

# **METROPOLITAN COAL MINE ANNUAL REHABILITATION REPORT AND FORWARD PROGRAM**

Prepared by Metropolitan Coal Pty Ltd

## **Revision Status Register**

<b>Section/Page/ Annexure</b>	<b>Revision Number</b>	<b>Amendment/Addition</b>	<b>Distribution</b>	<b>Date of Submission</b>
All	ARRFP-R01-A	Original	Resources Regulator	1 August 2022
All	ARRFP-R01-B	To Address a Revision to the Guideline: Mine Rehabilitation Portal	Resources Regulator	31 January 2023

**January 2023**

**Annual Rehabilitation Report and Forward Program Summary Table**

<b>METROPOLITAN COAL MINE ANNUAL REHABILITATION REPORT AND FORWARD PROGRAM SUMMARY TABLE</b>		
<b>Name of Mine:</b>	Metropolitan Colliery (Metropolitan Coal Mine)	
<b>Annual Rehabilitation Report Commencement Date:</b>	N/A	
<b>Annual Rehabilitation Report Revision Dates and Version Numbers:</b>	N/A	
<b>Forward Program Commencement Date:</b>	1 August 2022	
<b>Forward Program Revision Dates and Version Numbers:</b>	ARRFP-R01-B	
<b>Mining Lease(s) / Lease Numbers / Expiry Dates:</b>	CCL 703	Expiry Date: 26/01/2024
	ML 1610	Expiry Date: 18/12/2031
	ML 1702	Expiry Date: 13/10/2035
	CL 379	Expiry Date: 4/10/2033
	MPL 320	Expiry Date: 9/12/2035
<b>Name of Lease Holder(s):</b>	Metropolitan Collieries Pty Ltd	
<b>Name of Mine Operator:</b>	Metropolitan Coal Pty Ltd	
<b>Date of Submission:</b>	31 January 2023	

## TABLE OF CONTENTS

<b>1</b>	<b>ANNUAL REHABILITATION REPORT .....</b>	<b>1</b>
<b>2</b>	<b>FORWARD PROGRAM .....</b>	<b>2</b>
2.1.	THREE-YEAR FORECAST – SURFACE DISTURBANCE ACTIVITIES .....	2
2.1.1.	Project Description .....	2
2.1.2.	Description of Surface Disturbance Activities .....	2
2.2.	THREE-YEAR REHABILITATION FORECAST .....	7
2.2.1.	Rehabilitation Planning Schedule .....	7
2.2.2.	Rehabilitation Research and Trials .....	7
2.2.3.	Rehabilitation Maintenance and Corrective Actions .....	8
2.2.4.	Rehabilitation Schedule .....	8
2.2.5.	Subsidence Remediation for Underground Operations .....	8
2.3.	PLAN 2 – MINING AND REHABILITATION THREE-YEAR FORECAST .....	9
2.3.1.	Submission of Plan 2 Spatial Data to the Mine Rehabilitation Portal .....	9
2.3.2.	Submission of Plan 2 Electronic Copy .....	9
2.4.	PROGRESSIVE MINING AND REHABILITATION STATISTICS .....	9
2.4.1.	Three-yearly Forecast Cumulative Disturbance and Rehabilitation Progression .....	9
2.4.2.	Rehabilitation Key Performance Indicators (KPIs) .....	9
2.5.	REHABILITATION COST ESTIMATE .....	9
<b>3</b>	<b>REFERENCES .....</b>	<b>10</b>

## LIST OF FIGURES

Figure 1	Regional Location
Figure 2	General Arrangement

## LIST OF TABLES

Table 1	Material Production Schedule During the Next Three Year Term
Table 2	Predicted Cumulative Disturbance and Rehabilitation Progression During the Next Three Year Term

## 1 ANNUAL REHABILITATION REPORT

In accordance with Part 1 of the NSW Resources Regulator Form and Way – *Annual Rehabilitation Report and Forward Program for Large Mines* (2021), and clauses 9 and 13 of Schedule 8A of *Mining Regulations 2016*, the Annual Rehabilitation Report will be developed for the Metropolitan Colliery (Metropolitan Coal Mine).

Requirements under the *Annual Rehabilitation Report and Forward Program for Large Mines* (2021) commenced in July 2021. Considering this is the first Annual Rehabilitation Report and Forward Program (ARRFP) prepared under the new policy, no current applicable 'reporting period' exists.

The Annual Rehabilitation Report will be submitted approximately 1 year following the submission of this Forward Program.

## 2 FORWARD PROGRAM

This Forward Program for the Metropolitan Coal Mine has been prepared, in accordance with Part 2 of the NSW Resources Regulator Form and Way – *Annual Rehabilitation Report and Forward Program for Large Mines* (2021) and clauses 9 and 13 of Schedule 8A of the *Mining Regulation 2016*.

### 2.1. THREE-YEAR FORECAST – SURFACE DISTURBANCE ACTIVITIES

#### 2.1.1. Project Description

The Metropolitan Coal Mine is an underground coal mining operation located approximately 30 km north of Wollongong in NSW (Figure 1). The Metropolitan Coal Mine commenced operations in 1887.

Peabody Energy Australia Pty Ltd acquired 100 % ownership in October 2006. Peabody Energy Australia Pty Ltd changed the name of the Metropolitan Coal Mine operator to Metropolitan Coal Pty Ltd (Metropolitan Coal).

Metropolitan Coal was granted approval for the Metropolitan Coal Project by the Minister for Planning on 22 June 2009 for the continuation, upgrade and extension of underground coal mining operations (Longwalls 20-27 and 301-317) and surface facilities at the Metropolitan Coal Mine.

Mining operations are approved until 2032 under Project Approval 08\_0149.

The Surface Facilities Area includes administration buildings, workshop, bathhouse and ablution facilities, haul roads, access road, fuel and consumables storage facilities, hardstand areas, CHPP, stockpiles and associated coal handling infrastructure.

The general arrangement of the Metropolitan Coal Mine is shown on Figure 2.

#### 2.1.2. Description of Surface Disturbance Activities

Mining operations at the Metropolitan Coal Mine include underground activities in the next three years. This Forward Program describes the proposed surface disturbance activities over the next 3 years.

##### a. Exploration Activities

Exploration will occur from both surface to seam boreholes and underground in conjunction with pre-extraction gas drainage. On average, Metropolitan Coal proposes to drill 1 to 2 boreholes each year of the Forward Program term.

Further drilling is required to better define reserves under the Joint Ore Reserves Committee (JORC) Code.

Further seismic exploration may occur utilising existing fire trails where possible.

Metropolitan Coal Mine – Annual Rehabilitation Report and Forward Program		
Revision No. ARRF-P-R01-B		Page 2
Document ID: Annual Rehabilitation Report and Forward Program		



- LEGEND**
- Mining Lease Boundary
  - Road
  - Railway
  - National Parks and Wildlife Estate
  - Local Government Area
  - Mining Operation

Source: Geoscience Australia, 2006; NSW Spatial Services (2021)  
Metropolitan Coal (2021)

**Peabody**  
METROPOLITAN COAL  
Regional Location

**Figure 1**





#### LEGEND

- Mining Lease Boundary
- Railway
- Project Underground Mining Area  
Longwalls 20-27 and 301-317
- Existing Underground Access Drive (Main Drift)

Source: Land and Property Information (2015); Date of Aerial Photography 1998;  
Department of Industry (2015); Metropolitan Coal (2021)

**Peabody**  
METROPOLITAN COAL  
Metropolitan Coal  
General Arrangement

Figure 2



**b. Construction Activities**

Surface construction works in the Woronora Special Area will include the installation, upgrade and maintenance of environmental monitoring equipment (e.g. pluviometers, groundwater bores and gauging stations), access tracks, surface exploration activities (including seismic investigations) and other minor mining-related surface activities. Throughout this Forward Program term, continued maintenance and renewal activities will be undertaken at the surface facilities as required to ensure that the mine operates in a safe and efficient manner, cognisant of its requirements to manage heritage and environmental values.

Surface works in the Woronora Special Area are conducted in consultation with WaterNSW through the submission of the Construction Management Plan – Surface Works Assessment Forms, or specific Environmental Management Plans where required by WaterNSW.

**c. Mining Schedule**

**Table 1**  
**Material Production Schedule During the Next 3 Year Term**

Material	Unit	Year 1 (ending 1 July 2023)	Year 2 (ending 1 July 2024)	Year 3 (ending 1 July 2025)
Stripped Topsoil	m <sup>3</sup>	0	0	0
Overburden/Rock	m <sup>3</sup>	0	0	0
Fines/Reject Material	t	418,353	384,406	446,116
ROM Coal/Ore	t	2,202,152	2,045,209	2,263,806
Product Coal	t	1,783,799	1,660,803	1,817,690

Note: t = tonnes, m<sup>3</sup> = cubic metres.

**Describe the method of mining development and sequencing and general mine features**

Currently there are no plans for mining other coal seams (i.e. other than the Bulli Seam) at the Metropolitan Coal Mine during this Forward Program term.

Metropolitan Coal operates seven days a week, 24 hours a day on a rotating shift basis. The extraction of Longwall 307 is underway and will be completed in approximately December 2022. The schedule and extraction of Longwall 308 will commence January 2023 and is anticipated to be completed in December 2023. Longwall 309 is estimated to commence in September 2023 and be completed in July 2024. This is followed by the commencement of Longwall 310 in August 2024 which is anticipated to be completed by July 2025. Longwalls 308-310 extraction will occur from north to south using retreating longwall mining methods for secondary extraction of a panel with a 138 m void width.

Material production for this Forward Program term is summarised in Table 1.

**Describe areas identified for emplacement, the sequencing of emplacements, construction and management**

Approximately 1,248,875 t of coal reject would be produced over this Forward Program term. Coal reject is produced in two streams at the CHPP (i.e. coarse and fine rejects). Approximately 17% of the ROM coal processed in the CHPP is separated to the coal reject stream (HCPL, 2008). Coal extracted from the underground mining operations is transferred by conveyor to the Surface Facilities Area. ROM coal is crushed, screened and washed at the CHPP. The majority of product coal is transported by train to the Port Kembla Coal Terminal (PKCT) (in Wollongong) for domestic and overseas customers.



Coal rejects may be transported by rail or road to PKCT, and/or urban developments in the Wollongong and Shellharbour LGAs. Coal reject will be trucked by a licensed contractor from the Major Surface Facilities Area to these sites along the transport routes.

***Identify processing infrastructure activities and the location of tailings facilities and schedule for emplacement***

Capacity for on-site disposal or coal rejects in the Surface Facilities Area is largely constrained. Project coal reject disposal during this Forward Program term may include:

- transportation of coal rejects by rail to PKCT for shipment to international markets;
- continued transport of coal reject material off-site by truck until end 2023, at which time the Project Approval Conditions prohibit the export of any coal reject off site without the written approval of the Secretary of DPE; and/or
- disposal of coal rejects in the Camp Gully surface emplacement situated near the Surface Facilities Area (this facility was approved by the Wollongong City Council in 1991 but has not been constructed to date).

Metropolitan Coal Mine may also utilise an underground coal wash reject emplacement plant which emplaces the fine fraction of the Coal Washery Rejects (CWR) stream.

***Describe waste disposal and materials handling operations over the next three years. This should include a discussion of disposal of putrescible waste, hydrocarbons and management of contaminated soils***

Waste disposal will continue to be undertaken in accordance with Metropolitan Coal's Waste Management Plan (WstMP) (Metropolitan Coal, 2022a). In accordance with the WstMP, the following activities are undertaken:

- waste streams are identified and the quantities generated are monitored;
- waste management measures are identified to minimise waste generation; and
- waste generated is appropriately stored, handled and disposed of.

The transportation of coal rejects/waste material from the Metropolitan Coal Mine and road traffic of the operation in general is in accordance with the Metropolitan Coal Traffic Management Plan (TMP) (Metropolitan Coal, 2022b). The intent of the TMP is to minimise the traffic impacts of the Metropolitan Coal Mine on the residential areas and schools within Helensburgh.

All domestic waste and general recyclable products would continue to be collected weekly by an appropriately licensed contractor. Waste batteries and scrap metals would continue to be stockpiled in a designated area and recycled by a scrap metal contractor. Waste oil would continue to be collected by a licensed contractor for off-site disposal or recycling. Used tyres would continue to be periodically collected by the tyre supplier, for recycling or disposal. No on-site rubbish disposal or landfill is proposed.

## 2.2. THREE-YEAR REHABILITATION FORECAST

### 2.2.1. Rehabilitation Planning Schedule

#### *Rehabilitation planning schedule*

It is anticipated that operations at the Surface Facilities Area will continue for at least another 10 years, therefore no rehabilitation activities are expected to be undertaken at the Surface Facilities Area during this Forward Program term.

Underground mining of Longwalls 307-310 will continue throughout the next three years. Therefore, rehabilitation during this Forward Program term consists of stream remediation works in accordance with the Metropolitan Coal Stream Remediation Plan (Metropolitan Coal, 2021).

#### ***Provide an overview of relevant stakeholder consultation that will be carried out over the next three years***

Metropolitan Coal is committed to an open and constructive consultation program. This aims to:

- identify interested parties and stakeholders;
- inform government and other stakeholders of the nature and status of the Metropolitan Coal Mine by presenting information in a number of formats and venues, to facilitate a clear understanding of the Metropolitan Coal Mine;
- identify issues of concern to stakeholders for consideration in the Metropolitan Coal Mine planning and design process; and
- establish ongoing dialogue between Metropolitan Coal and government and community stakeholders.

Ongoing consultation during this Forward Program term will continue including regular discussions with the Community Consultative Committee (through the quarterly meetings), the Wollongong City Council, and the Helensburgh and District Historical Society.

#### ***Provide an overview of rehabilitation studies, risk assessments, and/or design work associated with finalising the rehabilitation methodologies relating to establishment of the final landform, surface water management, final void management, and tailings dam decommissioning that will be carried out over the next three years***

Risks associated with rehabilitation and mine closure were identified during a rehabilitation risk assessment undertaken in December 2021, which is detailed in the Mine's RMP. Therefore, no rehabilitation studies, risk assessments and/or design work associated with finalising rehabilitation methodologies relating to establishment of the final landform, surface water management, final void management and tailings dam decommissioning are proposed within this Forward Program term.

### 2.2.2. Rehabilitation Research and Trials

Prior to mine closure, Metropolitan Coal is proposing to complete further minor revegetation works over the batters of the coal rejects area at the Surface Facilities Area. The revegetation over this material will be trialled during future Forward Programs. A monitoring program to assess the success of this proposed revegetation will be established to determine if the vegetation structure and composition is recognisable as the target vegetation community and the landform remains stable.

Metropolitan Coal will continue to review the success of pool remediation measures and determine if subsidence impacts had otherwise diminished in pools on the Eastern Tributary in accordance with the Stream Remediation Plan. Outcomes of future stream remediation will be included in future Forward Programs.

Metropolitan Coal will continue to review the need to establish rehabilitation trials, research and modelling at the Metropolitan Coal Mine.

### **2.2.3. Rehabilitation Maintenance and Corrective Actions**

The Metropolitan Coal Mine's RMP outlines the development of rehabilitation objectives and completion criteria for the preferred future land use for the Surface Facilities Area following the completion of mining activities. The Surface Disturbance Register within the RMP will be used to monitor the performance of the measures implemented to rehabilitate surface disturbance areas.

Specific maintenance and corrective actions to be progressed in the next three years and progress of current actions will be included in future Forward Programs, in line with the Annual Rehabilitation Reports.

### **2.2.4. Rehabilitation Schedule**

As discussed in Section 2.1.2, coal extraction will continue in Longwalls 307-310 during this Forward Program term.

It is anticipated that operations at the Surface Facilities Area will continue for at least another 10 years, therefore no rehabilitation activities are expected to be undertaken at the Surface Facilities Area during the Forward Program term.

In the Underground Mining Area, the rehabilitation schedule during this Forward Program term includes:

- Metropolitan Coal will continue stream remediation on the Eastern Tributary at Pools ETAH, ETAL and ETAK and downstream locations (subject to access to these sites).
- Catchment improvement works will continue in the Woronora Catchment Area, namely, rehabilitation of the former quarry on Fire Road 9H and rehabilitation of the disused access track to the Darkes Forest Mine. Weather permitting, catchment improvement works in the Woronora Catchment Area will be undertaken as required throughout 2022.

### **2.2.5. Subsidence Remediation for Underground Operations**

During this Forward Program term, subsidence monitoring will be carried out in accordance with the Metropolitan Coal Longwalls 305-307 and 308-310 Extraction Plan Approvals. These Extraction Plans include Subsidence Monitoring Programs that were prepared to validate subsidence predictions and analyse the relationship between the subsidence effects and subsidence impacts.

During this Forward Program term, Metropolitan Coal will continue stream remediation on the Eastern Tributary at Pools ETAH, ETAL and ETAK and downstream locations. Stream remediation will be subject to access to these sites. For example, the catchment may be closed due to rainfall/bushfires; or high stream flows may prohibit remediation works.

### 2.3. PLAN 2 – MINING AND REHABILITATION THREE-YEAR FORECAST

#### 2.3.1. Submission of Plan 2 Spatial Data to the Mine Rehabilitation Portal

As there are no disturbance or rehabilitation activities expected to be undertaken during the Forward Program term, no spatial data has been submitted to the Mine Rehabilitation Portal.

#### 2.3.2. Submission of Plan 2 Electronic Copy

As there are no disturbance or rehabilitation activities expected to be undertaken during the Forward Program term, Plan 2 has not been included in the Forward Program submission.

### 2.4. PROGRESSIVE MINING AND REHABILITATION STATISTICS

#### 2.4.1. Three-yearly Forecast Cumulative Disturbance and Rehabilitation Progression

The predicted cumulative disturbance and rehabilitation progression during the Forward Program term is described in Table 2.

**Table 2**  
**Predicted Cumulative Disturbance and Rehabilitation Progression**  
**During the Next Three Year Term**

YEAR	1 (ending 1 August 2023)	2 (ending 1 August 2024)	3 (ending 1 August 2025)
Total disturbance footprint – surface disturbance (ha)	0	0	0
Total active disturbance (ha)	0	0	0
Rehabilitation – land preparation (ha)	0	0	0
Ecosystem and land use establishment (ha)	0	0	0

Note: ha = hectares.

#### 2.4.2. Rehabilitation Key Performance Indicators (KPIs)

The progressive rehabilitation key performance indicators for the next three years of activity at the Metropolitan Coal Mine will be calculated following the submission of the Annual Rehabilitation Report (i.e. during the next reporting period).

### 2.5. REHABILITATION COST ESTIMATE

A Rehabilitation Cost Estimate (RCE), as defined in the *Mining Regulation 2016*, has been developed for the Mine in accordance with the NSW Resources Regulator's Rehabilitation Cost Estimate Tool.

The RCE has been prepared as the maximum total disturbance over the Forward Program term.

The RCE prepared for the Metropolitan Coal Mine utilising the NSW Resources Regulator's Rehabilitation Cost Estimate is \$22,336,000.



### 3 REFERENCES

Helensburgh Coal Pty Ltd (2008) *Metropolitan Coal Project Environmental Assessment*.

Metropolitan Coal Pty Ltd (2021) *Metropolitan Coal Stream Remediation Plan*.

Metropolitan Coal Pty Ltd (2022a) *Metropolitan Waste Management Plan*

Metropolitan Coal Pty Ltd (2022b) *Metropolitan Coal Traffic Management Plan*.