

Infrastructure and Environmental SMP

- LW 27-30 Environmental Management Plan, Revision D.
- LW 28 to 30 Public Safety SMP, Revision B.
- LW 28 Telstra Management Plan, Revision A.
- LW 27 to 30 Endeavour Energy Management Plan, Revision B.
- LW 28 to 30 Wollondilly Shire Council Management Plan, Revision B.
- LW 28 to 30 Potable Water Management Plan, Revision A.
- LW 28 to 30 Sydney Water Sewer Management Plan, Revision A.
- LW 28 Jemena Gas SMP, Revision C.
- LW 28 to 30 Built Structures SMP, Revision A.
- LW 28 to 30 Built Heritage SMP, Revision A.
- LW 28 Main Southern Rail SMP, Revision B. (part)
- LW 28 Redbank Creek Culvert & Embankment, & Bridge Street Overbridge SMP Revision C (part)

Volume 3 Part 1

Subsidence Predictions

- Report on the Subsidence Predictions and Impact Assessments for Natural and Built Features in Support the SMP Application Report MSEC647, Revision A, December 2014. Mine Subsidence Engineering Consultants (MSEC).

Volume 3 Part 2

Supporting Documentation

- Investigations Conducted Prior to Submitting the SMP Application for LW31-LW37, December 2014. John Matheson & Associates.
- Longwall Panels 31 to 37 Streams, Dams and Groundwater Assessment, December 2014. GeoTerra.
- Tahmoor Coal Flood Impact Assessment: LW31-37, December 2014. WRM Water and Environment.
- Tahmoor North Longwalls 31 to 37 Aboriginal and European Heritage Assessment, December 2014. Niche Environment and Heritage.
- Tahmoor North Longwalls 31 to 37 Aquatic Ecology Assessment, December 2014. Niche Environment and Heritage.
- Tahmoor North Longwalls 31 to 37 Terrestrial Ecology Assessment, December 2014. Niche Environment and Heritage.

Volume 4

Plans, Maps and Other Diagrams

- Aerial Photo of SMP Area
- SMP Area Approved Plan
- Plans 1, 2, 3, 5 and 6 compiled in accordance with the Guidelines for Applications for Subsidence Management Approvals. There is no Plan 4 as it relates to multi seam mining which does not occur at Tahmoor Colliery. For clarity, Plan 2 is presented as for plans numbered 2a to 2d.

Distribution List

Agency	Contact	Position	Address
Department of Primary Industry Fisheries	Scott Carter	Senior Conservation Manager	DPI Fisheries Port Stephens Fisheries Centre Locked Bag 1 Nelson Bay NSW 2315
Mine Subsidence Board	Greg Cole-Clarke	Chief Executive Officer	Mine Subsidence Board PO Box 488G Newcastle NSW 2300
Department of Planning and Environment	Howard Reed	Manager Mining Projects	Department of Planning and Environment GPO Box 39 Sydney NSW 2001
Office of Water	Mitchell Isaac	Senior Planning and Assessment Coordinator	Office of Water PO Box 3720 Parramatta NSW 2124 88387529
Environment Protection Authority	Andrew Couldridge	Senior Regional Operations Officer	Environment Protection Authority PO Box 513 Wollongong NSW 2520
NSW Trade and Investment Division of Resources & Energy	Paul Langley	Subsidence Executive Officer	NSW Trade and Investment Division of Resources & Energy PO Box 344 Hunter Valley Mail Centre NSW 2310
Wollondilly Shire Council	Luke Johnson	General Manager	Wollondilly Shire Council PO Box 21 Picton NSW 2571

Contents

1	Executive Summary	5
2	Introduction	6
3	Application Area.....	8
4	Mining System and Resource Recovery.....	9
4.1	Proposed Mining System	9
4.2	The Mine Plan and Layout Justification	10
4.3	Proposed Mining Schedule	10
4.4	Estimated Recovery	11
4.5	Possible Effects on Other Seams.....	11
4.6	Stability of Underground Workings.....	11
5	Characterisation of Surface and Sub-Surface Features	12
5.1	Identification of Surface and Sub-Surface Features	12
5.2	Characterisation of Surface and Sub-Surface Features	12
5.3	Areas of Environmental Sensitivity.....	14
6	Subsidence Predictions	16
6.1	Prediction Method and Reliability	16
6.2	Results of Subsidence Predictions.....	16
7	Subsidence Impacts	19
8	Community Consultation	23
8.1	Preparation of the SMP Application	23
8.2	Stakeholder Consultation.....	23
8.2.1	Three Phase Approach	23
8.2.2	Community Consultation during Preparation of Application	24
8.3	SMP Advertisement	25
9	Statutory Requirements	25
9.1	Overview	25
9.2	Development Consents	26
9.3	Mining Leases & Exploration Authorisations	28
9.4	Licences	28
9.5	Other Relevant Approvals.....	29
9.5.1	Heritage Items	29
9.5.2	Infrastructure	29
9.5.3	Planning Approvals.....	29
10.	Economic and Social Impacts and Benefits.....	29
10.1	Community Grants	30
10.2	Apprentice Community Engagement.....	30
10.3	Community Grants	30
Attachment A	32
Consultant's Recommendations	32
Attachment B	49
Statutory Requirements.....	49	
Development Consent Conditions	49	
Attachment C	68
Print Media	68	

Wollondilly Advertiser 22 October 2014	68
Wollondilly Advertiser 10 December 2014.....	69
Attachment D	70
Community Newsletter <i>September 2014</i>	70
Attachment E.....	72
Notification to Residents	72

1 Executive Summary

This Subsidence Management Plan (SMP) Application seeks approval to extract Bulli Seam coal from Longwalls 31 to 37 at Tahmoor Colliery, as shown on the enclosed plans (**Volume 4**). The Application has been prepared in accordance with the NSW Department of Mineral Resources Guideline for Applications for Subsidence Management Approvals December 2003 (SMP Guidelines 2003).

Tahmoor Colliery is located approximately 4 kilometres (km) south of Tahmoor in the Southern Coalfields of New South Wales (NSW). The Colliery is a longwall mine, capable of producing up to 3Mtpa of coal from the Bulli Seam. The bulk of this production is coking coal; however, there is a small component of thermal coal produced as a by-product of coal preparation. The mine currently employs 343 employees and full time contractors and predominantly exports coal via rail through the Port Kembla Coal Terminal.

The Longwall mining system utilised at Tahmoor involves a recovery of approximately 71% of the coal resource and therefore maximises utilisation of the State's coal reserves. The total product coal from the SMP Area (within the lease boundaries) based on full seam extraction of the Bulli Seam is approximately 10.3Mt.

The depth of cover between the mine workings and the surface ranges from 450 metres (m) in the base of Redbank Creek to 550 metres in the northern corner of the SMP Area. Surface subsidence will occur over proposed Longwalls 31 to 37 with the predicted maximum of 1,225mm over each consecutive longwall.

The surface tenure over the area is a mix of private and government land. Natural surface features of the area include Redbank Creek, Stonequarry Creek, Matthews Creek and Cedar Creek. Built features include the Main Southern Railway and Picton-Mittagong Loop Line (railway system) and various pieces of associated infrastructure, roads and associated infrastructure, services associated with gas, water, sewer, telecommunications and electricity, heritage items, agricultural and commercial businesses and industries and the townships of Picton, Tahmoor and Thirlmere.

Tahmoor is currently extracting Longwall 28 in accordance with the current SMP approval for longwalls 27-30. Built and natural surface infrastructure SMP's approved for the extraction of the current longwall can be found in **Volume 2**.

In order to identify and assess potential subsidence impacts in the current SMP Area, Tahmoor Colliery has undertaken land tenure studies, legal reviews, ongoing community consultation, subsidence prediction studies, baseline desktop and field environmental studies, impact and risk assessments of rock features, terrestrial and aquatic flora and fauna, Aboriginal cultural heritage, historic archaeology, surface water, groundwater, commercial and residential structures, public amenities and services associated with gas, water, sewer, telecommunications and electricity. A full list of consultant recommendations can be found in **Attachment A** at the end of this report.

A risk assessment systematically identified and ranked all the risks associated with mining in the application area by the proposed method of longwall mining. Where necessary, appropriate management responses determined from consultant's recommendations and through the risk review process have formed the basis of the built and natural surface infrastructure SMP's. Current (Longwall 28) Environment and Infrastructure SMP's (**Volume 2**) will be reviewed and updated prior to the commencement of each new Longwall.

The Environment and Infrastructure SMP's developed as part of this application present the risks, existing and proposed controls and mitigation strategies for managing subsidence impacts. They are included in **Volume 2** of this Application and outline future monitoring to be undertaken to substantiate the models on which this mine design and impact prediction has been developed.

2 Introduction

Tahmoor is currently seeking approval from NSW Government Department Trade & Investment, Regional Infrastructure & Services (DTIRIS), Division of Resource & Energy (DRE), to continue Longwall extraction mining activities within Longwalls 31 to 37 at Tahmoor Colliery.

Tahmoor Colliery is owned by Tahmoor Coal Pty Ltd, a wholly owned subsidiary of Glencore Coal Assets Australia (GCAA). Tahmoor Colliery is now referred to as Tahmoor Underground Glencore. It is an underground longwall extraction mine that commenced operations in 1975. Currently, the Colliery is capable of producing, and holds current development consents for, production of up to 3Mtpa of coal from the Bulli Seam.

Tahmoor Colliery is located between the townships of Picton, Tahmoor and Bargo, approximately 80km south west of Sydney. Surface facilities are situated to the south of the Bargo River and adjacent to Remembrance Driveway (Old Hume Highway). The Refuse (Reject) Emplacement Area (REA) is located to the east of the main southern railway. Tahmoor North underground workings extend north under the township of Tahmoor, and towards Thirlmere and Picton.

Detailed exploration of the Tahmoor Coal reserve began in the early 1970s. Clutha Development Pty Limited was granted the initial Coal Lease over the Tahmoor reserve. In 1975 planning and development of Tahmoor commenced and in 1979 the first coal was produced. Initial underground mining at Tahmoor was undertaken by the bord and pillar method and the Longwall mining method is now used.

Construction of the Tahmoor mine commenced in 1975 by Clutha Development. Mining commenced in 1980 and the Tahmoor Washery was commissioned in 1981. In the mid 1980's, BP Coal acquired the mine from Clutha Development. In 1987 the gas extraction facility was commissioned and longwall mining commenced. Conzinc Rio Tinto Australia (CRA) acquired BP Coal's interest in Tahmoor Colliery in 1989, and operated the mine under the Kembla Coal & Coke (KCC) business division. In 1997, Austral Coal Limited acquired Tahmoor Colliery from CRA. In 2005, Centennial Coal acquired a majority shareholding in Austral Coal Limited. In October 2007, Xstrata Coal Pty Ltd ("Xstrata Coal") successfully acquired 100% shareholding in Austral, and therefore ownership of Tahmoor Colliery. In May 2013, Xstrata and Glencore merged to form one company. Tahmoor Colliery is now referred to as Tahmoor Underground Glencore.

The Colliery has reserves for over 30 years of operations at projected extraction rates. The mine is predominantly an export mine railing product coal to Port Kembla Coal Terminal prior to export. The mine entry, most surface facilities and Mining Leases are located primarily in the Bargo River Catchment, which forms part of the Nepean River Catchment. The mine layout is designed around the major surface and geological structures.

Tahmoor Colliery has prepared this SMP Application in accordance with the SMP Guidelines 2003.

Longwalls 31 to 37 are a continuation of a series of longwalls within an area that extend northwards from longwall 22 into the Tahmoor North Lease area. Detailed Management Plans for the mitigation, monitoring, maintenance, repair and rehabilitation of potential impacts to the natural environment and built infrastructure have been prepared and refined over a number of years as mining has progressed throughout the current longwall mining area. These plans are regularly reviewed and updated following the completion of each longwall, and will form the basis of the management plans for the extraction of longwalls 31 to 37.

This report provides the supporting documentation in accordance with the SMP Guidelines 2003, required as part of an application for subsidence management approvals through the development of a proposed SMP. Current Environment and Infrastructure Management Plans used for Longwall 28 have been provided in **Volume 2** to indicate the management approaches to be taken during the extraction of Longwalls 31 to 37.

Table 2.1 SMP Guideline Requirement

Item	Section in Guidelines	Section in Written Report	Chapter in MSEC355
Application letter	5	Front of Volume 1	
Application Area	6.2	3	2
Mining System & Resource Recovery	6.3	4	1
Site Conditions of the Application Area	6.4	5	1
Stability of Underground Workings	6.5	4 & 5	
Characterisation of Surface and Subsurface Features	6.6	5	2
Subsidence Prediction	6.7	6	4
Community Consultation	6.8	8	
Statutory Requirements	6.9	9	
Subsidence Impacts	6.10	7	5
Proposed Subsidence Management Plan	7	Volume 2	
Plans	9	Volume 4	
Approved Plan	10	Volume 4	

3 Application Area

The SMP Application Area (SMP Area) in this report is the area that will be affected by the mining of the proposed Longwalls 31 to 37. The SMP Area, as a minimum, has been defined as the surface area enclosed by the 35 degree angle of draw from the limit of proposed mining (as defined in Section 6.2 in the SMP Guidelines); and the predicted 20mm subsidence contour, which has been calibrated using the extensive ground monitoring data from the monitoring of previous Longwalls. Built and natural features located outside this area which are predicted to experience far-field movements and, could be sensitive to these movements, have also been included in the impact assessments provided in Report **MSEC647 Volume 3 Part 1**.

The proposed mining layout, SMP Area and lease boundaries are provided on **Plan 2 Surface Features**, which is included in **Volume 4** of this Application. A general indication of the extent of the application area is given in Fig 1 below.

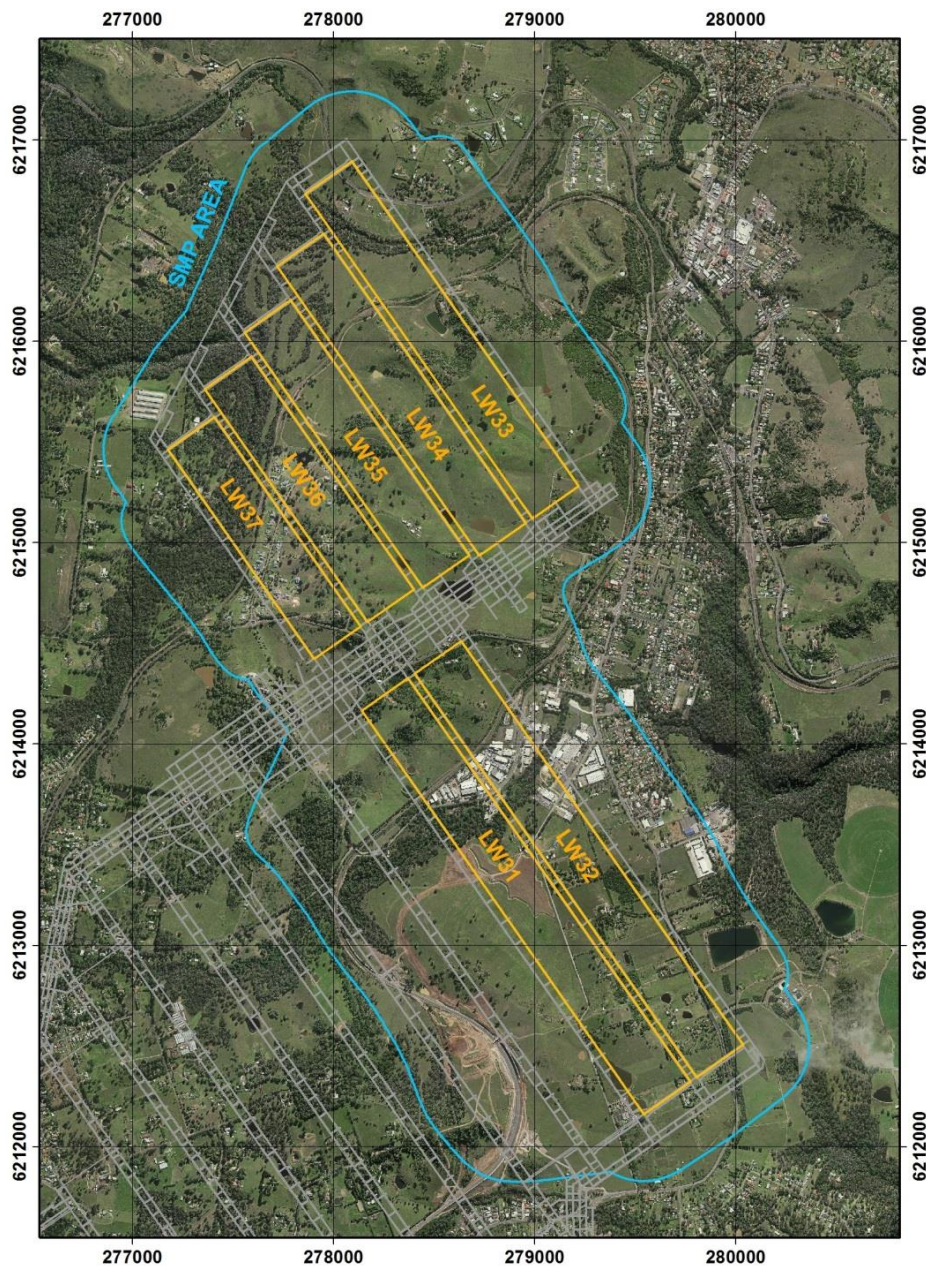


Fig 1.1 Aerial Photograph Showing Proposed Longwalls and SMP Area

4 Mining System and Resource Recovery

4.1 Proposed Mining System

Within the SMP Area, Tahmoor proposes to mine the Bulli Coal Seam utilising the longwall mining method.

Longwall mining has been undertaken at Tahmoor since 1987, commencing with Longwall 1 and will continue with proposed Longwalls 31 to 37. The proposed mining plan is shown on the SMP Approved Plan included in Volume 4 of this Application. A description of the longwall mining method is included within **Section 3** in Report **MSEC647 Volume 3 Part 1**.

The proposed layout of Longwalls 31 to 37 within the Bulli Seam is shown in **Drawing No. MSEC647-01**. A summary of the dimensions of these proposed longwalls is provided in **Table 1.2**.

It is planned that each longwall will extract coal working north-west from the south-eastern ends. Tahmoor Colliery is currently mining Longwall 28. The current schedule of mining for Longwalls 31 to 37 is shown in **Table 1.2**.

Table 1.2 Geometry of the Proposed Longwalls 31 to 37.

Longwall	Overall Void Length Including Installation Heading (m)	Overall Void Width Including First Workings (m)	Overall Tailgate Chain Pillar Width (m)	Overall Extraction Thickness (m)
LW31	2,450	283	39	2.1 - 2.3
LW32	2,450	283	39	2.1 - 2.4
LW33	1,970	283	39	1.8 - 2.1
LW34	1,755	283	39	1.7 - 2.1
LW35	1,545	283	39	1.7 - 2.1
LW36	1,410	283	39	1.7 - 2.0
LW37	1,270	283	39	1.7 - 2.0

The proposed Longwalls 31 to 37 are a continuation of the Tahmoor North longwall district which commenced with Longwalls 22 and 23. These longwalls will be located between the towns of Tahmoor, Thirlmere and Picton, beneath predominantly rural properties and the Picton Commercial Industrial precinct, as shown in Drawing **MSEC647-24 Volume 3 Part 1**.

The mining lease boundaries are shown in Drawing **MSEC647-02 Volume 3 Part 1**. The proposed longwalls will extract coal within two mining leases. The original mining lease for Tahmoor Colliery is numbered CCL 716 and while being included in the SMP Area, there will be no extraction of longwalls within the lease area as part of this application. The Tahmoor North Mining Lease for the rural areas is numbered ML 1376. The Tahmoor North Mining Lease for the urban areas and the railways is numbered ML 1539.

The planning approval boundaries are shown in Drawing **MSEC647-02 Volume 3 Part 1**. A development application (DA 67/98) was granted in February 1999 for mining beneath certain urban areas and railway land within ML 1376. Several modification applications have been granted. An application in 2006 was granted to amend DA67/98 and include some previously excluded minor areas of the Main Southern Rail, Tahmoor and Picton. An application was granted in 2007 to amend DA57/93 to include a heritage approval condition and an application in 2012 was granted to amend DA67/98 to include the Redbank Tunnel Rail Deviation and Subdivision of Land.

The extent of urban and rural areas, as defined for the purposes of this SMP, is shown in Drawing **MSEC647-04 Volume 3 Part 1**.

4.2 The Mine Plan and Layout Justification

Several different mining methods have been employed at Tahmoor since mining commenced. These include first workings, bord and pillar mining, pillar extraction, partial extraction, and longwall mining.

Tahmoor Colliery believes that the proposed mining layout as detailed in the SMP Approved Plan (**Volume 4**) represents a responsible balance between maximising resource recovery and addressing surface safety and mine subsidence issues. The mining proposals for Tahmoor North were fully debated in the Land & Environment Court proceedings held in response to the 1993 Development Application, the Commission of Inquiry held in response to the 1998 Development Application and during subsequent Development consent modifications.

The mine plan is based on the geological data available at the time of the SMP Application. Whilst considered a reliable indicator of conditions to be expected within the SMP Area, it is possible that minor amendments may have to be implemented when further characteristics of the geology are defined as mining progresses.

To a limited extent, the mine layout can respond to such changes. The longwall system of mining, particularly at Tahmoor with its inherent mining complexities and high costs, relies on a relatively uniform layout. The SMP process allows for changes in mine layout without the need for an SMP Variation where these changes are not major and impacts are unchanged (SMP Guidelines 2003). Should changes in mine layout be required, Tahmoor would revisit the risk assessment and consult with the DTIRIS - DRE on whether a variation is appropriate.

The proposed mine plan for longwalls 31-37 reflects an optimisation of past mine plans projected for this area. The main changes are:

- 1) Development of central main development headings, with longwalls laid out on both sides, rather than developing two sets of main headings, with longwalls developed between. This reduces the overall amount of development driveage required.
- 2) Elimination of the need for construction of an additional ventilation shaft and surface ventilation fan facility, currently approved for construction in Bridge Street Picton, and replaced by one or more underground booster fan installations.
- 3) A reduction in travel distances and consequently travel time for underground mine workers, between the existing pit top site south of Tahmoor to the proposed longwalls 31 to 37.

4.3 Proposed Mining Schedule

Longwall panel extraction and continuous miner development is currently underway within the southern extent of the Longwall 31-37 SMP Application Area in accordance with existing approvals. New longwall extraction within the SMP Area is scheduled to commence in April 2017 with Longwall 31, and the current projected extraction times for each consecutive is longwall shown in **Table 4.2**.

Table 4.2 Predicted Extraction Times for Longwall in the SMP Area

Current Predicted Extraction Times		
Longwall	Start	End
31	April 2017	March 2018
32	April 2018	February 2019
33	March 2019	December 2019
34	January 2020	September 2020
35	October 2020	June 2021
36	July 2021	February 2022
37	March 2022	September 2022

The current working rosters at the mine consist of 3 x 9.5 hour shifts per day during the week, and two x 12 hour shifts per day on the weekend.

4.4 Estimated Recovery

The Bulli Seam within the SMP Area varies between 1.9m and 2.2m in thickness. Tahmoor mines the entire section of coal both in development and during longwall extraction. This ensures maximum resource recovery. Table 4.3 details the tonnes of coal extracted during development and longwall operations.

Table 4.3. Development and Longwall Extraction Tonnages in Million tonnes (Mt)

Longwall	Development ROM Mt	Longwall ROM Mt	Total ROM Mt	Total Product Mt
31	0.3	2.3	2.6	2.2
32	0.3	2.3	2.6	2.2
33	0.3	2.0	2.3	1.8
34	0.3	1.8	2.1	1.4
35	0.2	1.6	1.8	1.3
36	0.2	1.5	1.7	1.2
37	0.2	1.4	1.6	1.1

Note: Based on current geological model and maximum working height of 2.60 metres.

As can be seen in **Table 4.3**, the total product coal from the SMP Area (within the lease boundaries) based on full seam extraction of the Bulli Seam is approximately 10.0Mt, depending on the Washery yield to meet market requirements. This corresponds to a total resource recovery from the proposed layout of approximately 71%.

The high rate of resource recovery is achieved through the use of longer and wider longwall panels, which serve to reduce the component of coal sterilised within the separating chain pillars. Sterilisation within the barrier pillars is also minimised through use of longer blocks. The full seam section is of commercial value and so no coal horizons are left in the roof or floor. The hydraulic leg range on the longwall equipment imposes limitations on the minimum seam thickness extracted, and as a result some floor material is often mined with the seam. Coal sterilisation due to geological structures is minimised through preferential orientation of the longwall blocks within the known geological setting, and within the constraints imposed by development consents, surface infrastructure, and lease boundaries.

4.5 Possible Effects on Other Seams

The only other seam of potential interest in the general vicinity is the Wongawilli Seam. This seam is located approximately 30m below the Bulli Seam, but is of no economic interest within the SMP Area at this time. More regionally, the Wongawilli Seam has a 3m basal section with properties suggesting it may have some commercial value at some stage in the future.

Whilst there are currently no future plans for mining other lower seams in or near the SMP Area, extraction of the uppermost Bulli Seam does not preclude access to any of the lower seams at a later date.

4.6 Stability of Underground Workings

The underground workings proposed are consistent with the proven success of the pillar geometries previously employed at Tahmoor over a period of 30 years. Roof stratigraphy and floor conditions are well understood and controlled by the established roadway reinforcement systems. Coal strength, from a pillar stability point of view, is expected to be undiminished within the SMP Area, and is complemented by rib bolting where necessary.

5 Characterisation of Surface and Sub-Surface Features

5.1 Identification of Surface and Sub-Surface Features

The boundaries of the Mine Subsidence Districts are shown in **Volume 4 Plan 2** and Drawing **MSEC647-03 Volume 3 Part 1** and in the report **MSEC647 Volume 3 Part 1**. It can be seen from these drawings that the SMP Area is primarily within the Bargo Mine Subsidence District but also covers sections of the Picton Mine Subsidence District and areas outside declared mine subsidence areas. The Bargo Mine Subsidence District was proclaimed in November 1975. A small section immediately south of Picton was added to the District in 1994. The Picton Mine Subsidence District was proclaimed in July 1997.

There are also some areas of rural land within the SMP Area that are not part of any Mine Subsidence District. However all landholders, whether within a District or not, remain covered by the provisions of the Mine Subsidence Compensation Act, 1961, as amended.

The locations and types of heritage and archaeological structures and house ages are shown in Drawing **MSEC647-25 Volume 3 Part 1** and in **Sections 6.20 and 6.21** of Report **MSEC647 Volume 3 Part 1**.

Section 2 MSEC647 Volume 3 Part 1 deals comprehensively with the process of identification of surface and sub-surface features within the Application Area. A summary of these features is provided in **Table 5.1**, which follows the list included in Appendix B of the SMP Guideline 2003.

5.2 Characterisation of Surface and Sub-Surface Features

The entire surface of the SMP Area is contained within **Plan 5** Colliery Holding Plan – Mining Titles and Land Ownership. This Plan is included in Volume 4 of this Application.

The major built and natural features and items of surface infrastructure within the SMP Area can be seen in the 1:25,000 Topographic Map of the area, published by the Central Mapping Authority (CMA), numbered PICTON 9029-4-S. The proposed Longwalls 30 to 37 and the general SMP Area have been overlaid on an extract of this CMA map, as shown in Fig. 2.3.

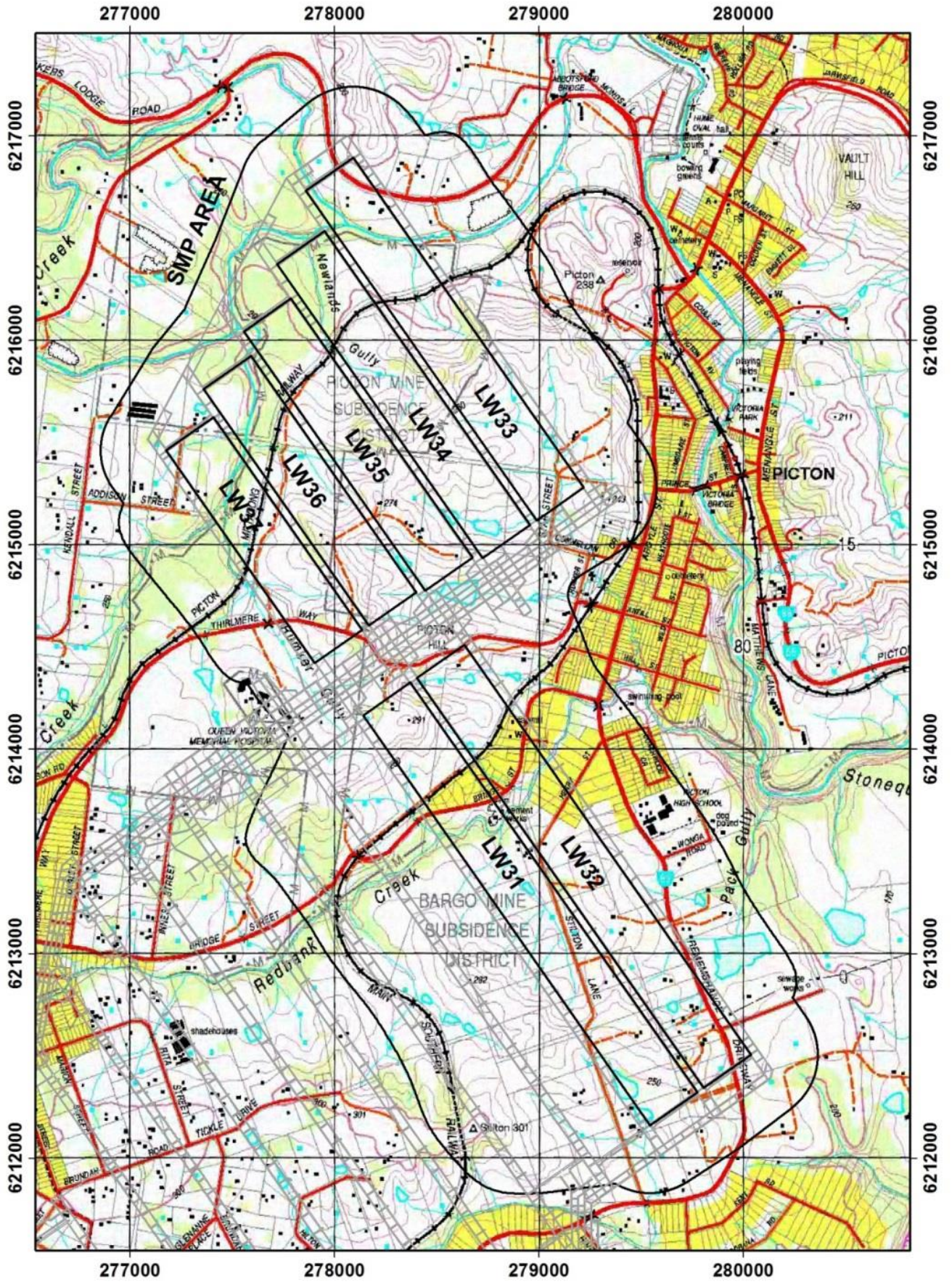


Fig. 2.3 Longwalls 31 to 35 and the SMP Area Overlaid on Part CMA Map PICTON 9029-4-S

The SMP Area is located within the Wollondilly Shire Council Local Government Area and the predominant land uses of the surrounding area include urban development, commercial/industrial development, agriculture, hobby farming, recreation and a wide range of service infrastructure associated with these land uses and the townships of Tahmoor, Picton and Thirlmere.

Section 2 of the Report **MSEC647 Volume 3 Part 1** deals comprehensively with the process of characterisation of surface and sub-surface features within the Application Area.

Drawing No's **MSEC647-01 to MSEC647-38** in that report clearly delineate the type and location of all identified surface and sub-surface features relevant to the Application Area.

The following sections in this chapter identify and describe all of the major natural features and items of surface infrastructure that lie within the SMP Area. A summary of these features is provided in **Table 2.2**, which follows the list included in Appendix B of the SMP Guideline.

Further details identifying areas of environmental sensitivity, as defined in the SMP Guideline, are provided in **Section 5 of MSEC647 Volume 3 Part 1**.

5.3 Areas of Environmental Sensitivity

Table 5.2 lists the features identified as areas of environmental sensitivity and **Table 5.1** lists Natural Features and Surface Improvements within the SMP Area. Areas of environmental sensitivity are defined in Section 6.6.3 of the SMP Guideline.

Table 5.1. Natural Features and Surface Improvements

Item	Within SMP Area	Environmentally Sensitive Area	Section Number Reference in MSEC355
NATURAL FEATURES			
Catchment Areas or Declared Special Areas			
Rivers or Creeks	✓	✓	
Aquifers or Known Groundwater Resources	✓		
Springs	✓		
Sea or Lake			
Shorelines			
Natural Dams			
Cliffs or Pagodas	✓	✓	
Steep Slopes	✓		
Escarpments			
Land Prone to Flooding or Inundation	✓		
Swamps, Wetlands or Water Related Ecosystems	✓		
Threatened or Protected Species	✓		
National Parks			
State Conservation Areas			
State Forests			
Natural Vegetation	✓		
Areas of Significant Geological Interest			
Any Other Natural Features Considered Significant			
PUBLIC UTILITIES			
Railways	✓	✓	
Roads (All Types)	✓	✓	
Bridges	✓	✓	
Tunnels	✓		
Culverts	✓		
Water, Gas or Sewerage Pipelines	✓		
Liquid Fuel Pipelines			
Electricity Transmission Lines or Associated Plants	✓		
Telecommunication Lines or Associated Plants	✓		
Water Tanks, Water or Sewage Treatment Works	✓		
Dams, Reservoirs or Associated Works			
Air Strips			
Any Other Infrastructure Items			
PUBLIC AMENITIES			
Hospitals	✓		
Places of Worship	✓		
Schools	✓		
Shopping Centres	✓		
Community Centres			
Office Buildings	✓		
Swimming Pools	✓		
Bowling Greens			
Ovals or Cricket Grounds			
Race Courses			
Golf Courses			
Tennis Courts			
ANY OTHER AMENITIES CONSIDERED SIGNIFICANT	✓		

Item	Within SMP Area	Environmentally Sensitive Area	Section Number Reference in MSEC355
FARM LAND AND FACILITIES			
Agricultural Utilisation or Agricultural Suitability of Farm Land	✓		
Farm Buildings or Sheds	✓		
Gas or Fuel Storages			
Poultry Sheds	✓		
Glass Houses			
Hydroponic Systems	✓		
Irrigation Systems	✓		
Fences	✓		
Farm Dams	✓		
Wells or Bores	✓		
Any Other Farm Feature Considered Significant			
INDUSTRIAL, COMMERCIAL AND BUSINESS ESTABLISHMENTS			
Factories	✓		
Workshops	✓		
Business or Commercial Establishments or Improvements	✓		
Gas or Fuel Storages or Associated Plants	✓		
Waste Storages or Associated Plants			
Buildings, Equipment or Operations that are Sensitive to Surface Movements	✓		
Surface Mining (Open Cut) Voids or Rehabilitated Areas			
Mine Infrastructure Including Tailings Dams or Emplacement Areas			
Any Other Industrial, Commercial or Business Features Considered Significant	✓		
AREAS OF ARCHAEOLOGICAL OR HERITAGE SIGNIFICANCE	✓	✓	
ITEMS OF ARCHITECTURAL SIGNIFICANCE	✓	✓	
PERMANENT SURVEY CONTROL MARKS	✓		
RESIDENTIAL ESTABLISHMENTS			
Houses	✓		
Flats or Units	✓		
Caravan Parks			
Retirement or Aged Care Villages	✓	✓	
Associated Structures such as Workshops, Garages, On-Site Waste Water Systems, Water or Gas Tanks, Swimming Pools or Tennis Courts	✓		
Any Other Residential Feature Considered Significant	✓		
ANY OTHER ITEM CONSIDERED SIGNIFICANT			

Table 5.2 Summary of Areas of Environmental Sensitivity within the SMP Area

No.	Description	Within SMP Area	Details	Section No. Ref.
1	Land reserved as a State Conservation Area under the <i>National Parks and Wildlife Act 1974</i>	None		
2	Land declared as an Aboriginal Place under the <i>National Parks and Wildlife Act 1974</i>	None		
3	Land identified as <i>Wilderness</i> by the Director, National Parks and Wildlife under the <i>Wilderness Act 1987</i>	None		
4	Land subject to a 'conservation agreement' under the <i>National Parks and Wildlife Act 1974</i>	None		
5	Land acquired by the Minister for the Environment under Part 11 of the <i>National Parks and Wildlife Act 1974</i>	None		
6	Land within State forests mapped as Forestry Management Zone 1, 2 or 3	None		
7	Wetlands mapped under SEPP 14 – Coastal Wetlands	None		
8	Wetlands listed under the Ramsar Wetlands Convention	None		
9	Lands mapped under SEPP 26 – Coastal Rainforests	None		
10	Areas listed on the Register of the National Estate	✓	Queen Victoria Memorial Hospital (indicative place)	
11	Areas listed under the <i>Heritage Act 1977</i> for which a plan of management has been prepared	None		
12	Land declared as critical habitat under the <i>Threatened Species Conservation Act 1995</i>	None		
13	Land within a restricted area prescribed by a controlling water authority	None		
14	Land reserved or dedicated under the <i>Crown Lands Act 1989</i> for the preservation of flora, fauna, geological formations or other environmental protection purpose	None		
15	Significant surface watercourses and groundwater resources identified through consultation with relevant government agencies	None		
16	Lake foreshores and flood prone areas	✓	Myrtle and Redbank Creeks	
17	Cliffs, escarpments and other significant natural features	✓	Cliffs along Redbank Creek	
18	Areas containing significant ecological values	✓		
19	Major surface infrastructure	✓	Main Southern Railway	
20	Surface features of community significance (including cultural, heritage or archaeological significance)	✓	Archaeological and Heritage Sites	
21	Any other land identified by the Department to the titleholder	None		

6 Subsidence Predictions

6.1 Prediction Method and Reliability

The subsidence prediction methodology employed as part of this SMP Application includes theoretical predictions verified by extensive field survey monitoring data.

Predictions of subsidence parameters were made using the Incremental Profile Method. A detailed description of the Incremental Profile Method is included in **Section 3** of the Report **MSEC647 Volume 3 Part 1** of this Application.

6.2 Results of Subsidence Predictions

Key parameters used in the description, prediction and assessment of surface movements resulting from underground mining are subsidence, tilt, strain, curvature, valley closure and upsidence. These terms and a detailed explanation of the results of the subsidence prediction results are contained in **Section 4** of the **Report MSEC647 Volume 3 Part 1** of this Application.

A summary of the maximum predicted incremental systematic subsidence parameters, due to the extraction of each of the proposed Longwalls, is provided in **Table 6.1**. A summary of the maximum predicted cumulative systematic subsidence parameters, after the extraction of each of the proposed Longwalls, is provided in **Table 6.2**.

A summary of the maximum predicted travelling parameters, during the extraction of each of the proposed Longwalls, is provided in **Table 6.3**.

Table 6.1 Maximum Predicted Incremental Conventional Subsidence, Tilt and Curvature due to the Extraction of Each of the Proposed Longwalls

Longwall	Maximum Predicted Incremental Conventional Subsidence (mm)	Maximum Predicted Incremental Conventional Tilt (mm/m)	Maximum Predicted Incremental Conventional Hogging Curvature (km ⁻¹)	Maximum Predicted Incremental Conventional Sagging Curvature (km ⁻¹)
Due to LW31	725	5.5	0.06	0.12
Due to LW32	700	5.5	0.06	0.12
Due to LW33	475	3.0	0.03	0.06
Due to LW34	675	5.0	0.06	0.11
Due to LW35	675	5.0	0.06	0.11
Due to LW36	675	5.5	0.06	0.11
Due to LW37	700	5.5	0.06	0.12

Table 6.2 Maximum Predicted Cumulative Systematic Subsidence Parameters after the Extraction of Each of the Proposed Longwalls 31 to 37

Longwall	Maximum Predicted Total Conventional Subsidence (mm)	Maximum Predicted Total Conventional Tilt (mm/m)	Maximum Predicted Total Conventional Hogging Curvature (km ⁻¹)	Maximum Predicted Total Conventional Sagging Curvature (km ⁻¹)
After LW31	1,225	6.0	0.09	0.13
After LW32	1,225	6.0	0.09	0.13
After LW33	1,225	6.0	0.09	0.13
After LW34	1,225	6.0	0.09	0.13
After LW35	1,225	6.0	0.09	0.13
After LW36	1,225	6.0	0.09	0.13
After LW37	1,225	6.0	0.09	0.13

Table 6.3 Maximum Predicted Travelling Tilt and Curvature during the Extraction of Each of the Proposed Longwalls

Longwall	Maximum Predicted Travelling Conventional Tilt (mm/m)	Maximum Predicted Travelling Conventional Hogging Curvature (km ⁻¹)	Maximum Predicted Travelling Conventional Sagging Curvature (km ⁻¹)
During LW31	3.0	0.03	0.02
During LW32	3.0	0.03	0.02
During LW33	2.0	0.02	0.01
During LW34	2.5	0.03	0.02
During LW35	2.5	0.03	0.02
During LW36	2.5	0.03	0.02
During LW37	2.5	0.03	0.02

The prediction of strain is more difficult than the predictions of subsidence, tilt and curvature. The reason for this is that strain is affected by ground curvature and horizontal movement, as well as local variations in the near surface geology, the locations of joints at bedrock, the depth of bedrock and survey tolerance. The profiles of observed strain can, therefore, be very irregular even when the profiles of observed subsidence, tilt and curvature are relatively smooth.

For this reason, the predictions of strain provided in this report have been based on a statistical approach which provides the probabilities that the strain would exceed particular magnitudes. The background and derivation of the prediction method for strain, which is based on the extensive monitoring data from the Colliery, is provided in **Section 4** of the Report **MSEC647 Volume 3 Part 1** of this Application.

The probability distributions have been determined for *Strain at a Point*, which is based on maximum strains that have been measured at each survey bay at any time during the mining period. The probabilities for *Strain at a Point* are relevant to features that are located at discrete locations, such as building structures, farm dams, archaeological sites, culverts and small bridges. A summary of the probabilities of exceedance for Strain at a Point for Locations Directly Above Goaf, based on gamma probability distributions is provided in **Table 6.4**.

Table 6.4 Probabilities of Exceedance for Strain for Locations Above Goaf

Strain (mm/m)	Probability of Exceedance	
Compression	-8.0	1 in 1,100
	-6.0	1 in 450
	-4.0	1 in 140
	-2.0	1 in 25
	-1.0	1 in 7
	-0.5	1 in 3
	-0.3	1 in 2
Tension	+0.3	1 in 3
	+0.5	1 in 5
	+1.0	1 in 25
	+2.0	1 in 330
	+3.0	1 in 2,500

The measured strains in locations directly above extracted longwalls, referred to as *Locations Above Goaf*, are generally greater than those in locations outside the extents of the extracted longwalls, which is referred to as *Locations Above Solid Coal*. The strain probability distributions have, therefore, been determined separately for *Locations Above Goaf* and for *Locations Above Solid Coal*. A summary of the probabilities of exceedance for *Strain at a Point* for *Locations Above Solid Coal*, based on the gamma probability distributions shown in the above figure, is provided in **Table 6.5**.

Table 6.5 Probabilities of Exceedance for Strain for Locations Above Solid Coal

Strain (mm/m)	Probability of Exceedance	
Compression	-3.0	1 in 2,200
	-2.0	1 in 800
	-1.5	1 in 400
	-1.0	1 in 150
	-0.5	1 in 25
Tension	+0.3	1 in 4
	+0.5	1 in 10
	+1.0	1 in 80
	+1.5	1 in 400
	+2.0	1 in 1,600

7 Subsidence Impacts

The following sections provide the predicted subsidence parameters for built and natural surface infrastructure previously identified in this report as existing within the SMP Area. The predictions have been made using the Incremental Profile Method, which has been calibrated to local conditions using the extensive monitoring at the Colliery.

Areas of increased subsidence (i.e. observed vertical subsidence was up to two times that predicted) occurred above Longwall 24A and above the south-eastern ends of Longwalls 25 to 27. The higher levels of subsidence have decreased with the successive longwalls in the series, with the observed subsidence above the south-eastern end of Longwall 28 being similar to that predicted. Increased subsidence is not anticipated above the proposed longwalls. In any case, the impact assessments provided in **Section 5** of **Report MSEC647** in **Volume 3 Part 1** of this Application for natural and built features have included the cases where the observed movements exceed those predicted by factors of up to two times.

Impact assessments have been made for each of these features based on the predicted subsidence parameters. All significant built and natural surface infrastructure located outside the general SMP Area, which may be subjected to valley related or far-field horizontal movements and may be sensitive to these movements, have also been included as part of these assessments. Comprehensive detail of the predicted impacts and risk assessments for each built and natural surface infrastructure feature is described in **Section 5** of the **Report MSEC647** in **Volume 3 Part 1** of this Application.

Table 7.1 gives a summary of the general outcomes of the assessment of the predicted systematic subsidence impacts on surface and sub-surface features. All impact risks identified through this process are subjected to a further formal risk assessment in accordance with Section 7.5 of the Guidelines during preparation of specific management plans. All relevant specific built and natural surface infrastructure management plans are contained in **Volume 2** of this Application.

Table 7.1 Summary of Predicted Systematic Subsidence Impact Assessment Results

Item	Within SMP Area	Environmentally Sensitive Area	Summary of Predicted Systematic Subsidence Impact Assessment Results	Section Number Reference in MSEC647
NATURAL FEATURES				
Catchment Areas or Declared Special Areas			None in SMP Area	
Rivers or Creeks	✓	✓	Potential creek bed cracking and subsurface flow diversion No ponding, scouring, or desiccation due to tilt expected Very low probability of impacts on water quality or flow volume Very low probability of impacts on aquatic flora or fauna Very low probability of gas emissions causing localised vegetation dieback	
Aquifers or Known Groundwater Resources	✓		No adverse interconnection of aquifers or aquitards expected Low probability of potential increased rate of recharge into the plateau High probability of temporary groundwater level drop Very low probability of permanent groundwater level drop Moderate probability of impacts on groundwater bores	
Springs			None in SMP Area	
Sea or Lake			None in SMP Area	
Shorelines			None in SMP Area	
Natural Dams			None in SMP Area	
Cliffs or Pagodas	✓	✓	Very low probability of rock fall in small creek cliff lines	
Steep Slopes	✓		Very low probability of large scale slope slippage Low probability of soil cracking at top of slopes Very low probability of large scale slope slippage impacting houses, driveways, and walking tracks	
Escarpments			None in SMP Area	
Land Prone to Flooding or Inundation	✓		Very low probability of increase in flood prone areas No houses expected to drop below the 1:100yr flood level	
Swamps, Wetlands or Water Related Ecosystems	✓		As for Rivers and Creeks above	
Threatened or Protected Species	✓		Very low probability of localised impact from ground strain Very low probability of gas emissions causing localised vegetation dieback	
National Parks			None in SMP Area	
State Conservation Areas			None in SMP Area	
State Forests			None in SMP Area	
Natural Vegetation	✓		As for Threatened or Protected Species above	
Areas of Significant Geological Interest			None in SMP Area	
Any Other Natural Features Considered Significant			None in SMP Area	
PUBLIC UTILITIES				
Railways	✓	✓	Very low probability of changes in track geometry Very low probability of track strain issues No track grade issues expected Moderate probability of spalling or cracking of rail culverts Very low probability of culvert damage leading to collapse High risk of impacts to the Redbank Rail Tunnel No impacts on Thirlmere Way Rail Overbridge expected Moderate probability of impact to the Bridge St Railway Overbridge Very low probability of impact to signalling, communication or electrical service	
Roads (All Types)	✓	✓	High probability of minor to moderate impacts on roads	
Bridges	✓	✓	See Railways above for Overbridges Very low probability of impact to Castlereagh St bridge Moderate probability of impacts to Remembrance Dr road bridge Moderate probability of impacts to Myrtle Creek pedestrian bridge	
Tunnels	✓		See Railways above for Redbank Rail Tunnel	
Culverts	✓		See Railway above for rail culverts No impacts on road drainage culverts are expected	
Water, Gas or Sewerage Pipelines	✓		High probability of minor impacts to potable water pipes No sewer lines dropping below self-cleansing grade are expected	

Item	Within SMP Area	Environmentally Sensitive Area	Summary of Predicted Systematic Subsidence Impact Assessment Results	Section Number Reference in MSEC647
			No impacts on rising sewer mains are expected No impacts on sewer pipe joints are expected No impacts on horizontal sewer bores are expected Low probability of impacts on sewer pipes that pass beneath creeks No impacts on standard nylon and polyethylene gas pipelines are expected Moderate likelihood of impacts on rigid steel pipe gas line across Myrtle Creek	
Liquid Fuel Pipelines			None in SMP Area	
Electricity Transmission Lines or Associated Plants	✓		No impacts to power poles or catenaries are expected No impacts to the Integral Energy depot is expected	
Telecommunication Lines or Associated Plants	✓		No impacts on optical fibre cables are expected No impacts on copper lines are expected	
Water Tanks, Water or Sewage Treatment Works			None in SMP Area	
Dams, Reservoirs or Associated Works			None in SMP Area	
Air Strips			None in SMP Area	
Any Other Infrastructure Items			None in SMP Area	
PUBLIC AMENITIES				
Hospitals			None in SMP Area	
Places of Worship	✓		No impacts on Places of Worship are expected	
Schools			None in SMP Area	
Shopping Centres	✓		No impacts on Shopping Centres are expected	
Community Centres			None in SMP Area	
Office Buildings			No impact to the office building is expected	
Swimming Pools			None in SMP Area	
Bowling Greens			None in SMP Area	
Ovals or Cricket Grounds			None in SMP Area	
Race Courses			None in SMP Area	
Golf Courses			None in SMP Area	
Tennis Courts			None in SMP Area	
Any Other Amenities Considered Significant	✓		No impact to the medical clinic is expected	
FARM LAND AND FACILITIES				
Agricultural Utilisation or Agricultural Suitability of Farm Land	✓		No impacts on agricultural land suitability or utilisation are expected	
Farm Buildings or Sheds	✓		High probability of minor impacts to farm buildings	
Gas or Fuel Storages			None in SMP Area	
Poultry Sheds			None in SMP Area	
Glass Houses			None in SMP Area	
Hydroponic Systems			None in SMP Area	
Irrigation Systems	✓		None in SMP Area	
Fences	✓		There is a high probability of minor impacts to fences	
Farm Dams	✓		Very low probability of impacts to farm dams	
Wells or Bores	✓		High probability of moderate to high impacts to bores	
Any Other Farm Feature Considered Significant			None in SMP Area	
INDUSTRIAL, COMMERCIAL AND BUSINESS ESTABLISHMENTS				
Factories	✓		Low probability of impact to factories	
Workshops	✓		Low probability of impact to workshops	
Business or Commercial Establishments or Improvements	✓		Low probability of impact to business or commercial establishments or improvements	
Gas or Fuel Storages or Associated Plants	✓		No impact on fuel storage at petrol station expected	
Waste Storages or Associated Plants			None in SMP Area	
Buildings, Equipment or Operations that are Sensitive to Surface Movements	✓		To be identified and Property Management Plans to be developed prior to subsidence affecting the premises	
Surface Mining (Open Cut) Voids or Rehabilitated Areas			None in SMP Area	

Item	Within SMP Area	Environmentally Sensitive Area	Summary of Predicted Systematic Subsidence Impact Assessment Results	Section Number Reference in MSEC647
Mine Infrastructure Including Tailings Dams or Emplacement Areas			None in SMP Area	
Any Other Industrial, Commercial or Business Features Considered Significant			None in SMP Area	
AREAS OF ARCHAEOLOGICAL OR HERITAGE SIGNIFICANCE	✓	✓	Low probability of impacts to heritage/archaeological items	
ITEMS OF ARCHITECTURAL SIGNIFICANCE			None in SMP Area	
PERMANENT SURVEY CONTROL MARKS	✓		There is a high probability of minor impacts to survey control marks	
RESIDENTIAL ESTABLISHMENTS				
Houses	✓		High probability of minor to high impact on houses	
Flats or Units	✓		High probability of minor to high impact on flats/units	
Caravan Parks			None in SMP Area	
Retirement or Aged Care Villages			None in SMP Area	
Associated Structures such as Workshops, Garages, On-Site Waste Water Systems, Water or Gas Tanks, Swimming Pools or Tennis Courts	✓		High probability of minor to high impact on associated structures	
Any Other Residential Feature Considered Significant	✓		High probability of minor to high impact on external pavements, fences & gates	
ANY OTHER ITEM CONSIDERED SIGNIFICANT			None in SMP Area	

8 Community Consultation

8.1 Preparation of the SMP Application

Community consultation during the preparation of the SMP was undertaken in accordance with the SMP Guidelines 2003 and the “Guidelines for Best Practice Community Consultation in New South Wales Mining and Extractive Industries” New South Wales Minerals Council and Tahmoor Colliery’s development consent. The definition of “Community” adopted for the purpose of developing the SMP community consultation strategy is anyone with an interest in subsidence issues for the proposed SMP application.

Tahmoor Colliery has a well-established, comprehensive and ongoing Community Consultation programme in place that has been continually operating since prior to the commencement of Longwall 22 on 31 May 2004.

8.2 Stakeholder Consultation

8.2.1 Three Phase Approach

Communication, consultation and engagement activities during the preparation of this Application have included the distribution of letters to all stakeholders notifying them of our intention to lodge an SMP Application and an invitation to Community Information Sessions, face to face engagement, advertisements in local newspapers and door knocking to identify the location of properties relative to the proposed longwall extraction including an invitation to a Community Information Session. A three phase approach for community consultation has been adopted.

Phase One is ongoing throughout the lifecycle of the Tahmoor Colliery, keeping residents informed about current and future mining, distributing monthly Newsletters, free confidential counselling service, periodic Community Information Sessions and ensuring that they have contact numbers for Tahmoor Colliery Representatives if they have any concerns. Community concerns and needs, including the sustainable development risks and impacts of Tahmoor’s operations and activities are continually identified and addressed throughout Tahmoor’s life-cycle.

Our objective during Phase Two is to ensure that the broader community is aware of our intention to lodge an SMP Application, provide them with the opportunity to visualise mine plans and discuss the process that is involved. We have ensured that residents, landowners, business owners and operators, community groups and Government Agencies that are associated with natural and built infrastructure items within the SMP Area or any stakeholders that may have a valued interest in the SMP Area, have been given the opportunity to access details of the Application and express their views.

Phase Three community consultation is during the extraction period. Stakeholders are classified according to the perceived level of mining impact or perceived level of interest in subsidence impacts and mining operations. A Resident Information Pack will be distributed to all stakeholders prior to the extraction of Longwall 31. The letter will contain information about the mining approval and the Resident Information Pack will contain general information regarding subsidence and specific information required to be given by condition 15 of DA67/98 (mod) which includes

1. Pre-mining inspection rights including a copy of consent conditions 15 to 26 inclusive.
2. Revised subsidence predictions (from those presented in the relevant development application) using updated monitoring data (included in this SMP application).
3. Identification of potential damage to improvements.
4. Owner's obligation of disclosure under insurance policies and mortgage agreements.
5. Rights of claiming consequential loss under the Mining Act and
6. Advice as to where an unabridged copy of these conditions of consent are available for public inspection.

The Information Pack also provides contact details to arrange a face to face meeting with a Tahmoor Colliery Representative to discuss any issues and concerns stakeholders may have regarding mining. The Resident Information Pack also contains information regarding lodging a claim with the Mine Subsidence Board and contact details. The Resident Information Pack is available to download at www.tahmoorcoal.com.au .

8.2.2 Community Consultation during Preparation of Application

All of the interested parties identified by the community consultation strategy including community representatives, major stakeholders, landowners, local business owners, commercial infrastructure owners and government agencies were notified during September 2014 of the intention to prepare a SMP to accompany an application to DRE for approval to carry out secondary extraction in ML 1376 and ML 1539.

Newspaper advertisements were placed in the Wollondilly Advertiser and District Reporter during October 2010 and November 2014 (**Attachment C**). No responses were received by Tahmoor Colliery from the Newspaper Adverts, however over 80 residents attended Community Information Sessions. The main interest was locating their property relative to the position of the proposed longwalls and the timing of the proposed Longwalls.

A Tahmoor Colliery Resident Newsletter is distributed monthly providing updates of longwall progress and other relevant mine and subsidence related information to around 200 stakeholders within the current and future mining areas. A copy of the update is also displayed weekly at Tahmoor Town Centre, Wollondilly Health Centre, Tahmoor Community Centre, Picton IGA and is available to download at (www.tahmoorcoal.com.au). Since September 2014 (**Attachment C**), a copy of the Wollondilly Advertiser notification advert has been included in the Newsletter. This advert will be replaced in the Newsletter when the SMP Application has been lodged with details on how to view and make comments on the submission.

A letter was posted (**Attachment D**) to all stakeholders on 15 September 2014 within the SMP Area notifying them about our intention to lodge an SMP Application and invite them to attend a Community Information Session on the 23 October 2009. The Information Session provided stakeholders with the opportunity to visualise proposed mine plans, identify their property relative to the proposed mine plan and all relevant information was made available for stakeholder to view.

Throughout the week of 17 - 21 November 2014, Tahmoor Colliery Representatives door knocked and engaged with all Commercial Industrial property and/or business owners within the Bridge Street and Henry Street, Picton Commercial and Industrial Area. They were invited to attend an information and presentation evening on 11 December. The presentation outlined the engagement, management and monitoring processes involved for Commercial Industrial properties and/or business during the extraction of future longwalls.

Tahmoor will recontact the owners and residents of affected properties by correspondence when the application is lodged with the Department and organise a Community Information Day during the display period of the proposed LW 31 to 37 Subsidence Management Plan, currently projected for February 2015.

Owners and operators of major infrastructure items above the proposed longwalls have been contacted during the development of this Subsidence Management Plan and an inspection of all major infrastructure items was conducted with relevant consultants. Tahmoor Colliery will implement mitigation, management and monitoring prior to their property being impacted by mining and ongoing consultation throughout the mining process.

Tahmoor also supports and participates in the activities of the Tahmoor Colliery Community Consultative Committee. The Committee meets quarterly, or as required and Tahmoor Colliery provides the Committee with a presentation on current and future mining activities and proposals. Committee Members engage with the local community and provide a report at each meeting to discuss their concerns or answer any question. The most recent Committee meeting was held on 4 December 2014 and the built and natural surface infrastructure that is being assessed within the SMP Area was presented to the Committee.

Stakeholder engagement is an ongoing process that takes place throughout the life of Tahmoor Colliery. We have established a good working relationship with the local community and seek to continue this as we continue our operations.

We have ensured that consistent and clear messages have been communicated to improve understanding and avoid confusion.

8.3 SMP Advertisement

In accordance with the SMP Guidelines 2003, Tahmoor has prepared multiple advertisements to notify the community of the intention to submit an SMP application for approval. The advertisement stated:

“Tahmoor Colliery intends to lodge a Subsidence Management Plan (SMP) application with NSW Government Trade and Investment-Resources and Energy to continue mining in the Tahmoor North lease area..

The area that will be affected by this application is identified on the plan within the green boundary and is broadly located between Thirlmere, Tahmoor and Picton.

A letter will be sent to affected residents and property owners shortly providing more information about the proposed mining and its potential effects and a Community Information Day on 23 October 2014 will provide opportunity for initial consultation.”

The advertisement included a map of the SMP Area and an aerial photograph of regional locality. Newspaper advertisements were placed in the Wollondilly Advertiser and District Report during October and November 2014 (**Attachment C**).

When the SMP Application is lodged, further advertising will take place to provide interested stakeholders with the details for making submissions regarding the Application.

9 Statutory Requirements

9.1 Overview

The Colliery currently operates under a number of approvals relevant to this SMP, including:

- Development Consent granted by Wollondilly Shire Council in 1975 following an EIS in 1975 allowing for the development of a mine and associated mine infrastructure,
- Development Consent granted in 1976 (and subsequent minor modifications) to allow for a coal preparation plant, and refuse emplacement,
- Development Consent (DA57/93) (and subsequent minor modification) granted by the Land and Environment Court in 1994 for an expansion of underground coal mining into the Tahmoor North area, continued operation of the existing Tahmoor surface facilities including the coal preparation plant and the refuse emplacement area,
- Development Consent (DA67/98) (and subsequent minor modification) granted by the Minister for Urban Affairs and Planning in 1999 for the expansion of underground mining into those areas of Tahmoor North in which mining was classified as prohibited development,
- Consolidated Coal Lease 716, Mining Lease 1376 and Mining Lease 1539,
- Tahmoor Mine Operations Plan (MOP) approved in 2002 for the 2002-2010 period,
- Environmental Protection Licence (EPL) 1389 under the Protection of the Environment Operations Act 1997.

These approvals constitute Tahmoor’s licence to conduct underground mining operations by longwall and bord and pillar mining methods within the Bulli Seam.

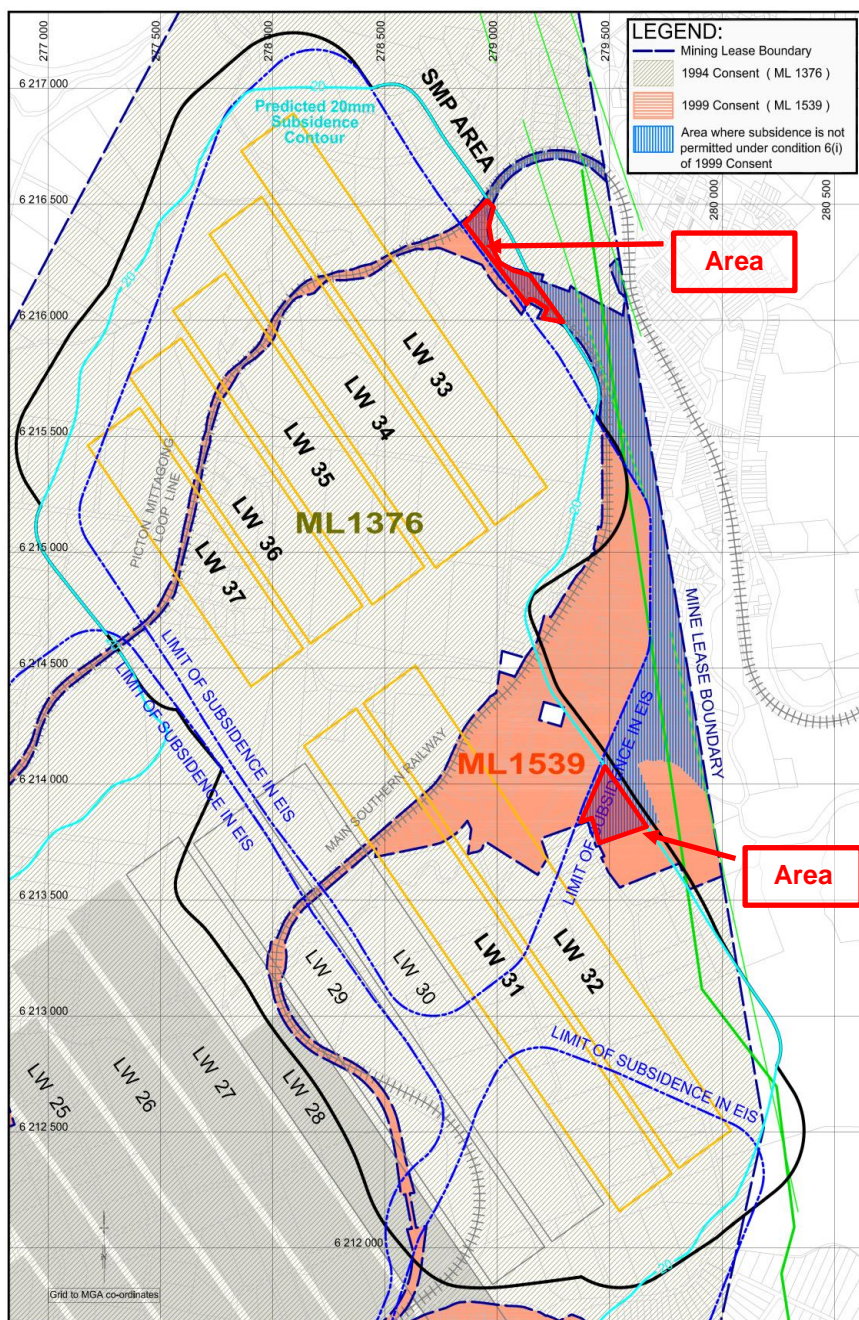
9.2 Development Consents

Current development approvals, shown above and in **Table 9.1**, are sufficient to allow Tahmoor Colliery to extract coal from the areas covered by this application, with the exception of one small area in the South Picton area in which mine subsidence is specifically prohibited. With relation to this Application the relevant excluded areas are shown as a blue shaded area on **Figure 9.1**.

As can be seen in **Figure 9.1** of this report, the SMP Area impinges on the area within which subsidence is restricted, in two small areas:

1. Near the western end of the Picton main line railway tunnel, marked Area A.
2. A number of residential properties, zoned within the former "Residential 2A" zoning, on the southern outskirts of Picton, and wholly within the Bargo Mine Subsidence Districts, marked Area B

The 20mm subsidence projection line encompasses these two areas, with very small subsidence movements expected as part of the proposed mining.



Revised management plans for monitoring and management of the main southern railway, including a specific management plan for the monitoring and management of small subsidence movements and minor impacts that may be experienced at the Picton main line railway tunnel, will be developed in consultation with the rail authority, the Australian Rail Track Corporation, ARTC.

Revised management plans for the built structures within the former Residential 2A zoning will be developed to incorporate structures within Area B.

During early 2015, an application to modify development consent DA67/98 (Mod 3) will be lodged with the Department of Planning and Environment, with the intent of removing the restriction on subsidence affecting these sections of the SMP application.

This modification would reflect a similar modification prepared and approved in 2006 for a similar reason.

Fig 9.1 Areas in which Subsidence is not currently permitted under 1999 Consent DA67/98 condition 6(i)

Table 9.2 Tahmoor Colliery Development Consents

Development Consents			
Consent Number	Consent Description	Date Granted	Expiry Date
DA 1975	Underground Mine	26/03/1975	No expiry
DA 1979	Coal Preparation Plant Stockpiles and Refuse Emplacement Area	23/08/1979	No expiry
DA 1979 (Mod 1)	Modification for road haulage of trial coal shipments	16/09/1985	No expiry
DA 190/85	Surface Works for Gas Extraction	16/12/1985	No expiry
DA 1979 (Mod 2)	Modification for Upgrades for Longwall Mining	05/11/1986	No expiry
DA 1979 (Mod 3)	Modification for Road haulage in Wollondilly Shire and when rail unavailable	1988	No expiry
DA 57/93	Tahmoor North Project	07/09/1994	No expiry
DA 1979 (Mod 4)	Modification for Road haulage to Corrimal and Coal Cliff Coke Works	13/12/1994	No expiry
DA 67/98	Tahmoor North Extension Project	25/02/1999	16/06/2024
DA 67/98 (Mod 1)	Modification for additional areas to be subsided	26/11/2006	16/06/2024
DA 57/93 (Mod 1)	Modification for heritage approval condition	07/06/2007	No expiry
DA 67/98 (Mod 2)	Modification for Redbank Tunnel Subsidence Management Project	08/04/2012	16/06/2024
DA 67/98 (Mod 3)	Modification for Redbank Tunnel Subsidence Management Project – Subdivision of Land	25/11/2012	16/06/2024

Specific relevant development consent conditions are listed in **Attachment B**.

9.3 Mining Leases & Exploration Authorisations

Table 9.3 Tahmoor Colliery Mining Leases and Authorisations

Leases & Exploration Authorisations			
Lease Number	Lease Description	Date Granted	Expiry Date
Consolidated Coal Lease 716	Original Tahmoor Leases	15/06/1990	13/03/2021
Mining Lease 1376	Tahmoor North Lease	28/08/1995	28/08/2016
Mining Lease 1308	Small Western lease to west of CCL716	02/03/1993	02/03/2014
Mining Lease 1539	Tahmoor North Extension Lease	16/06/2003	16/06/2024
	Surface Freehold Areas	27/08/2010	27/08/2031
Exploration Authorisation 206	Exploration Authorisation 206 - coincides with CCL 716 (renewal application pending with DRE)	08/2013	05/12/2015
Exploration Authorisation 410	Exploration Authorisation 410 - coincides with ML 1376 and ML 1539 (renewal application pending with DRE)		05/12/2015

Access to the underground Tahmoor Coal Mine is obtained through CCL 716 into both ML 1376 and ML 1539. Mining is currently undertaken in all three leases. The proposed development and extraction will also occur in all three Leases.

Specific relevant Mining Lease conditions are listed in **Attachment B**.

9.4 Licences

Table 9.4 Tahmoor Colliery Licences

Licences			
EPL 1389	Environmental Protection Licence	17/10/2000	No expiry
WAL36442	Water Access Licence	6/12/2013	No expiry
XSTR200005	Dangerous Goods Licence	18/01/2012	02/02/2017

9.5 Other Relevant Approvals

During the course of extraction of Longwalls 31 to 37, it may be necessary for Tahmoor Colliery to gain approval for the following activities at various times prior to subsidence affecting certain areas or structures. These approvals will be covered in the specific subsidence management plans covering the items or areas affected.

9.5.1 Heritage Items

Wollondilly Council approval of individual Heritage SMP's listed in the Wollondilly Local Environment Plan 2011.

Submission of a Section 60 Application to the Heritage Branch of the Department of Planning for approval to carry out a section 57(1) activity (disturbance) to an item or land listed on the State Heritage Register or to which an Interim Heritage Order applies.

Submission of an s90 Application to the Office of Environment and Heritage for an Aboriginal Heritage Impact Permit, (if still required subsequent to the current review of the National Parks and Wildlife Act 1974).

9.5.2 Infrastructure

Relevant Wollondilly Shire Council approvals are required for any mitigation and installation of monitoring to be undertaken on roads, bridges, culverts or other Council infrastructure prior to and/or during subsidence.

Relevant Roads and Traffic Authority approvals for any mitigation works required to State assets on state managed roads, such as Remembrance Driveway, prior to and/or during subsidence.

Relevant Australian Rail Track Corporation (ARTC) approvals for access to and works within the Main Southern Rail Corridor prior to and/or during subsidence.

Relevant Transport for NSW (TfNSW) approvals for any major mitigation works required to be undertaken on the TfNSW infrastructure within the Main Southern Rail corridor.

Relevant Sydney Water approvals for monitoring or mitigation works to be undertaken on or in potable water or sewer infrastructure.

9.5.3 Planning Approvals

Relevant development approvals or modifications will be obtained for any major mitigation or management work as required by the relevant consent authority.

10. Economic and Social Impacts and Benefits

Tahmoor Colliery has a workforce of approximately 320 employees and full time contractors, and is one of the most significant socio/economic foundations of the Wollondilly Shire. In addition to those families of employees and contractors with a direct interest in Tahmoor Colliery, the operation generates service and supply employment opportunities for the surrounding communities within Wollondilly Shire and more broadly throughout the region.

Tahmoor Colliery also provides valuable training and industry experience to apprentices, undergraduates and graduates, and with work experience to both local youth and university students (local and interstate). Research and investment in new systems and equipment have enabled steady improvements in sustainable development and economic resource recovery.

Tahmoor Colliery has an extensive customer base. In recent years, Tahmoor Colliery coal has been shipped to many parts of the world, including Turkey, Japan, Europe, Korea, China, and also to Australian domestic markets in Port Kembla and Whyalla. Various products shipped from Tahmoor are used for cement production, household heating, power generation, and metal smelting, predominantly steel making.

The Tahmoor tenements, including the as yet undeveloped Tahmoor South (formerly Bargo) lease area, are expected to support continued operations at Tahmoor Colliery for well over 30 years.

10.1 Community Grants

Community concerns and needs, including the sustainable development risks and impacts of Tahmoor's operations and activities on the communities are continually identified throughout Tahmoor's life-cycle. Tahmoor classifies stakeholders according to the perceived level of mining impact, perceived level of stakeholder influence and the perceived level of interest in site activities.

Annually, Tahmoor Colliery provides \$100,000 towards Community Grants assisting local not for profit Community Groups. As a significant contributor to the community, Tahmoor Colliery promotes community sustainability where possible. This is through consideration of support to charities, service organisations and other non-for-profit organisations within the Wollondilly Shire. Community support focuses on the following six categories:

- Enterprise and job creation;
- Environment;
- Education;
- Social and community development;
- Health; and
- Culture and art.

10.2 Apprentice Community Engagement

Tahmoor has developed an Apprentice Engagement Program providing the community with skills and assistance throughout the year. The Apprentices commit to a local community project each year rebuilding or updating infrastructure for local residents and community stakeholders.

10.3 Community Grants

Tahmoor Colliery, through the Glencore Coal Assets Australia Corporate Social Involvement Program has also provided the following Major Project Community Grants between 2009 and 2014:

Table 10.3.1 Community Grants

Community Grants		
Year	Project	Amount
2009 to 2010	Fund installation of an All Abilities Playground at Tahmoor Oval catering for children in wheelchairs, those using walking aids and the visually impaired.	\$200,000
2011 to 2013	Implementation of Crisis Outreach Program at Community Links Tahmoor including Crisis Support Worker.	\$300,000
2012 to 2014	Annual Technology Grant to eight (8) local Primary schools enabling them to update technology infrastructure.	\$ 30,000 per school

Substantial industry expenditure occurs locally and both Federal and State Governments will continue to receive income by way of royalty, excise and various taxes from the ongoing operation of Tahmoor Colliery.

Stakeholder engagement is an ongoing process that takes place throughout the life of the project. Tahmoor Colliery has established a good working relationship with the local community and seeks to continue this as we continue our operation.

Attachment A

Consultant's Recommendations

(To be incorporated into the relevant Built and Natural Surface Infrastructure Management Plans during the review process prior to the commencement of Longwall 31)

Site	Potential Impact	Recommendations
<p>Main Southern Railway Main Southern Railway</p>	<p>Rail Stress</p> <p>Changes to rail stress that may result in rails becoming unstable</p>	<p>Use a combination of rail expansion switches and zero toe load clips to dissipate mining and temperature related rail stress during mining.</p> <ul style="list-style-type: none"> • Assess pre-mining track condition and adjust track so that pre-mining track geometry and sleeper arrangements are at or close to design prior to the development of subsidence, • Identify potential sites of non-systematic movement, such as creeks and geological structures, • Assess the required spacing of expansion switches based on the predicted ground movements, • Install the expansion switches and zero toe load clips, • Install a monitoring system, which includes, among other things, the monitoring of ground movements, rail stress, rail temperature, switch displacement and track geometry, • Conduct regular visual inspections of the track, switches and clips, and • Adjust the track when triggered by monitoring results to keep the track well within safety limits
<p>Main Southern Railway</p>	<p>Track Geometry</p> <p>Changes to track geometry that exceed ARTC Standards in the following ways:</p> <ul style="list-style-type: none"> • Substantial non-systematic movements occur (e.g. fault causing a step in the ground) <p>Track becomes unstable due to rail stress or loss of support</p> <p>Culverts</p> <ul style="list-style-type: none"> • No significant impact on drainage flows • Some cracking and spalling of masonry not likely to result in collapse of culvert 	<ul style="list-style-type: none"> • No action required • Clear culverts of ballast prior to mining • Consider mitigation measures prior to each culvert experiencing subsidence. • Monitor subsidence at each culvert • Implement mitigation measures as appropriate.

Site	Potential Impact	Recommendations
	<p>Railway cuttings Unlikely that face of cuttings will fail. If they do, failure likely to be very minor (in form of small rock fragments) and likely to fall into cess</p>	<ul style="list-style-type: none"> • Monitor subsidence • Implement mitigation measures if considered appropriate by Rail Technical Committee
	<p>Picton Tunnel Low risk of potential safety hazards for planned mining</p>	<ul style="list-style-type: none"> • Consider deviation of track around tunnel; or • Introduce substantial mining offsets to ensure safe and serviceable operation of tunnel
	<p>Thirlmere Way Railway Overbridge Low risk of potential safety hazards for planned mining</p>	<ul style="list-style-type: none"> • No action required
	<p>Bridge Street Railway Overbridge <i>To be replaced by new overbridge planned for completion prior to impact from Longwall 29</i></p>	<ul style="list-style-type: none"> • Rail Technical Committee to consider management measures including monitoring, mitigation and triggered response measures • Complete mitigation works to ensure strengthening prior to subsidence; or • Demolition and replacement •
	<p>Signalling, Communications and Electrical Services Unlikely to be adversely affected. Possible adverse effects to radio communication associated with radio tower</p>	<ul style="list-style-type: none"> • Rail Technical Committee to assess risks and consider preventative or monitoring measures. • Adjustments to antennae may be required.
Local Roads	<p>Road pavements Minor impacts unlikely to affect serviceability of the roads (eg cracking, spalling, buckling)</p>	<ul style="list-style-type: none"> • Implement ground and visual monitoring of road pavements • Repairs by Wollondilly Shire Council (WSC) if required
	<p>Road drainage culverts: No significant change in drainage flows</p>	<ul style="list-style-type: none"> • Implement ground and visual monitoring of road pavements • Repairs by WSC if required
	<p>Remembrance Drive Road Bridge Impacts due to upsidence of central pier relative to abutments.</p>	<ul style="list-style-type: none"> • Conduct structural analysis on bridge to assess its ability to withstand differential ground movements • Install any recommended mitigation measures prior to mining of Longwall 29

Site	Potential Impact	Recommendations
	<p>Myrtle Creek Pedestrian Bridge Impacts due to upsidence of central pier relative to abutments.</p>	<ul style="list-style-type: none"> • Providing deck and balustrade are restored to good condition design mitigation measures. May include provision of slip bearings and hydraulic jacks beneath each end of the bridge above both abutment walls • installed mitigation measures prior to the mining of Longwall 29
<p>Potable Water Infrastructure</p>	<p>No significant impacts likely however, a small number of leaks are likely to occur</p>	<p>Implement agreed management plan including:</p> <ul style="list-style-type: none"> • Ground and visual monitoring • Planned responses if impacts exceed agreed trigger levels <p>Repairs by Sydney water if required</p>
<p>Sewer Infrastructure</p>	<p>Self-cleansing gravity sewers Final grades of small sections of sewer predicted to be less than self-cleansing grade. Could result in blockage in pipes over time.</p> <p>Sewer pipes and pipe joints Unlikely to be any significant impact, however small number of impacts may occur.</p>	<p>Implement agreed risk management plan which includes</p> <ul style="list-style-type: none"> • General subsidence monitoring of streets • Detailed and frequent monitoring of changes in grade for sections of sewers that have been predicted to experience grades close to self-cleansing or reversal of grade • Visual inspections along streets, with increased frequency where sewers are located near creeks or cross beneath the Main Southern Railway • CCTV inspections before, during and after mining for some selected sewers • Water quality monitoring of streams that are located near sewers • Planned responses if triggered by observations of impacts. These include: <ul style="list-style-type: none"> • Additional surveys and inspections, particularly CCTV inspections and pit inspections • Temporary tanker flushing of pipes if the grades are reduced below trigger levels until the grade is increased by further mining or permanent regrading is undertaken <p>Install a temporary lining within the sewer pipe to reduce chance of leakage until the damaged pipe is repaired or replaced</p>
<p>Wastewater Treatment Plant</p>	<p>Stonequarry Estate No adverse impacts predicted.</p>	<ul style="list-style-type: none"> • Develop a Management Plan • Implement visual and ground monitoring • Develop a TARP
<p>Water Recycling Plan</p>	<p>Picton No significant impacts considered.</p>	<ul style="list-style-type: none"> • Develop a Management Plan • Implement visual and ground monitoring • Develop a TARP

Site	Potential Impact	Recommendations
Gas Infrastructure	No significant impacts considered likely to majority of system. Rigid steel pipe across Myrtle creek will experience increased compressing stress.	Implement agreed management plan including: <ul style="list-style-type: none"> • Ground and visual monitoring and use of hand held gas detection devices • Planned responses if triggered by observations of increased ground strains, ground curvature or localised surface deformations • Mitigation or restoration work by Jemena if required
Electrical Services	Significant impacts unlikely. A small number of adjustments to overhead services connections will be required and low probability that adjustment for power pole tilt or catenaries will be required	Act in accordance with agreed risk management plan which includes: <ul style="list-style-type: none"> • Ground and visual monitoring including specific surveys of critical power poles • Planned responses if triggered by observations of impacts <ul style="list-style-type: none"> • Adjustments and restoration of power by Integral Energy if required.
Telecommunication Services	Significant impacts unlikely. However, it is likely that a small number of adjustments to overhead services connections to houses will be required and it is possible that impacts may occur to the main lead cable along Remembrance Drive. Possible impacts to buried copper cables	Act in accordance with agreed risk management plan which includes: <ul style="list-style-type: none"> • Ground and visual monitoring including detailed inspections of pits and cables prior to, during and after mining, and recording of cable pressures for main copper cables. • Planned responses if triggered by observations of impacts Adjustments and restoration of communications by Telstra if required.
Public Amenities	Queen Victoria Memorial Gardens Places of Worship Wollondilly Leisure Centre Wollondilly Emergency Control Centre	<ul style="list-style-type: none"> • Develop independent management plans for each business • Each structure investigated on a case by case basis • Pre-mining investigation should be conducted to establish tolerances for each piece of plant and equipment to establish trigger and response plans
Farm Land and Facilities	Fences Few impacts anticipated. Some adverse impacts possible.	<ul style="list-style-type: none"> • Act in accordance with existing risk management plans to identify impacts • Repairs to fences by MSB

Site	Potential Impact	Recommendations
	<p>Farm Dams</p> <p>Possible minor cracking or leakage though no significant water loss expected. Small possibility of impacts to dam walls.</p>	<p>Further develop and act in accordance with risk management plans to identify & manage impacts</p> <ul style="list-style-type: none"> • detailed ground and visual monitoring at Dam GG37 during mining of LW30 • identify impacts • remediate impacted dams
<p>Farm Land and Facilities</p>	<p>Wells and Bores</p> <p>Impacts may include temporary lowering of piezometric surface, and blockage of bore (see Geoterra, 2009)</p>	<ul style="list-style-type: none"> • Act in accordance with risk management plans to identify impacts • monitoring of standing water levels and groundwater quality • supply of water to landholder until bore returns to operation or is replaced
<p>Commercial and Industrial Business Establishments</p>	<p>Structures should tolerate mine subsidence ground displacements. Note: some industrial units have tilt-sensitive cranes, plant and equipment</p>	<ul style="list-style-type: none"> • Develop independent management plans for each business • Each structure investigated on a case by case basis • Pre-mining investigation should be conducted to establish tolerances for each piece of plant and equipment to establish trigger and response plans
	<p>Structures should have significant capacity to tolerate mine subsidence ground displacements. Note: some industrial units have tilt-sensitive cranes, plant and equipment</p>	<ul style="list-style-type: none"> • Develop independent management plans for each business • Each structure investigated on a case by case basis • Pre-mining investigation should be conducted to establish tolerances for each piece of plant and equipment to establish trigger and response plans
	<p>The buildings where the primary structure is rank 4 or higher, are unlikely to be affected by the predicted subsidence in any significant way. However, some of these structures have façade elements of lesser ductility.</p>	<ul style="list-style-type: none"> •
<p>Picton High School</p>	<p>Most buildings are unlikely to be affected by the predicted subsidence in any significant way. However, some of these structures have façade elements of lesser ductility.</p>	<ul style="list-style-type: none"> • Develop independent management plan • Each structure investigated on a case by case basis • Pre-mining investigation should be conducted to establish tolerances by Structural Engineer

Site	Potential Impact	Recommendations
<p>Survey Control Marks</p>	<p>Survey control marks are likely to experience small amounts of subsidence and/or some small regional horizontal displacements</p>	<ul style="list-style-type: none"> • Re-establish survey marks on completion of proposed longwalls at an appropriate time
<p>Residential Establishments</p>	<p>Houses All houses expected to remain safe, serviceable and repairable providing that they are in sound structural condition prior to mining. 80% not expected to experience any noticeable impacts. 20% likely to experience impacts, most of which will be minor (eg. sticky doors, cracking of plasterboard lining). A small proportion (<5%) likely to experience moderate to severe impacts.</p> <p>Flats or units All located above previously extracted longwalls and little additional subsidence expected</p> <p>Swimming pools Tilts and cracking of some pools. Possible impacts to some pool gates.</p> <p>Other associated residential structures Expected to remain safe, serviceable and repairable after mining has completed, provided that they are in sound existing condition</p> <p>Rigid external pavements Some impacts are likely to occur to these pavements in the form of cracking and buckling, although the majority are expected to be minor and would be easily repaired</p> <p>Fences in urban areas Some fences could experience impacts. Some impacts may occur to gates, which may need ongoing repairs as mining occurs</p>	<p>Further develop and act in accordance with risk management plan which provides for:</p> <ul style="list-style-type: none"> • Identification of buildings in poor pre-mining condition that are hazardous or may become hazardous due to mining • Implementation of management measures following findings of inspection • Visual kerbside monitoring of structures during active subsidence • Inspection of integrity of pool fences weekly during active subsidence • Retensioning of fencing wire, straightening of fence posts and if necessary replacement of some sections of fencing • Repairs by MSB as required

Site	Potential Impact	Recommendations
<p>Flooding</p>	<p>Redbank Creek Catchment</p> <p>Impact of subsidence caused by mining LW31 to LW37 does not result in an increase in flood levels in Redbank Creek catchment.</p> <p>Change in average stream velocities due to mining are localised with a maximum reduction in point velocities.</p>	<ul style="list-style-type: none"> • Undertaking creek improvement works to remove accumulated sediment in the culvert and reduce future deposition. This would be likely to lower flood levels by increasing the waterway area of the culvert. Such works would require further investigation and approval from the Wollondilly Shire Council.
<p>Flooding Steep Slopes</p>	<p>Matthews Creek Catchment</p> <p>Impact of subsidence caused by mining LW31 to LW37 does not result in an increase in flood levels in Matthews Creek catchment.</p> <p>Change in average stream velocities due to mining are localised with a maximum reduction in point velocities.</p>	<ul style="list-style-type: none"> • Undertaking creek improvement works to remove accumulated sediment in the culvert and reduce future deposition. This would be likely to lower flood levels by increasing the waterway area of the culvert. Such works would require further investigation and approval from the Wollondilly Shire Council.

Site	Potential Impact	Recommendations
<p>Flooding</p>	<p>Slopes are likely to consist of surface cracking and a possibility of slope slippage on the ridges.</p>	<ul style="list-style-type: none"> • Identification of structures, dams and roads that lie in close proximity to steep slopes in consultation with WSC if necessary • Site investigation and landslide risk assessment of structures near slopes by a qualified geotechnical engineer. • Site investigation and structural assessment of structures where recommended by the geotechnical engineer. This may include recommendations to mitigate against potential impacts • Monitoring, including ground survey and visual inspections <ul style="list-style-type: none"> • Remediation if cracking or slippage occurs

Site	Potential Impact	Recommendations
Steep Slopes	Thirlmere Way Slopes are likely to consist of surface cracking and a possibility of slope slippage on the ridges.	<ul style="list-style-type: none"> Site investigation and landslide risk assessment of slopes along Thirlmere Way by a qualified geotechnical engineer Monitoring, including ground survey and visual inspections. The design of the monitoring activities should take into account safe working procedures along the narrow road corridor along Thirlmere Way in consultation with WSC Remediation if cracking or slippage occurs, in accordance with safe working procedures along Thirlmere Way
	Possible impacts on Main Southern Railway due to slope slippage	Identification of structures, dams and roads that lie in close proximity to steep slopes Site investigation and landslide risk assessment of structures near slopes by a qualified geotechnical engineer. Site investigation and structural assessment of structures where recommended by the geotechnical engineer. This may include recommendations to mitigation against potential impacts. Monitoring, including ground survey and visual inspections. Remediation if cracking or slippage occurs
Aboriginal Heritage <i>Open Camp Sites</i>	Not likely to be any impacts	<ul style="list-style-type: none"> No further action necessary.

Site	Potential Impact	Recommendations
<p>Aboriginal Cultural Heritage</p> <p><i>Grinding Grooves</i></p>	<p>Redbank Creek 4 (52-2-2082)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	<ul style="list-style-type: none"> • It is recommended that Strata Control Technologies (SCT) complete further subsidence predictions to the above sites; with an appropriately qualified archaeologist. • This assessment would then inform an application to the Office of Environment and Heritage (OEH) for an Aboriginal Heritage Impact Permit (AHIP) prior to the extraction of longwall 31 that will be valid until the completion of longwall 37's End of Panel report requirements.
<p>Aboriginal Cultural Heritage</p> <p><i>Grinding Grooves</i></p>	<p>Stonequarry Creek 1 (52-2-2068)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	<ul style="list-style-type: none"> • An Aboriginal Cultural Heritage Management Plan (ACHMP) should be developed for the project. The ACHMP must be developed in consultation with the relevant Aboriginal stakeholders in accordance with the OEH (2010) Aboriginal cultural heritage consultation requirements for proponents 2010 and include:
<p>Aboriginal Cultural Heritage</p> <p><i>Grinding Grooves</i></p>	<p>Matthews Creek 2014.1 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	<p><i>Specific management actions for each Aboriginal heritage site within the Project area, in particular subsidence management including monitoring and impact mitigation measures.</i></p>

Site	Potential Impact	Recommendations
<p>Aboriginal Cultural Heritage</p> <p><i>Sandstone Shelters</i></p>	<p>Matthews Creek 2014.2 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	<ul style="list-style-type: none"> • It is recommended that Strata Control Technologies (SCT) complete further subsidence predictions to the above sites; with an appropriately qualified archaeologist. • This assessment would then inform an application to the Office of Environment and Heritage (OEH) for an Aboriginal Heritage Impact Permit (AHIP) prior to the extraction of longwall 31 that will be valid until the completion of longwall 37's End of Panel report requirements. • An ACHMP should be developed for the project. The ACHMP must be developed in consultation with the relevant Aboriginal stakeholders in accordance with the OEH (2010) Aboriginal cultural heritage consultation requirements for proponents 2010 and include: <i>Specific management actions for each Aboriginal heritage site within the Project area, in particular subsidence management including monitoring and impact mitigation measures.</i>
	<p>Matthews Creek 2014.3 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	
<p>Aboriginal Cultural Heritage</p> <p><i>Sandstone Shelters</i></p>	<p>Matthews Creek 2014.4 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	<ul style="list-style-type: none"> • It is recommended that Strata Control Technologies (SCT) complete further subsidence predictions to the above sites; with an appropriately qualified archaeologist. • This assessment would then inform an application to the Office of Environment and Heritage (OEH) for an Aboriginal Heritage Impact Permit (AHIP) prior to the extraction of longwall 31 that will be valid until the completion of longwall 37's End of Panel report requirements. • An ACHMP should be developed for the project. The ACHMP must be developed in consultation with the relevant Aboriginal stakeholders in accordance with the OEH (2010) Aboriginal cultural heritage consultation requirements for proponents 2010 and include: <i>Specific management actions for each Aboriginal heritage site within the Project area, in particular subsidence management including monitoring and impact mitigation measures.</i>
	<p>Matthews Creek 2014.5 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	
	<p>Matthews Creek 2014.6 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	
	<p>Matthews Creek 2014.7 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	

Site	Potential Impact	Recommendations
<p>Aboriginal Cultural Heritage</p> <p><i>Sandstone Shelters</i></p>	<p>Matthews Creek 2014.8 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	<ul style="list-style-type: none"> • It is recommended that Strata Control Technologies (SCT) complete further subsidence predictions to the above sites; with an appropriately qualified archaeologist. • This assessment would then inform an application to the Office of Environment and Heritage (OEH) for an Aboriginal Heritage Impact Permit (AHIP) prior to the extraction of longwall 31 that will be valid until the completion of longwall 37's End of Panel report requirements. • An ACHMP should be developed for the project. The ACHMP must be developed in consultation with the relevant Aboriginal stakeholders in accordance with the OEH (2010) Aboriginal cultural heritage consultation requirements for proponents 2010 and include: <i>Specific management actions for each Aboriginal heritage site within the Project area, in particular subsidence management including monitoring and impact mitigation measures.</i>
	<p>Matthews Creek 2014.9 (52-2-####)</p> <p>Predicted to be impacted during the extraction of Longwalls 31 to 37</p>	
	<p>All Aboriginal Archaeological Sites within SMP Area</p>	<ul style="list-style-type: none"> • Subsidence management of the archaeological sites should be subject to baseline monitoring prior to the commencement of mining; which would involve archival quality recording of each of the sites and where feasible the use of a gigapan or terrestrial laser scanning to take detailed photographs and accurate 3D rendering of each site; monitoring should also be undertaken during longwall mining (when safe) and monitoring post mining (when safe).

Site	Potential Impact	Recommendations
	<p>Koorana Homestead and Outbuildings</p> <p><i>Koorana Group 2240 Remembrance Driveway, Picton</i></p> <p>Minor subsidence effects</p>	<p>The identification and highlighting in work instructions of the location of known Aboriginal heritage sites and measures for their avoidance including the establishment of buffer zones and barriers where appropriate</p>
<p>European Heritage</p>	<p>Koorana Homestead and Outbuildings</p> <p><i>Koorana Group 2240 Remembrance Driveway, Picton</i></p> <p>Minor subsidence effects</p>	<ul style="list-style-type: none"> • Pre-mining inspection • Develop management plan prior to commencement of mining • Monitor during mining <p>Restore if damage occurs</p>

Site	Potential Impact	Recommendations
European Heritage	<p>Pump House and Weir <i>Matthews Creek</i> Minor subsidence effects</p>	<ul style="list-style-type: none"> No management measures recommended
	<p>Sandstone Culvert <i>Near Matthews Creek</i> Minor subsidence effects</p>	<ul style="list-style-type: none"> Tahmoor Colliery develop management strategies for the culvert, to maintain its integrity during active subsidence and to remediate it after the completion of active subsidence. These management strategies should be developed in consultation with qualified heritage consultant and the Wollondilly Shire Council
	<p>Fairley Residence <i>426 Thirlmere Way Picton</i></p>	<ul style="list-style-type: none"> Wollondilly Shire Council should be consulted, prior to the commencement of the mining Develop management plan prior to impact from mining No further management measures recommended
	<p>Mill Hill, Miller's House and archaeological relics <i>675 Thirlmere Way, Picton</i></p>	<ul style="list-style-type: none"> Wollondilly Shire Council should be consulted, prior to the commencement of the mining Develop management plan prior to impact from mining Restore if damage occurs.
	<p>Former Queen Victoria Hospital Minor subsidence effects</p>	<ul style="list-style-type: none"> Given the heritage and social significance of the site it is recommended that a subsidence management plan be developed in consultation with the landowner and a heritage consultant. The management plan may provide for visual and ground monitoring during mining and responses in the very low chance of impacts occurring.
	<p>Rural Landscape Thirlmere Way Minor subsidence effects</p>	<ul style="list-style-type: none"> No management measures recommended.
	<p>Weatherboard Cottage <i>796 Thirlmere Way, Picton</i></p>	<ul style="list-style-type: none"> Develop management plan prior to commencement of mining including: <ul style="list-style-type: none"> Mitigation or strengthening measures Monitoring plan Visual inspections Develop TARP Restore if damage occurs.

Site	Potential Impact	Recommendations
	Picton Conservation Area <i>Town of Picton</i>	<ul style="list-style-type: none"> No management measures recommended.
	Picton Mainline Railway Loop and Tunnel Minor subsidence effects	<ul style="list-style-type: none"> Develop management plan prior to commencement of mining No further management measures recommended

Site	Potential Impact	Recommendations
<p>Flora & Fauna</p> <p><i>Aquatic</i></p> <p><i>Redbank Creek</i></p> <p><i>Cedar Creek</i></p> <p><i>Matthews Creek</i></p>	<ul style="list-style-type: none"> • Localised flow diversion, reduced baseflow and loss of connectivity. • Impact to pool holding capacity • Impact to ponding. 	<p>Remediation</p> <ul style="list-style-type: none"> • The impacts of longwall mining on aquatic ecology should be assessed at the completion of each longwall panel to ensure any remediation (if required) is undertaken in a timely manner. This will also assist in increasing the accuracy of predictions of impacts from future longwall mining in the area. In the unlikely event that gas release related die-off is observed, actions should be taken to monitor the extent of and recovery of any such vegetation impacts. Should assisted regeneration be necessary, locally indigenous plant species should be utilised for any rehabilitation that may be required. • Remediation to be conducted in accordance with the SMP and experience from past remediation techniques. Any remediation activities – should they be necessary – should take into consideration previous methods used in the surrounding area for e.g. remediation of fractured rock bars in streams in the Southern Coalfields. • Consult with NSW DPI regarding any rehabilitation and compensation measures that may be deemed necessary to ensure the longevity and ongoing management of Key Fish Habitat during and post extraction of Longwalls 31 to 37 <p>Monitoring</p> <ul style="list-style-type: none"> • Assesses sample sites that were assessed prior to the commencement of the extraction of Longwalls 31 to 37 to gain further information regarding possible changes to the habitats due to mining related subsidence; • Ensures sampling is conducted at appropriate frequencies; • Includes additional pre-mining baseline data; • Investigates the use of Leptophlebiidae (<i>Atelophlebia</i> sp.) as an indicator species to monitor changes to populations and stream recovery as: <ul style="list-style-type: none"> - They are abundant and common to these ephemeral/semi-permanent streams; - Are sensitive to changes in water quality including salinity and ferruginous precipitation; and - Previous studies have suggested that these species have been impacted in the Southern Coalfields.

Site	Potential Impact	Recommendations
Surface Water <i>Redbank Creek</i> <i>Matthews Creek</i> <i>Cedar Creek</i> <i>Stonequarry Creek</i>	Possible significant observable adverse change in stream flow volume, stream flow connectivity and/or pool levels over subsided longwalls and up to 1 longwall width either side of extracted workings	Possible significant observable adverse change in stream flow volume, stream flow connectivity and/or pool levels over subsided longwalls and up to 1 longwall width either side of extracted workings
	No significant observable adverse change in stream water quality(outside of increased iron hydroxide precipitates)	<ul style="list-style-type: none"> Monitor stream water quality every 2nd month for the parameters outlined in the relevant Monitoring Plan and TARP. Respond to and inspect local resident complaints as they arise
	No significant observable adverse change on stream bed or bank stability or erosion, although cracking is anticipated in exposed sandstone rockbars over extracted workings	<ul style="list-style-type: none"> Monitor stream bed and bank stability or cracking every 2nd month Respond to and inspect local resident complaints as they arise
	Possible significant observable adverse change in stream flow volume, stream flow connectivity and/or pool levels over subsided longwalls and up to 1 longwall width either side of extracted workings	<ul style="list-style-type: none"> Automatically monitor stream heights at least twice daily upstream, within and downstream of the SMP Area. Respond to and inspect local resident complaints as they arise
Surface Water <i>Dams</i>	Cracking of dams walls or bases or tilting of dams with resultant loss of water storage capacity is not anticipated	<ul style="list-style-type: none"> Inspect each dam prior to and after subsidence. Respond to and inspect dam owner complaints as they arise
	Cracking of dams walls with resultant adverse risk to downstream residences or facilities is not anticipated. The more “at risk” dams are located in the higher strain locations, close to the longwall rib lines	<ul style="list-style-type: none"> Prior to undermining of each more “at risk” dam, extrapolate from similar subsidence situations at Tahmoor and re-appraise potential risk of dam wall failure. Inspect each dam prior to and after subsidence, with more substantial monitoring during the highest strain development period if the risk of wall failure is deemed significant. Respond to and inspect dam owner complaints as they arise
	No significant observable change in dam water quality due to subsidence is anticipated	<ul style="list-style-type: none"> Respond to and inspect dam owner complaints as they arise
Groundwater	Adverse interconnection of aquifers and aquitards is not anticipated within 20m of the surface	<ul style="list-style-type: none"> As there are no bores extracting groundwater within 20m of the surface, no specific monitoring is required
	Potential increased rate of recharge into the plateau	<ul style="list-style-type: none"> Monitor standing water levels twice daily with water level loggers in P1 - P8 and vibrating wire piezometers in TNC28, 29, 36, 40 and 43.
	Temporary lowering of upper piezometric surface by up to 15m which may stay at that level until maximum subsidence develops	<ul style="list-style-type: none"> Monitor standing water levels twice daily with water level loggers in P1, P2, P3, P5, P7, P8, in vibrating wire piezometers TNC28, 29, 36, 40, 43. Manually monitor water levels every 2nd month in GW105546 (or as requested by the landowner). Respond to landowner complaints if they arise

Site	Potential Impact	Recommendations
Groundwater	Hawkesbury Sandstone groundwater levels should recover over a few months	<ul style="list-style-type: none"> See above
	No permanent post mining reduction in Hawkesbury Sandstone water levels in bores unless a new outflow path develops	<ul style="list-style-type: none"> See above
	The well yield and bore serviceability in registered bores over extracted workings may be affected by subsidence	<ul style="list-style-type: none"> Respond to landowner complaints if they arise
	Horizontal displacement over extracted workings may make private bores inaccessible	<ul style="list-style-type: none"> Respond to landowner complaints if they arise
	Strata dilation and subsequent re-filling of secondary voids may temporarily lower Hawkesbury Sandstone standing water levels and increase the potential private bore well yields	<ul style="list-style-type: none"> Respond to landowner complaints if they arise
	Private bore groundwater may experience increased iron / manganese hydroxide precipitation and / or lowering of pH	<ul style="list-style-type: none"> Collect groundwater samples and monitor filed parameters prior to undermining each subject bore and analyse the suite outlined in the relevant monitoring plan and TARP. Respond to landowner complaints if they arise

Attachment B

Statutory Requirements

Development Consent Conditions

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
1975	CCL716	All	<i>All conditions</i>	No extraction will be undertaken in CCL716 during the extraction of LW 31 TO 37

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
DA57/93	ML1376	51	<p><i>The applicant shall:</i></p> <p><i>(a) Set up and participate in a community liaison programme upon gaining development consent, in order to provide periodically updated information on the progress of mining and explaining predicted and measured mining induced subsidence effects on residences and land;</i></p> <p><i>(b) Prior to commencement of longwall mining, in any approval granted by the Department of Mineral Resources, negotiate with the Mine Subsidence Board and the Council as to the most appropriate means to provide a community information service to respond to queries on subsidence, to provide expert advice on specific housing and land within approved mining areas, and the provision of general advice on subsidence effects, the rights of owners of improvements in making a claim for compensation for subsidence or vibration induced damage to improvements and the rights of review and appeal concerning Mine Subsidence Board decisions; and</i></p> <p><i>(c) Provide a representative for an annual liaison meeting of government agencies and council to discuss the results of subsidence monitoring, future mining proposals and study technical issues relevant to subsidence damage.</i></p>	<p>(a) An ongoing community consultation program has been established.</p> <p>(b) Communication with Council, MSB and the Community Consultative Committee is ongoing through subsidence management planning, impact investigation and repair. Resident Information Packs distributed to all properties providing general advice of subsidence and the provision of general advice on subsidence effects, the rights of owners of improvements in making a claim for compensation for subsidence or vibration induced damage to improvements rights of review and appeal concerning Mine Subsidence Board decisions.</p> <p>(c) A representative is available to attend any annual liaison meeting.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
DA57/93	ML1376	52	<i>The applicant shall carry out subsidence monitoring according to the requirements of the Department of Mineral Resources and taking into consideration the advice of the annual liaison meeting. The applicant shall report the results of subsidence monitoring into an annual environmental management plan report and such results shall be publicly accessible through the council.</i>	Managed through the SMP process. Subsidence monitoring results will be summarised in the Tahmoor Colliery Annual Review (available to download at www.tahmoorcoal.com.au)
DA57/93	ML1376	53	<i>Mining is not to occur so as to result in the subsidence of any habitable floors to below the 1: 100 year flood level (1% flood level).</i>	No structures and within the 1:100 yr flood event level.

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
DA57/93	ML1376	54	<p><i>The Applicant shall not cause damage to any building or structure which is a Heritage Item without the prior approval of Council. The application for such approval shall include a detailed report assessing: likely subsidence and the potential damage to the item arising from subsidence; impacts of expected damage on the historical significance of the Item (prepared by a qualified heritage expert endorsed by Council); and appropriate mitigation, management or restoration measures.</i></p> <p><i>Note: In this condition, "Heritage Item" means an item either listed in Schedule 1 of the Wollondilly Local Environmental Plan 1991 or identified in the Wollondilly Heritage Study 1993. The power for Council to issue an "approval" is established under this condition, and should not be read as establishing any requirement for the application for and grant of development consent under the Act. When applying for the approval of Council under condition 27, the Applicant shall provide a copy of the application and detailed report to the owner or owners of affected buildings or structures and to the Community Consultative Committee."</i></p>	<p>This will be managed through subsidence management plans developed in consultation with Council prior to subsidence affecting any heritage items.</p>
DA67/98	ML1539	2 (i)	<p><i>No second workings shall be undertaken under land which was zoned Residential 2(a) in Redbank or South Picton at the date of lodgment of the DA with Council.</i></p>	<p>No longwalls will pass beneath Residential 2(a) premises in Redbank or South Picton.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		2 (ii)	<i>(ii) Second workings shall not be undertaken under land which was zoned Industrial 4(a) at the date of lodgment of the DA with Council unless the Applicant has a binding compensation agreement with the landowner to the satisfaction of the Director-General in consultation with DPI(MR).</i>	This will be managed as part of the development of individual Management Plans for each business prior to subsidence affecting the Industrial area.
		4	<i>The approval for mining is for a period of 21 years from the date of granting of a mining lease pursuant to this consent. If, at any time, the Director General is aware of environmental impacts from the proposal that pose serious environmental concerns due to the failure of existing environmental management measures to ameliorate the impacts, the Applicant shall comply with any order by the Director-General to cease the activities causing those impacts until those concerns have been addressed to the satisfaction of the Director-General.</i>	DA expires 25 Feb 2020
		6 (i)	<i>The Applicant shall not: (i) cause subsidence within any of the three areas shown in black crosshatching in Figure 2; or</i>	There will be no subsidence within the three areas crosshatched as a result of this application

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		6 (ii)	<p>cause moderate, severe or very severe structural damage to houses, sheds or pools within the DA area in excess of the percentages of such structures shown in the relevant column of Figure 3 without obtaining either an approval under Part 3A of the Act or a modification of consent under Part 4 of the Act.</p> <p>Note: In this condition, "percentage of such structures" means the percentage of such structures as may exist/from time to time, i.e. allowing for new buildings and demolition within the area affected by subsidence caused by mining within the DA area.</p>	There are no moderate, severe or very severe impacts predicted to houses sheds or pools as a result of this proposal.
		7	<p>Mining is not to occur so as to result in the subsidence of any habitable floors to below the 1:100 year flood level (1% flood level).</p>	See Condition 53 of DA57/93
		8	<p>The Applicant shall ensure that all statutory requirements, including all relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices, Conditions and Directions of the Council and relevant government agencies are met and approvals obtained.</p>	All known conditions and regulatory requirements are dealt with in this Application.
		11 (i)	<p>As part of any application to DPI(MR) for approval of a Subsidence Management Plan:</p> <p>(i) the Applicant shall revise subsidence predictions and the impacts on bridge structures, culverts and embankments based on the final mine plan and prepare management plans in consultation with the relevant authorities;</p>	Impact predictions have been revised for all identified features within the SMP Area for this Application.

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		11 (ii)	<i>the Applicant shall revise subsidence predictions and the impacts on mains and overhead cables based on the final mine plan and prepare management plans in consultation with the relevant authorities; and</i>	Impact predictions have been revised for all identified features within the SMP Area for this application
		11 (iii)	<i>for mining that may change drainage patterns of flood prone land, the Applicant shall revise subsidence predictions and prepare management plans for those lands in consultation with Council and relevant landowners. Any such revisions of subsidence predictions shall be reported in the Annual Environmental Management Report (Conditions 41-43).</i>	Impact predictions have been revised for all identified features within the SMP Area for this application. A summary of the revisions will be reported in the Annual Review.
		12 (i)	<i>The Applicant shall undertake a detailed and ongoing monitoring program of subsidence resulting from mining to the satisfaction of the Director-General and in consultation with DPI (MR) and Council from the date of commencement (Condition 5) and for a period of at least three years after the completion of mining, or other such period as determined by the Director General in consultation with DP1(MR) and Council. Monitoring shall include the following: (i) impacts on dams that may be affected by subsidence occurring in the DA area;</i>	Covered by the SMP process. Individual subsidence management plans will be developed for each identified surface feature predicted to be impacted by this proposal.
		12 (ii)	<i>a survey of the stream channel system;</i>	As 12 (i)
		12 (iii)	<i>monitoring of groundwater levels and quality;</i>	As 12 (i)
		12 (vi)	<i>monitoring of remedial measures;</i>	Where they are required.

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		12 (v)	<i>a comparison of predicted impacts with actual impacts, including mapping of subsidence profiles in residential areas and of anomalous events;</i>	This is an ongoing process as part of the Colliery's subsidence management plan
		12 (vi)	<i>strains and impacts in the vicinity of the Nepean Fault Zone; and</i>	This has been included in this SMP Application
		12 (vii)	<i>The Applicant shall include information on monitoring conducted and the interpreted results in the Annual Environmental Management Report (Conditions 41-43).</i>	This has been included in this SMP Application Monitoring results are summarised in the Annual Review.
		13	<i>If determined necessary by the Director-General in consultation with Council and DNR, the Applicant shall carry out works in accordance with an Erosion and Sediment Control Plan, prepared to the requirements of DNR, to restore any damage to watercourses (including the banks) resulting from the mining operations, subject to any other necessary approvals.</i>	This type of monitoring and management forms an integral component of the subsidence management plan.
		14	<i>The Applicant shall prepare and implement a plan to monitor and manage any subsidence impacts on septic tanks or package sewage treatment plants. The plan shall be prepared to the satisfaction of the Director-General and in consultation with Council.</i>	This type of monitoring and management forms an integral component of the subsidence management plan.
		15 (i)	<i>(i) The Applicant shall notify each relevant landowner/occupier under whose property it intends to commence first workings at least one (1) month prior to commencement of such workings; and</i>	This process is already established and ongoing.

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		15 (ii)	<p><i>(ii) The Applicant shall notify in writing each landowner/occupier within a 35 degree angle of draw of its intentions to proceed with second workings at least three (3) months prior to making an application to DPI(MR) for approval of a Subsidence Management Plan.</i></p> <p><i>Notification of second workings shall include:</i></p> <p><i>(a) pre-mining inspection rights including a copy of consent conditions 15 to 26 inclusive;</i></p> <p><i>(b) revised subsidence predictions using updated monitoring data;</i></p> <p><i>(c) identification of potential damage to improvements;</i></p> <p><i>(d) owner's obligation of disclosure under insurance policies and mortgage agreements;</i></p> <p><i>(e) rights of claiming consequential loss under the Mining Act;</i></p> <p><i>and</i></p> <p><i>(f) advice as to where an unabridged copy of these conditions of consent are available for public inspection.</i></p>	<p>All landowners and/or occupiers within the 35 degree angle of draw were notified of intent to lodge an SMP Application via distribution individual letters three (3) months prior to lodgement.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		16	<p><i>If determined necessary by DPI(MR), the Applicant shall cause a pre-mining structural inspection to be carried out on substantial improvements on land identified by the DPI(MR) at least one month prior to commencement of second workings taking place that may cause subsidence impacts on the relevant property. These inspections shall:</i></p> <p><i>(i) be conducted with the consent of the landowner/occupier and in consultation with MS8;</i></p> <p><i>(ii) include a report prepared on the structural integrity of all buildings in their entirety (including roofs, ceilings, openings, foundations and household sewage treatment and disposal systems);</i></p> <p><i>(iii) be conducted by an independent and technically qualified person;</i></p> <p><i>(iv) include permanent reference marks on each corner of all substantial improvements with level tied to Australian Height Datum to a stable point in the area; and</i></p> <p><i>(v) include soil sampling for moisture content and soil type as appropriate.</i></p> <p><i>A copy of the inspection report shall be provided to the landowner/occupier upon completion.</i></p>	<p>Community members are encouraged to have pre-mining inspections undertaken by the MSB prior to commencement of subsidence. The Colliery will also undertake structural inspections of all public structures and other structures identified as possibly prone to major subsidence impacts. Subsidence management plans for structures take into account mitigation, monitoring and management of subsidence impacts and management plans developed in consultation with Mine Subsidence Board.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		17	<p><i>Where a pre-mining structural inspection under Condition 16 involves a building identified in the Wollondilly Heritage Study the report shall be prepared with the assistance of a qualified heritage expert. The Director General may also require such a report on a building which is not identified in the Wollondilly Heritage Study be prepared with the assistance of a qualified heritage expert if the Director-General is satisfied, on the basis of available information, that the building may be older than 50 years and have heritage significance. Prior notice of such inspections shall be provided to the Director-General by the Applicant to enable a decision to be made.</i></p> <p><i>Note: Structural inspections by the Applicant are in addition to any pre-mining surveys conducted by the Mine Subsidence Board.</i></p>	<p>All identified local heritage items in the LEP and state heritage items from the State Heritage Register have been inspected by qualified heritage experts as part of the SMP Application process.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		18	<p><i>Where a dwelling within the DA area is, or is likely to be, subject to damage as a result of the development, upon receipt of notification under Condition 15(ii) the landowner may request the Applicant in writing to:</i></p> <p><i>(i) carry out such works as agreed by the landowner to remedy or mitigate any damage or compensate the landowner for such effects in accordance with the Mine Subsidence Compensation Act 1961 and/or the Mining Act 1992 (except where such works are the responsibility of the Mine Subsidence Board); or</i></p> <p><i>(ii) where damage is, or is likely to be, severe, very severe or unrepairable (as defined in the EIS referred to in condition 1), acquire the whole of the property, or such part of the property requested by the landowner if subdivision is approved, except where purchase is agreed by the Mine Subsidence Board.</i></p> <p><i>The Applicant shall comply with any such request for acquisition in accordance with Conditions 20-22. If necessary to confirm the impact, the Applicant shall, at the request of the landowner in writing, conduct a follow-up structural inspection to one carried out under Conditions 16-17. Any inspection or assessment under this Condition shall be conducted as if it were conducted under Conditions 16-17.</i></p>	<p>If triggered remedy or mitigation to property damage or compensation to the landowner for such effects will occur in accordance with the Mine Subsidence Compensation Act 1961 and/or the Mining Act 1992 (except where such works are the responsibility of the Mine Subsidence Board).</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		19	<p><i>The Applicant shall, if requested by the Mine Subsidence Board, ensure that any substantial improvements, including homes, sheds and pools, which are subject to residual tilts in the range of 4 mm/ to 7 mm/m as a result of mining or mining related activities, are re-leveled within six months of receipt of a written request from the landowner.</i></p> <p><i>Note: Re-leveling of residual tilt of greater than 7 mm/m is the responsibility of the Mine Subsidence Board.</i></p>	<p>Outlines the process by which the MSB may direct the Colliery to undertake repairs to property.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		20	<p><i>Upon receipt of a written request to purchase property in accordance with Condition 18(ii), unless mining proposals are altered to avoid this property purchase mechanism, the Applicant shall negotiate and purchase the whole of the property (unless the request specifically requests acquisition of only part of the property and subdivision has already been approved) within six months of receipt of the request. The Applicant shall pay the landowner an acquisition price resulting from proper consideration of:</i></p> <p><i>(i) a sum not less than the current market value of the owner's interest in the land, whosoever is the occupier, having regard to:</i></p> <ul style="list-style-type: none"> <i>• the existing use and permissible use of the land in accordance with the applicable planning instruments at the date of the written request; and</i> <i>• the presence of improvements on the land and/or any Council approved building or structure which although substantially commenced at the date of the request is completed subsequent to that date, as if the land was unaffected by the development proposal;</i> <p><i>(ii) the owner's reasonable compensation for disturbance allowance and relocation within the Wollondilly local government area, or within such other location as may be determined by the Director-General in exceptional circumstances;</i></p> <p><i>(iii) the owner's reasonable costs for obtaining legal advice and expert witnesses for the purposes of determining the acquisition price for the land and the terms upon which it is to be acquired; and</i></p> <p><i>(iv) the purchase price determined by reference to points (i), (ii) and (iii) shall be reduced by the amount of</i></p>	<p>Outlines the acquisition process with regard to written requests to the Colliery from landholders to purchase their property. See Condition 18.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		21	<i>An offer by the Applicant to purchase a property under Conditions 18(ii) and 20 shall remain open to the landowner three years after completion of mining of longwall panels that affect the property.</i>	Outlines the acquisition process with regard to written requests to the Colliery from landholders to purchase their property. See Condition 18.
		22	<i>Notwithstanding any other condition of this consent, the landowner and the Applicant may enter into any other agreed arrangement regarding compensation; or the Applicant may, upon request of the landowner, acquire any property affected by the project during the course of this consent on terms agreed to between the Applicant and the landowner.</i>	Outlines the compensation or acquisition process with regard to written requests to the Colliery from landholders to purchase their property. See Condition 18.
		23	<i>In the event that the Applicant and the landowner cannot agree within three months upon the acquisition price of the land and/or the terms upon which it is to be acquired under the terms of this consent, then either party may refer the matter to the Director-General who shall request an independent valuation to determine the acquisition price. The independent valuer shall consider any submissions from the landowner and the Applicant in determining the acquisition price.</i>	Outlines the acquisition process with regard to written requests to the Colliery from landholders to purchase their property. See Condition 18.

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		24	<p><i>If the independent valuer requires guidance on any contentious legal, planning or other issues, the independent valuer shall refer the matter to the Director-General, who, if satisfied that there is a need for a qualified panel, shall arrange for the constitution of the panel. The panel shall consist of:</i></p> <p><i>(i) the appointed independent valuer;</i></p> <p><i>(ii) the Director-General; and/or</i></p> <p><i>(iii) the President of the Law Society of NSW or nominee.</i></p> <p><i>The qualified panel shall, on the advice of the valuer, determine the issue referred to it and advise the valuer.</i></p>	<p>Outlines the acquisition process with regard to written requests to the Colliery from landholders to purchase their property. See Condition 18.</p>
		25	<p><i>The Applicant shall bear the costs of any independent valuation or survey assessment requested by the Director-General.</i></p>	<p>Outlines the acquisition process with regard to written requests to the Colliery from landholders to purchase their property. See Condition 18.</p>
		26	<p><i>The Applicant shall, within fourteen (14) days of receipt of a valuation by the independent valuer, offer in writing to acquire the relevant land at a price not less than the said valuation.</i></p>	<p>Outlines the acquisition process with regard to written requests to the Colliery from landholders to purchase their property. See Condition 18.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		27	<p><i>The Applicant shall not cause damage to any building or structure which is a Heritage Item without the prior approval of Council. The application for such approval shall include a detailed report assessing:</i></p> <p><i>(i) likely subsidence and the potential damage to the item arising from subsidence;</i></p> <p><i>(ii) impacts of expected damage on the historical significance of the Item (prepared by a qualified heritage expert endorsed by Council); and</i></p> <p><i>(iii) appropriate mitigation, management or restoration measures.</i></p> <p><i>Note: In this condition, "Heritage Item" means an item either listed in Schedule 1 of the Wollondilly Local Environmental Plan 1991 or identified in the Wollondilly Heritage Study 1993. The power for Council to issue an "approval" is established under this condition, and should not be read as establishing any requirement for the application for and grant of development consent under the Act.</i></p>	<p>Council will be approached for approval to mine beneath or near heritage items prior to subsidence affecting the item. A Heritage Report and management plan will be developed in conjunction with a qualified Heritage Consultant and in consultation with Wollondilly Shire Council.</p>
		28	<p><i>When applying for the approval of Council under condition 27, the Applicant shall provide a copy of the application and detailed report to the owner or owners of affected buildings or structures and to the Community Consultative Committee.</i></p>	<p>These documents will be provided to owner or owners of affected buildings or structures and to the Community Consultative Committee satisfy and in compliance with the approval process.</p>
		29	<p><i>Prior to commencement of mining the Applicant shall comply with the statutory requirements of NPWS in relation to works affecting Aboriginal sites.</i></p>	<p>Tahmoor Colliery will apply for Aboriginal Heritage Impact Permits from Office of Environment and Heritage prior to subsidence affecting the identified objects or sites.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		30	<p><i>If the Applicant becomes aware of any heritage or archaeological material that may be affected by mining or subsidence, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include NPWS, the Heritage Office, and the Local Aboriginal Land Council. Any necessary permits or consents shall be obtained and complied with prior to recommencement of work.</i></p>	<p>This will be covered by specific Aboriginal Cultural Heritage Management Plan. If inspections identify potential or actual archaeological objects or sites, work will stop and experts will be brought in to advise the Colliery on actions.</p>
		31	<p><i>The Applicant shall provide funding to Council for independent counseling services for landowners who may request support on stress-related matters resulting from the development. These counseling services shall be available to landowners from two years prior to mining of longwall panels that affect the landowner's property and until three years after completion of mining of longwall panels that affect the landowner's property.</i></p>	<p>Free confidential counselling service currently available to all residents and landowners impacted by mining to the satisfaction of Wollondilly Shire Council. Ongoing to completion of mine closure.</p>

DA	Relevant Mining Lease	Cond. No.	Condition	Action Taken
		35	<p><i>The Applicant shall, in consultation with Council, ensure that the local community is kept informed of the progress of the project, at least at six monthly intervals after commencement of mining under this consent. This information may be by way of local newsletters, leaflets, newspaper advertisements and community notice boards as appropriate, and include prior notice of:</i></p> <p><i>(i) the nature of mining activity proposed for the forthcoming period;</i></p> <p><i>(ii) a 24-hour contact telephone number; and</i></p> <p><i>(iii) individual's rights under the conditions of this approval (such as the rights for acquisition) and mechanisms proposed to be used to safeguard the community and individual properties against adverse impacts from the development.</i></p>	<p>There is an established community consultation process that satisfies the requirements of this condition and is ongoing to mine closure.</p>

Attachment C

Print Media

University of Western Sydney

ABORIGINAL AND TORRES STRAIT ISLANDER INFORMATION EVENINGS

For information about:

- » Courses
- » Scholarships
- » Studying from home
- » Tutoring
- » Student support services
- » Pathways into university

Come and speak with our staff at UWS.

Tuesday 28 October 2014
University of Western Sydney
Campbelltown Campus
Building 4, Lecture Theatre G.15
5:00pm – 6:30pm

Tuesday 4 November 2014
University of Western Sydney
Penrith (Kingswood) Campus
Building K, Lecture Theatre 1.04
5:00pm – 6:30pm

Light snacks and refreshments will be provided. Registrations are essential.

To register, visit uws.edu.au/atsleevening
For more information, please call 1300 897 669
or email study@uws.edu.au

Subsidence Management Plan Application



Tahmoor Colliery intends to lodge a Subsidence Management Plan (SMP) application with NSW Government Trade and Investment—Resources and Energy to continue mining in the Tahmoor North lease area.

The area that will be affected by this application is identified on the plan within the green boundary and is broadly located between Thirlmere, Tahmoor and Picton.

It is currently expected that this application will be lodged with Trade and Investment by December 2014, with mining to commence from 2017.

When the application has been lodged, residents and property owners within the affected area will be informed and have the opportunity to formally comment on the proposed subsidence management plans.

A letter will be sent to affected residents and property owners shortly providing more information about the proposed mining and its potential effects and a Community Information Day on 23 October to provide opportunity for initial consultation.

For Further Information Contact:
Belinda Treverrow at Tahmoor Colliery on 46400100 or visit the

Community Information session
HisHouse Church—54 Bridge Street, Picton
Thursday 23 October
Between 12 noon and 7 pm.


TAHMOOR UNDERGROUND
GLENCORE

Wollondilly Advertiser, Wednesday, October 22, 2014

Wollondilly Advertiser 22 October 2014

Tahmoor Coal

Subsidence Management Plan Application



Tahmoor Colliery intends to lodge a Subsidence Management Plan (SMP) application with NSW Government Trade and Investment—Resources and Energy to continue mining in the Tahmoor North lease area.

The area that will be affected by this application is identified on the plan within the green boundary and is broadly located between Thirlmere, Tahmoor and Picton.

It is currently expected that this application will be lodged with Trade and Investment by December 2014, with mining to commence from 2017.

When the application has been lodged, residents and property owners within the affected area will be informed and have the opportunity to formally comment on the proposed subsidence management plans.

A letter will be sent to affected residents and property owners shortly providing more information about the proposed mining and its potential effects and a Community Information Day on 23 October to provide opportunity for initial consultation.

For Further Information Contact:
Belinda Treverrow at Tahmoor Colliery on 46400100 or visit the

Community Information session
HisHouse Church—54 Bridge Street, Picton
Thursday 23 October
Between 12 noon and 7 pm.

TAHMOOR UNDERGROUND
GLENCORE

8 The District Reporter Friday, October 17, 2014

District Reporter 17 October 2014

K&C
 I.L.I
 J.Will
 38, B
 Cobb
 25, L
 G.De
 G.DR
 Brouk
 Narel
 Fazio
 D.Ba
 Talm
 27, C
 I.Mil
 C.Ga
 Camp
 N.Za
 27, a
 L.wa
 9, IR
 23.1
 169, c
 truck,
 Magg
 Ist, I
 54, J
 Braud
 deBra
 Ingrid
 deTN
 022
 Ingrid
 vs. th
 Collis
 J.Lan
 Narel
 M.C.
 (K, B
 Cinc
 9th, C
 and I

Tahmoor Underground
Subsidence Management Plan Application

Glencore's Tahmoor Underground intends to lodge a Subsidence Management Plan (SMP) application with NSW Government Trade and Investment—Resources and Energy to continue mining in the Tahmoor North lease area. This application covers the area between Picton, Tahmoor and Thirlmere.

For Further Information Contact:
Fiona Robinson at Tahmoor Underground on 46400100 or visit the:

Community Information Session
His House Church—54 Bridge Street, Picton
Thursday 11 December
Between 10 am and 7 pm.

**TAHMOOR
UNDERGROUND**
GLENCORE

6 - Wollondilly Advertiser, Wednesday, December 10, 2014

Wollondilly Advertiser 10 December 2014

Attachment D

Community Newsletter September 2014

Tahmoor Colliery Newsletter 09

TAHMOOR
UNDERGROUND
GLENCORE

Subsidence Update

September 2014

Monthly Longwall Progress

During September extraction of Longwall 28 progressed to 1150 metres. The current position of the longwall face is on page two (2) of this Newsletter.

Subsidence Impacts

In Tahmoor and Thirlmere 1,692 premises are located in areas where subsidence has occurred since Longwall 22 commenced in May 2004. There were 2 new impacts reported during September.

71% (1,192)	No reported impacts
18% (307)	Superficial or easily repaired impacts
11% (193)	Impacts that may require more significant repair by the MSB

Mine Subsidence Board

Home owners who believe that their property /improvements have suffered damage should contact their nearest Mine Subsidence Board office without delay and request a claim form.

Natural Features

Ongoing inspections of Myrtle Creek during September have demonstrated that large rain events and large amounts of sediment in the Creek are assisting the recovery of rock pools impacted by mining. Redbank Creek will be in the active subsidence zone of Longwall 28 towards the end of 2014.

All impacts are reported to the Division of Resources and Energy including ongoing consultation with Division representatives regarding short and longer term response and/or remediation action.

Community Information Session

HisHouse Church
54 Bridge Street
Picton

Thursday 23 October
Between 12 noon and 7 pm

Community Update

Subsidence Management Plan Application for Longwalls 31 to 37



Tahmoor Colliery intends to lodge a Subsidence Management Plan (SMP) application with NSW Government Trade & Investment – Resource & Energy to continue mining in the Tahmoor North lease area.

The area that will be affected by this application is identified on the plan within the green boundary and is broadly located between Thirlmere, Tahmoor and Picton.

It is currently expected that this application will be lodged with Trade & Investment by December 2014, with mining to commence from 2017.

When the application has been lodged, residents and property owners within the affected area will be informed and have the opportunity to formally comment on the proposed subsidence management plans.

A letter will be sent to affected residents and property owners shortly providing more information about the proposed mining and its potential effects. A Community Information Day on 23 October will provide opportunity for initial consultation.

For further information contact:
Belinda Treverrow at Tahmoor Colliery on 46400100
Or visit the *Community Information Session*

Important Contact Details

For further information

Mine Subsidence Board opening hours 8.30am to 4.30pm

Tahmoor Colliery 24 hour enquiry, counselling and complaints line

www.tahmoorcoal.com.au

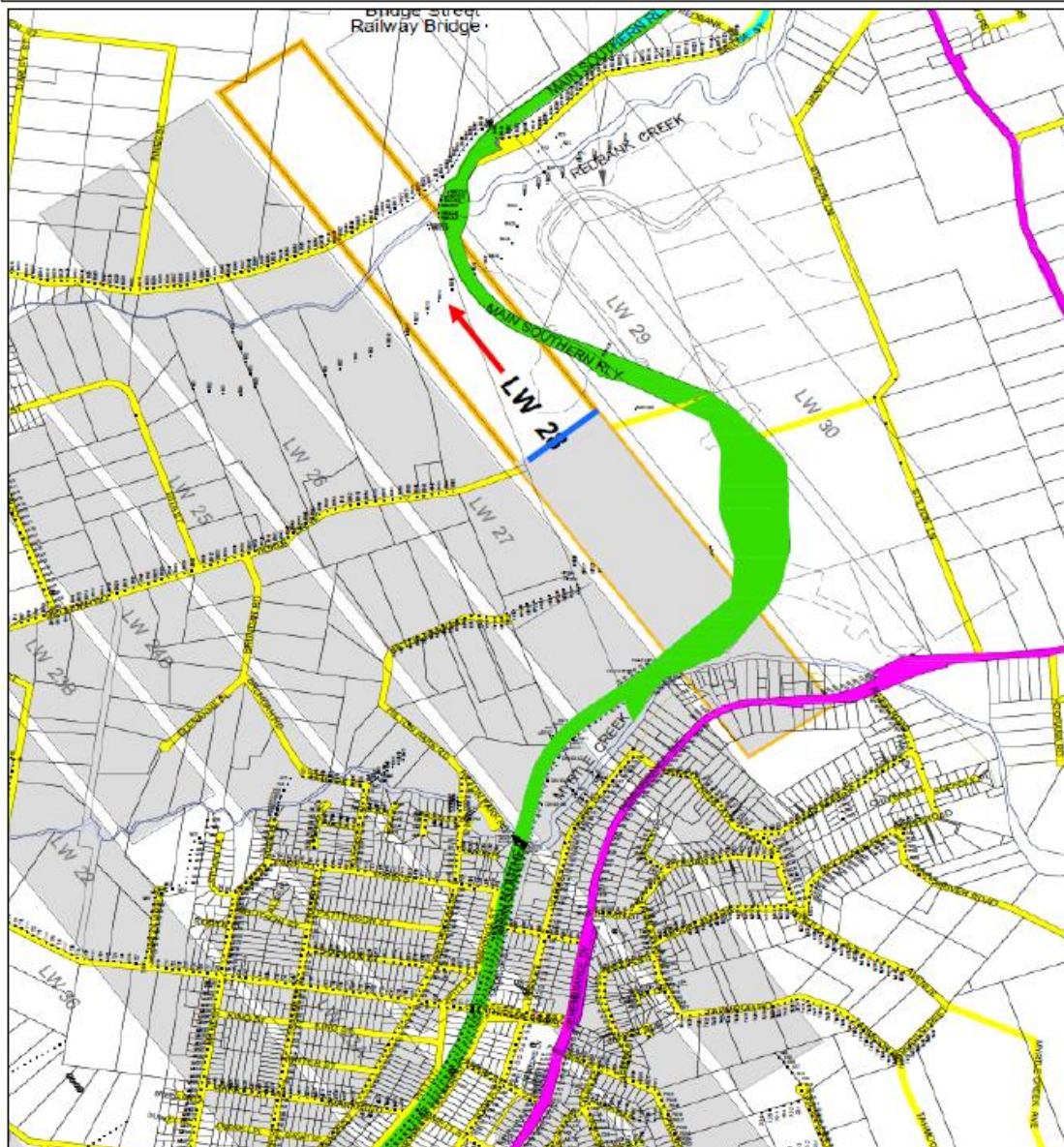
4677 1967

1800 154 415

Tahmoor Colliery Newsletter 09

TAHMOOR
UNDERGROUND
GLENORE

The grey areas indicate the previous longwalls where coal has been extracted. Longwall 28, outlined in orange, commenced extraction in late April 2014. The blue line indicates the start of the longwall face as at the end of September, and the red arrow indicates the direction of extraction.



*A free confidential counselling service is available for residents affected by subsidence.
Please call Belinda on 4640 0133 for details.*

Important Contact Details

For further information

Mine Subsidence Board *opening hours 8.30am to 4.30pm*

Tahmoor Colliery 24 hour enquiry, counselling and complaints line

www.tahmoorcoal.com.au

4677 1967

1800 154 415

Attachment E

Notification to Residents

TAHMOOR UNDERGROUND

GLENCORE

15 September 2014

To The Property Owner
310 Argyle Street
PICTON NSW 2571

Dear Property Owner,

Tahmoor Colliery Community Information Session
Regarding Property: 310 Argyle ST PICTON

On Thursday 23 October 2014 a Tahmoor Colliery *Community Information Session* will be held at HisHouse Church 54 Bridge Street Picton to provide details regarding Tahmoor Colliery's proposed future mining in the Tahmoor North Lease.

Tahmoor Colliery intends to lodge a Subsidence Management Plan (SMP) application for the extraction of Longwalls 31 to 37 to continue mining in the Tahmoor North Lease area (see plan next page) and it is currently expected that the application will be lodged by December 2014 with mining to commence from 2017.

The *Community Information Session* will provide you with an opportunity to meet Tahmoor Colliery and Mine Subsidence Board representatives, discuss the SMP application, proposed mining and its potential effects or answer any questions you may have. There will be a variety of large plans available to view on the day.

If you you are unable to attend and would like further details, please contact me on the numbers below.

Regards,



Belinda Treverrow
Community & Approvals Coordinator
Tahmoor Underground Glencore
P 46400 133 | M 0428 260 899 | E belinda.treverrow@glencore.com.au

PO Box 100, Tahmoor, NSW 2573
2975 Remembrance Drive, Tahmoor, NSW 2573
T + 61 2 4640 0100 F + 61 2 4640 0140 www.glencore.com
Tahmoor Coal Pty Ltd. ABN 97 076 663 968

GLENCORE

Subsidence Management Plan application area for Longwalls 31 to 37



