Ravensworth Underground Mine – Longwalls 403 to 406

Subsidence Monitoring Program

September 2025

DOCUMENT CONTROL

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1 INTRODUCTION AND SCOPE

Ashton Coal Operations Pty Ltd (ACOL), a subsidiary of Yancoal Australia Limited, owns the Ashton Coal Project (ACP), an underground coal mine located approximately 14 kilometres north-west of Singleton in the Hunter Valley in New South Wales (NSW) (**Figure 1**). Development of the underground mine commenced in December 2005 and is accessed through the southern wall of the Arties Pit under the New England Highway.

The ACP was granted consent on 11 October 2002 by the Minister of Planning pursuant to the provisions of the *Environmental Planning and Assessment Act 1979* (Development Application [DA] 309-11-2001-i). The consolidated Development Consent has been modified on eleven occasions, with the most recent amendment approved on 6 July 2022. The most recent amendment allows ACOL to access and mine coal resources at the Ravensworth Underground Mine (RUM) that are approved to be mined under Development Consent DA 104/96. The RUM is approved to produce up to 7 million tonnes per annum of run-of-mine coal and operate until 2032.

The RUM is approved for multi-seam longwall (LW) extraction, targeting two coal seams in descending order (Pikes Gully [PG] and Middle Liddell [MLD]) (**Figure 2**). Development Consent DA 104/96 approved mining by ACOL of six panels in the PG Seam and five panels in the MLD Seam. Following further detailed studies on the extraction layout, ACOL has decided to not mine Longwalls 401 and 402 in the PG Seam at this stage.

ACOL has prepared an Extraction Plan (EP) for mining of Longwalls 403 to 406 in the PG Seam of the RUM (**Figure 3**), varying between 177 metres (m) and 312 m below the surface. Proposed mining of Longwalls 403 to 406 is due to commence approximately September 2025 and is planned to be completed by February 2028.

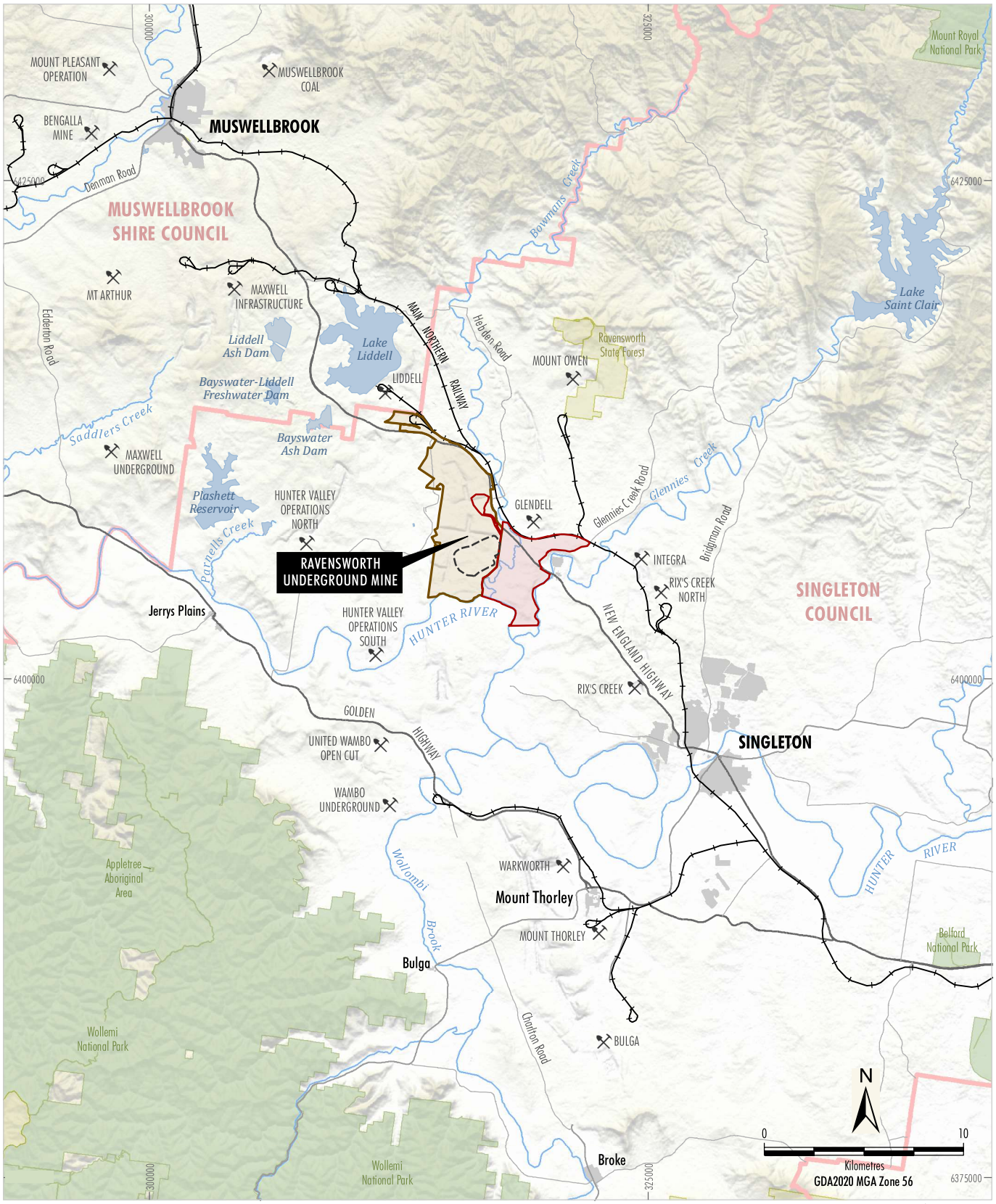
The **Study Area** (**Figure 3**) is generally determined as the area within a distance equal to an angle of draw measured form the outermost goaf edge of the planned LW panel voids of:

- 45 degrees (°) (1 times depth of cover) over waste rock fill material; or
- 26.5° (0.5 times depth of cover) over natural ground.

1.1 SCOPE AND OBJECTIVE

The scope of the Subsidence Monitoring program includes the Longwalls 403 to 406 Study Area. The objective of the Subsidence Monitoring Program is to provide:

- a formal program for monitoring of subsidence parameters and subsidence effect observations on land within the Study Area;
- provide data to assist in the management of potential risks associated with subsidence;
- validate subsidence predictions; and
- analyse the relationship between the subsidence effects and impacts under the Extraction Plan and any ensuing environmental consequences.



Source: NSW Spatial Services (2023)

LEGEND

- Mining Operation
- Local Government Area
- State Forest
- National Parks and Wildlife Estate
- Ravensworth Underground Mine
- Ashton Mine Complex
- Longwalls 403 to 406 Study Area

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RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Regional Location

Figure 1

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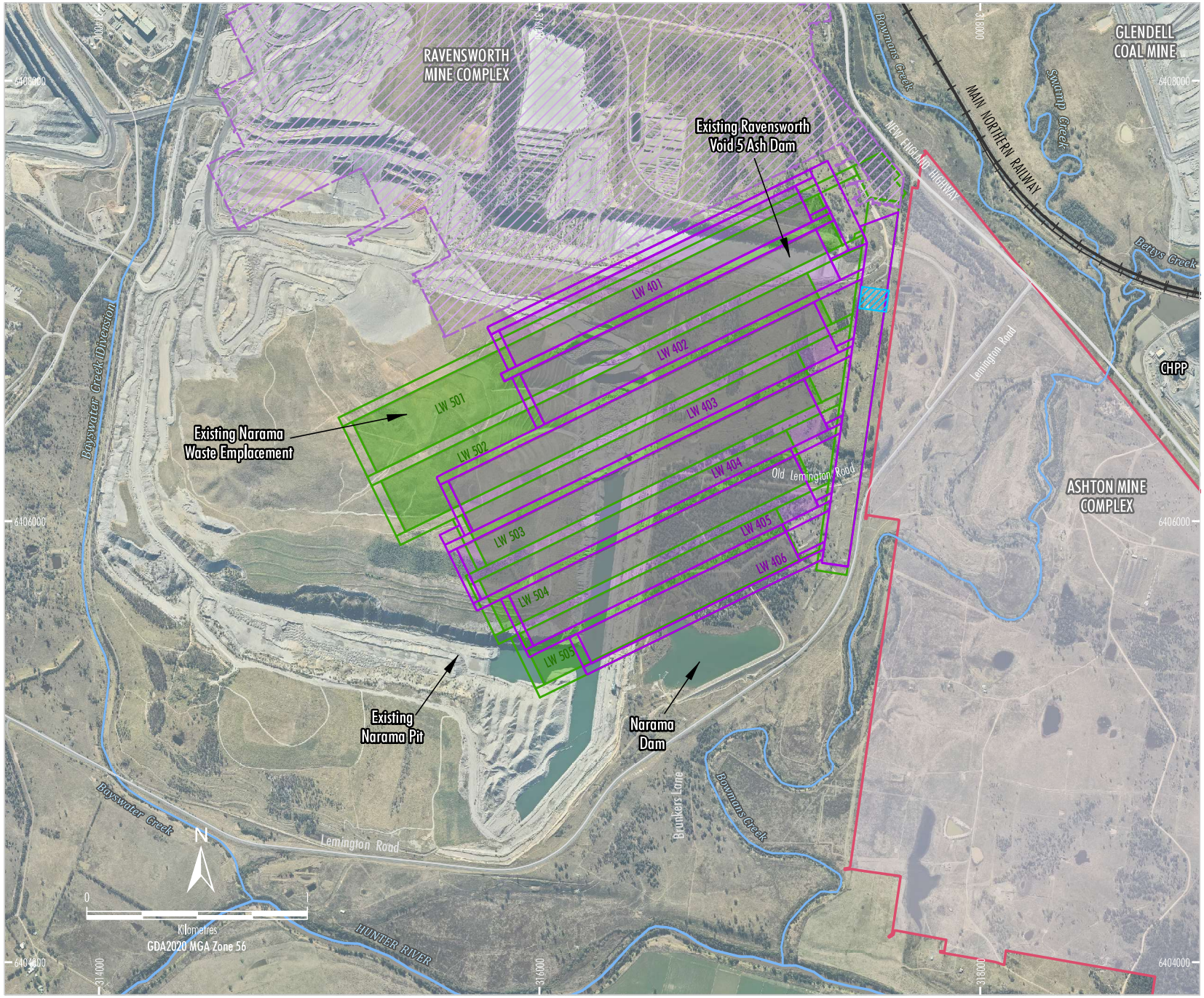

LEGEND

- Completed Pikes Gully Seam Workings
- Existing Shaft 5 Location
- Indicative Pikes Gully Seam Longwall Layout
- Indicative Middle Liddell Seam Longwall Layout
- Ashton Underground Mine

Source: SCT (2021); NSW Spatial Services (2023)
Orthophoto: Ravensworth Mine Complex (2021)

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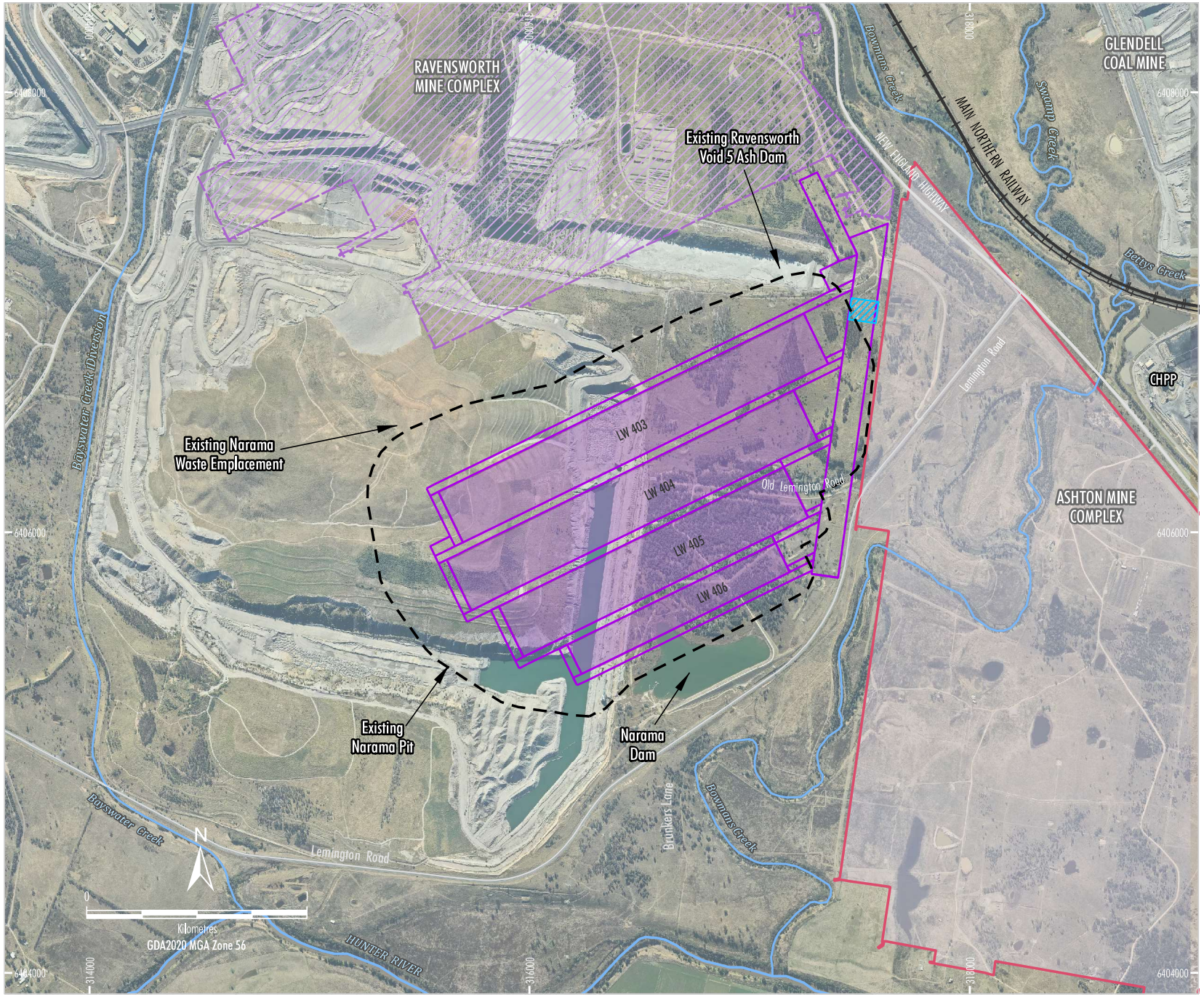
RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Ravensworth Underground Mine
Approved General Arrangement

Figure 2

ACO-18-03A LW403-406_EP_MT_201A



LEGEND

- Completed Pikes Gully Seam Workings
- Existing Shaft 5 Location
- Pikes Gully Seam Longwall Layout
- Ashton Underground Mine
- Longwalls 403 to 406 Study Area

Source: SCT (2021); NSW Spatial Services (2023)
Orthophoto: Ravensworth Mine Complex (2021)

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RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Pikes Gully Seam Longwall Layout

Figure 3

ACO-18-03A LW403-406_EP_MT_202A

To achieve, the objective the Subsidence Monitoring Program will:

- describe subsidence monitoring procedures to measure actual subsidence parameters for the Study Area; and
- describe observations/inspections of the general landform and environmental condition in the Study Area.

The monitoring results from the Subsidence Monitoring Program will allow for:

- review against predicted subsidence impacts;
- implementation of the Trigger Action Response Plan (TARP); and/or
- review of remediation and/or management measures based on observation measurements.

The process for collecting subsidence monitoring data, reviewing data against the relevant TARP, and triggers of any required actions are detailed in the Extraction Plan sub-plans provided in the main Extraction Plan document.

In 2022, ACOL lodged an EPBC Referral (EPBC 2022/09208) to the Commonwealth Department of Climate Change, Energy, the Environment and Water for approval under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The Commonwealth Department of Climate Change, Energy, the Environment and Water approved EPBC 2022/09208 on 24 September 2024.

This Subsidence Monitoring Program has been prepared to address Condition 6(h), Schedule 3 of DA 104/96, and structured generally in accordance with draft Guidelines for the Preparation of Extraction Plans. In addition, this Subsidence Monitoring Program has been updated to incorporate the ACOL-operated RUM as required by approval Condition 2 of EPBC 2022/09208.

1.2 BUILT FEATURES SUBSIDENCE MONITORING

Monitoring specific to individual built features (e.g. powerlines, telecommunications, and private property improvements) are detailed in individual Asset Management Plans prepared in consultation with the relevant infrastructure and asset owner(s).

2 SUBSIDENCE MONITORING PROGRAM

2.1 LAND OWNERSHIP AND LAND ACCESS

The surface land within the Study Area for Longwalls 403 to 406 is owned by Glencore and AGL Macquarie Pty Ltd (AGL Macquarie). The surface is used for both open cut and underground mining purposes, and mining related activities. AGL Macquarie are emplacing fly ash from nearby power stations in Void 5 East Fly Emplacement Area. Some surface areas over the completed Ravensworth South (No. 2) and Narama open cut pits are in different stages of rehabilitation.

ACOL is developing an Access and Compensation Agreement with AGL Macquarie, as required under Section 265 of the *Mining Act 1992*, for the approved LW mining below AGL Macquarie land within the RUM area. This process includes estimates of expected subsidence effects and assessment of impacts to AGL Macquarie land, infrastructure and operations from the approved multi-seam mining. Survey monitoring points will be established prior to mining.

ACOL has obtained secured access for monitoring purposes over monitoring sites within Glencore land over the Study Area. Survey monitoring points will be established prior to mining.

2.2 SUBSIDENCE PARAMETERS OVER LONGWALLS – SURVEY PROGRAM

The proposed layout and monitoring details of the subsidence lines are outlined in **Appendix A**. In essence, subsidence lines and Global Navigation Satellite System (GNSS) units will be monitored to capture the effects of subsidence from the associated LWs.

GNSS units provide continuous, high accuracy measurements in near real-time at individual positions (SCT Operations Pty Limited [SCT], 2024). The data collected can monitor trends and alarm for early warning for contingency planning and adaptive management measures (SCT, 2024).

Lower accuracy, less frequent Light Detection and Ranging (LiDAR) surveys are additionally proposed to observe subsidence behaviour in the areas with various thicknesses of fill material and natural ground to obtain measurements for general ground movement and slop stability.

The proposed subsidence monitoring strategy consists of:

1. A conventional subsidence monitoring line over Longwalls 403 to 406 across the Longwall 403 to 406 panels (XL16). XL16 will be designed and installed along the edge of the existing roads and tracks to avoid and minimise any disturbance through remnant woodland areas.
2. A second conventional subsidence monitoring line along the southern side of the Void 5 East Fly Ash Emplacement Area to measure movements near the seal wall/barrier (Void5).
3. Conventional three-dimensional surveys for position and tilt of the 330 kilovolt (kV) powerline tower bases and the 33 kV powerline poles.
4. The use of GNSS units at the following points:
   - adjacent to the Void 5 east Fly Ash Emplacement Area;
   - at the Void 5 Dam wall;
   - at towers 38 and 39 of the 330 kV powerline at the end of Longwall 404;
   - at both ends of the Narama Dam; and

- at topographic high points across Longwalls 403 and 404.

5. Periodic LiDAR surveys of the whole Study Area.

The subsidence lines and GNSS Units will be installed prior to any subsidence effects subject to access agreements.

Survey particulars include the following:

- The subsidence lines generally consist of star pickets 10 m intervals depending on depth of cover.
- After a baseline survey, additional surveys will be undertaken on the monitoring lines when the LW face is:
  - directly undermining the monitoring line;
  - 1 x the depth of cover past the monitoring line; and
  - at the end of mining in each LW panel.
- Expected survey accuracy will be within:
  i). ± 10 millimetres (mm) for horizontal movements; and
  ii). ± 10 mm for vertical movements.
- Initially nine GNSS units installed in locations as detailed above. These units can be moved to other locations as required as the planned LW mining in the PG Seam progresses.
- GNSS units will be utilised to record and report changes in eastings, northings and heights, and to plot vectors of total horizontal movements.
- High resolution LiDAR surveys at the end of mining in each LW panel or annually as a minimum.
- Data will be kept in an excel spreadsheet and will be accompanied by an updated subsidence plan (which will show the LW face positions at the time of each survey).
- Survey data will be provided to the NSW Resources Regulator (RR) via the Subsidence Data Portal within one week of completing data acquisition.
- Monitoring frequency as per Table A1 in Appendix A.

2.3 GENERAL LANDFORM CONDITION INSPECTIONS

Mine personnel will also conduct regular surface inspections of the area as outlined in **Appendix A: Table A1**. Regular inspections will be conducted in the zone defined as being 200 m behind and 100 m in front of the current face position. The inspections will cover the full subsidence bowl out to the 45 degree angle of draw. Inspections will be carried out by trained persons and will follow the inspection checklist. Inspections will identify the following subsidence impacts:

- surface cracking particularly around edges of extraction void, travelling abutment and steep slopes;
- surface humps near centre of extracted panels, travelling abutment and topographic lows of adjacent steep slopes;
- step changes in land surface;

- serviceability of access tracks;
- slope, boulder and tree instability;
- general vegetation condition observations; and
- condition of creeks, tributaries/drainage lines observations.

A proposed surface condition monitoring form to be completed during each inspection is included in **Appendix B.** Natural landform features within the Study Area (including steep slopes and drainage lines) are included with the monitoring form in **Appendix B.**

3 ADAPTIVE MANAGEMENT

3.1 INCREASE IN MONITORING FREQUENCY

The Extraction Plan TARP indicates scenarios where the frequency of subsidence monitoring may be increased to more frequent intervals than that presented in **Appendix A**. This may occur where greater than predicted subsidence parameters are measured, or abnormal surface conditions are observed.

3.2 REVIEW

This Subsidence Monitoring Program shall be reviewed after the completion of each LW. The plan will also be reviewed in the event of one or more of the following:

- of any incident;
- subsidence parameters/impacts are measured/observed that are significantly higher than predicted (as per TARP);
- significant changes to the mine plan occur; and
- after submission of an Annual Review or Independent Environmental Audit.

Should any significant changes to the Subsidence Monitoring Program be deemed necessary (such as alteration of proposed monitoring lines, or a reduction in monitoring frequency based on monitoring results) these changes will be undertaken in consultation with relevant stakeholders.

4 SUBSIDENCE MONITORING PROGRAM ROLES AND ACCOUNTABILITIES

Key ACOL personnel involved with implementing this Subsidence Monitoring Program, including their roles and responsibilities as described are described **Table 1 below**.

Table 1. Roles and Responsibilities

Roles	Responsibilities
Mine Engineering Manager	• Ensure sufficient resources are available to implement the requirements of this plan.
Technical Services Manager	• Facilitate the Subsidence Monitoring Program. • Coordinate with the Mining Surveyor to ensure subsidence monitoring is undertaken in accordance with the Subsidence Monitoring Program. • Review subsidence monitoring data against predictions and TARPs in order to trigger any actions required on the basis of subsidence results. • Ensure visual monitoring requirements are completed by a trained and competent person.
Environment and Community Superintendent	• Liaise with landholders in relation to gaining access for monitoring of the Subsidence Monitoring Program. • Notify and liaise with neighbours and community in relation to mining timing and monitoring performance.
Registered Mining Surveyor	• Ensure that all subsidence monitoring is completed to the requirements of the Subsidence Monitoring Program and provided to the NSW RR (via subsidence data portal) and Technical Services Manager for review.

5 REFERENCES

SCT Operations Pty Limited (2024) S*ubsidence Assessment for the Extraction Plan for Longwalls 403 – 406 in the Pikes Gully Seam*, Report Number ASH5749.

Appendix A

Subsidence Monitoring Survey and Inspection Program

Table A1. Subsidence Monitoring Survey Program

Subsidence Monitoring Method	Location	Purpose	Survey Marks	Mark Spacing	Monitoring Frequency
Conventional monitoring line (XL16).	Conventional subsidence lines located across Longwalls 403 to 406.	Measure the three-dimensional (3D) movements of the ground over the areas with various thicknesses of fill material and also over the area of undisturbed, natural ground. Provide the baseline for the multi-seam subsidence from the approved mining in the Middle Liddell Seam.	Star Pickets.	10 metres (m).	Baseline surveys to be undertaken prior to mining the Ashton Coal Operations Pty Ltd (ACOL)-operated Ravensworth Underground Mine (RUM) Longwalls 403 to 406. Active subsidence monitoring. Survey the subsidence monitoring line when directly undermining the monitoring line, at 1 x the depth of cover past the monitoring line and at the end of mining in each LW panel. XL16 will be surveyed out to the full subsidence bowl associated with the current/previously mined LW to observe the full subsidence profile.
Conventional monitoring line (Void 5).	Conventional subsidence lines located across the Southern side of the Void 5 East Fly Ash Emplacement Area.	Measure the development of subsidence movements near the seal wall/barrier.	Star Pickets.	10 m.	Baseline surveys to be undertaken prior to mining the ACOL-operated RUM Longwalls 403. Active subsidence monitoring. Survey the subsidence monitoring line pre and post LW403 while mining within 200 m of the monitoring line and at the end of mining in Longwall 403.

Subsidence Monitoring Method	Location	Purpose	Survey Marks	Mark Spacing	Monitoring Frequency
Conventional 3D surveys.	The 330 kilovolt (kV) powerline tower bases. The 33 kV powerline poles.	To capture the position and tilt of the 330 kV powerline tower bases and the 33 kV powerline poles.	-	-	Baseline surveys to be undertaken prior to mining Longwall 403. Post mining surveys to be undertaken after completion of mining of Longwall 406. Towers 209X and 209Y of the 330 kV powerline will be monitored monthly for the first six months post mining, and every two months for the follow year. Active subsidence monitoring. Regular visual inspection while mining within 200 m.
Global Navigational Satellite System (GNSS) units.	Adjacent to the Void 5 Est Fly Ash Emplacement Area. At the Void 5 Dam wall. At towers 209Z and 209Y of the 330 kV powerline at the end of Longwall 404 At both ends of the Narama Dam wall. At topographic high points across Longwalls 403 and 404.	Provide continuous, high accuracy measurements in near real-time at individual positions.	GNSS Units.	-	GNSS units will continually monitoring the easting, northing and heights of the GNSS units. These units can be moved to other locations as required as the planned LW mining in the Pikes Gully Seam progresses.

Subsidence Monitoring Method	Location	Purpose	Survey Marks	Mark Spacing	Monitoring Frequency
Periodic high resolution Light Detection and Ranging surveys.	Across the whole Study Area.	Observe subsidence behaviour in the areas with various thicknesses of fill material and natural ground to obtain measurements for general ground movement and slope stability.	-	-	At the end of mining in each LW panel, or annually (as a minimum).

Table A2: Subsidence Impacts Monitoring

Management Plan	Aspect/Feature	Frequency	Monitoring Measures
Public Safety Management Plan (summary of monitoring actions only – full details provided in actual management plan)			
Public Safety Management Plan.	Surface cracking including steep slopes and unstable ground/structures.	Weekly proximal to the active mining area.	Visual inspection of the area immediately behind the LW faces passage to identify/map subsidence cracking or unstable ground/structures.
	Dams.	Weekly whilst in active mining area.	Monitoring of dams within the Study Area to detect any subsidence impacts that may require management. Monitor water level using markers.
	Flooding and access.	After and during significant rain events.	Visual inspection of tracks to identify any ponding impacts that could affect the safety and access of vehicles.
Built Features Management Plan (summary of monitoring actions only – full details provided in relevant Asset Management Plan)			
Transgrid AMP.	Towers and transmission lines.	Prior to mining Longwall 404.	Pre-subsidence survey of 330 kV towers 208T to 210X bases to obtain xyz coordinates. The survey is to be undertaken in accordance with the three-dimensional survey techniques described in Section 2.2 of the Subsidence Monitoring Program and the proposed methods therein. No power shortages occur due to subsidence induced damage to transmission lines.
		During active subsidence.	Assets to be monitored in accordance with the three-dimensional survey techniques described in Section 2.2 of the Subsidence Monitoring Program.
		Towers 209X and 209Y will be monitored monthly for the first six months post mining, and every two months for the following year.	Undertake final inspections and survey following completion of mining.

Management Plan	Aspect/Feature	Frequency	Monitoring Measures
Glencore AMP.	33 kV transmission line.	Prior to mining Longwall 404.	Pre-subsidence survey of 33 kV poles (top and base) to obtain xyz coordinates. The survey is to be undertaken in accordance with the three-dimensional survey techniques described in Section 2.2 of the Subsidence Monitoring Program and the proposed methods therein. Baseline visual inspection noting condition, line clearances and pole tilts.
		Visual inspection undertaken during active mining.	Assets to be monitored in accordance with the general landform condition inspections described in Section 2.3 of the Subsidence Monitoring Program.
		Subsidence monitoring inspection of poles and lines undertaken during active subsidence.	Subsidence monitoring and post subsidence inspection of poles and lines including visual inspections noting condition, line clearances and pole tilts.
		Final inspection and survey following completion of mining.	Undertake final inspections following completion of mining.
	Narama Pit.	During active subsidence. Final inspection and survey following completion of mining.	Assets to be monitored in accordance with the techniques described in Sections 2.2 and/or 2.3, subject to access to the land.
	Water Supply Pipeline.	Prior to mining Longwall 405.	Visual inspection/monitoring of exposed sections of pipeline.
		During active subsidence. At completion of Longwalls 405 and 406.	Glencore to continue monitoring of pipeline flows.
	Narama Rehabilitation Area	Prior to mining Longwall 403.	Spontaneous combustion drone heat map survey across the rehabilitated sections of the Narama Pit.

Management Plan	Aspect/Feature	Frequency	Monitoring Measures
Narama Dam AMP	Narama Dam.	Baseline visual inspection undertaken prior to mining Longwall 406.	Assets to be monitored in accordance with the general landform condition inspections described in Section 2.3 of the Subsidence Monitoring Program. Baseline visual inspection noting condition of the dam wall and full supply level.
		Daily (seven days a week) when directly undermining the Narama Dam and its infrastructure. Final inspection and survey following completion of mining.	Assets to be monitored in accordance with the general landform condition inspections described in Section 2.3 of the Subsidence Monitoring Program.
AGL Macquarie.	Void 5 East Fly Ash Emplacement Area and Associated Infrastructure	Prior to Longwall 403.	Pre-mining condition assessment.
		Regularly during mining when the Longwall face is mining within 200 m of the Emplacement Area. Final inspection and survey following completion of Longwall 403.	During and post subsidence monitoring inspections.
	AGL Macquarie Ravensworth Site Access Track and adjoining tracks	Prior to Longwall 403.	Pre-mining condition assessment.
		Fortnightly during active/post subsidence or as requested by AGL Macquarie. Final inspection following completion mining.	During and post subsidence monitoring inspections.
	Main Security Gate Entry/Exit Control	Prior to Longwall 403.	Pre-mining condition assessment.
		Fortnightly during active subsidence periods. As requested by AGL Macquarie following subsidence impact.	Walkover visual subsidence monitoring inspections.
	Fencing/Gates	Prior to Longwall 403.	Pre-mining condition assessment.

Management Plan	Aspect/Feature	Frequency	Monitoring Measures
		Fortnightly during active subsidence periods. As requested by AGL Macquarie following subsidence impact.	Walkover visual subsidence monitoring inspections.
	Farm Dams and other Water Sources	Prior to Longwall 403.	Pre-mining condition assessment.
		Fortnightly during active subsidence periods. As requested by AGL Macquarie following subsidence impact.	Walkover visual subsidence monitoring inspections.
	Other Infrastructure	Prior to Longwall 403.	Pre-mining condition assessment.
		Fortnightly during active subsidence periods. As requested by AGL Macquarie. Final inspection and survey following completion of mining.	During and post subsidence monitoring inspections.
Singleton Council.	Lemington Road	Weekly when Lemington Road is within two times the depth of cover of the longwall face position.	Visual inspection of the road to identify any subsidence impacts that could affect the safety of vehicles. The area of Lemington Road to be inspected extends 100 m either side of the zone of two times the depth of cover. Subsidence monitoring in accordance with the Lemington Road Subsidence Deed (the Deed).
		Once active subsidence has ceased.	Post-mining condition assessment of the road to confirm that any perceptible subsidence impacts have ceased and document the post-subsidence status of the road. Subsidence monitoring in accordance with the Deed.

Management Plan	Aspect/Feature	Frequency	Monitoring Measures
	Lemington Road Culvert	Six monthly.	Visual inspections.
		Once active subsidence has ceased.	Post-mining condition assessment of the road culverts that any perceptible subsidence impacts have ceased and document the post-subsidence status of the road. Management as per the Deed.
Environmental Management Plans (summary of monitoring action only – full details provided in actual management plans)			
Land Management Plan Addendum.	General Land Surface.	During and post-mining.	Visual inspection of ponding, cracking and subsidence to manage erosion.
Flora and Fauna Management Plan.	Bowmans Creek.	Biannually (twice yearly) from two years pre-mining to two years post-mining.	Aquatic fauna and habitat, stream health and water quality will be monitored at established locations to detect any possible mining or diversion related impacts.
	Narama Dam.	Biannually (twice yearly) from two years pre-mining to two years post-mining.	Aquatic fauna and habitat, stream health and water quality will be monitored at established locations to detect any possible mining or diversion related impacts.
	River Red Gum (*Eucalyptus camaldulensis*).	Bi-annual (twice yearly) monitoring until five years after mining completion of Longwall 403-406.	Visual surveys, groundwater monitoring, area index, foliage cover projection and site water balance.
	Threatened fauna species and their habitats.	Conduct yearly inspections to confirm the ongoing presence and condition of habitat features within the Application Area, until 2 years post-mining.	Establish a bird monitoring site at Narama Dam to specifically monitor for ongoing waterbird usage and implement methodology in accordance with the updated complex-wide Biodiversity Management Plan (BMP). Establish targeted survey sites over Longwall 403-406 for threatened woodland birds to monitor for continued habitat usage. Conduct baseline acoustic monitoring to determine if Southern Myotis (*Myotis aelleni*) is utilising Narama Dam.

	Aquatic habitat quality and biodiversity.	Conduct monitoring biannually during autumn and spring, 2 years prior to mining LW405, during mining and 2 years post-mining.	Establish monitoring sites around Narama Dam and implement methodology as per the updated complex-wide BMP, to monitor for changes in habitat availability and condition for threatened species, particularly waterbirds.
	Central Hunter Grey Box Ironbark Woodland / Central Hunter eucalypt forest and woodland.	Biannually (twice yearly) until at least two years post-mining.	Photo monitoring in areas with predicted ponding with permanent photo monitoring points. Compare canopy projected foliage with previous years to assess extent of Central Hunter Grey Box -Ironbark Woodland / Central Hunter eucalypt forest and woodland.
Water Management Plan.	Hunter River and its alluvium.	Monthly.	Routine monitoring for pH, electrical conductivity (EC), total dissolved solids (TDS) and total suspended solids (TSS) to detect any possible mining related impacts.
	Glennies Creek.	Monthly.	Routine monitoring for pH, EC, TDS and TSS to detect any possible mining related impacts.
	Bowmans Creek.	Monthly.	Routine monitoring for pH, EC, TDS and TSS to detect any possible mining related impacts.
	Narama Dam and Void 5 Fly Ash Emplacement.	Monthly.	Visual inspections during active subsidence and following significant rainfall events to assess any signs of instability (including embankment integrity, surface cracking and erosion).

Appendix B
Subsidence Inspection Checklist

SUBSIDENCE INSPECTION CHECKLIST		
Longwall Panel		
Date		
Face Position		
Subsided Inspection Zone		
Pre-Subsidence Inspection Zone		
Area Inspected by (Print Name and sign)		
INSPECTION ITEM	**CHECKED**	**COMMENTS**
Surface cracking		
Surface humps (compression)		
Hunter River, Mine Water and Gas drainage pipelines		
Access roads and tracks		
Fences, gates, cattle grids		
Damage to Power-poles, Cross-arms, Insulators and Conductors e.g. leaning poles, increased sag in conductors, reduced ground clearance		
Dams		
Structures (houses, outbuildings)		
Other (den and/or nest trees)		

SUBSIDENCE INSPECTION CHECKLIST

Where to Inspect

200 metres behind and 100 metres in front of the current face position.

Cover the full subsidence bowl out to the 45-degree angle of draw.

What to look for

- surface cracking – edges of extraction void and start and travelling abutments particularly in rock outcrop areas and topographic high;
- surface humps (compression) – near centre of extracted panels, the travelling abutment and topographic lows if adjacent to steep terrain;
- step change in land surface – associated with cracking;
- slope, boulder and tree instability;
- surface slumping, erosion;
- serviceability of access tracks;
- changes to creeks, ponding, sediment load;
- general vegetation condition (in particular dieback of vegetation);
- change in conditions of 'right-of-way' access track or surrounding verges including drainage culverts and water flows as well as road cutting stability; and
- power poles and wires – adverse tilts on poles and ground clearances for wires, especially when crossing access tracks.

Actions if there is damage to non ACOL infrastructure:

Immediately notify the:

- Mine Engineering Manager;
- Technical Services Manager and/or Environment & Community Superintendent; and
- relevant infrastructure owner/operator.

If repairs or remediation work are required these will be undertaken by the relevant infrastructure owner/operator.