Residual Void (Southern Void) Design and Closure Plan

BROADMEADOW EAST PROJECT

BOWEN COKING COAL LIMITED A WHOLLY OWNED SUBSIDIARY COKING COAL ONE PTY LTD

VERSION 1 | 28-September-2023

Authorisations

	Position	Signature	Date
Prepared by:	Senior/Principal Environmental Advisor, RPMGlobal	BK	28/9/2023
Reviewed by:	Principal Environmental Advisor, RPMGlobal	MRT	28/9/2023
Reviewed & approved by:	Manager Sustainability, BCC	MB	28/9/2023

Version History

Version	Date	Purpose / Change
1	28/9/2023	Reference to relevant PRCP sections

Table of Contents

1 Background

The Broadmeadow East Mine (BME or "the Mine") is located in the Queensland Bowen Basin and owned by Coking Coal One Pty Ltd (CCO or "the Proponent"), a wholly owned subsidiary of Bowen Coking Coal Limited (BCC).

The Mine is subject to EA0002465, which was issued under the *Environmental Protection Act 1994*. As required by Condition G8 of EA0002465, the EA holder must develop a Residual Void (Southern Void) Design and Closure Plan ("RVDCP" or "the Plan"). Condition G8 also states the Plan must be developed and submitted for review to the administering authority by 29 September 2023. The Plan should support the residual void outcomes as described in Condition G6 to G7, that describe the location, design requirements and outcome as a groundwater sink.

The RVDCP provides an overview of the processes and methods to manage the Southern void at BME as a water storage for the purpose of livestock watering post-mine land use (PMLU). The information requirements from Condition G10 are now covered in the Progressive Rehabilitation Closure Plan (PRCP) as required under the *Environmental Protection Act 1994* (EP Act), due for transition on 29 September 2023.

At a meeting between BCC and Department of Environment and Science (DES) representatives on 31 August 2023, and subsequently confirmed in writing via email on 28 September 2023, the following was agreed:

- The BME PRCP for EA0002465 to be submitted on 29 September 2023.
- To assist with alignment across the approval and compliance teams within DES, and ensure compliance with Condition G10 of EA0002465, the RVDCP is also to be submitted on 29 September 2023, after the PRCP submission. The document to reference relevant sections in the submitted PRCP on how requirements of Condition G10 have been met.
- After the PRCP is approved, the EA will be amended for a few purposes, including amended conditions G8 to G10 to reflect the requirements being captured in the PRCP.

The BME PRCP was submitted to the department on 29 September 2023.

All required information has been included in the submitted PRCP, and this plan references the relevant sections.

2 Project Description

The Mine is entirely within ML 70257, located 22 km north-east of Moranbah township and 120 km southwest of Mackay in the Queensland Bowen Basin, as shown in PRCP v1 Figure 3-1. The Peak Downs Highway links the coastal city of Mackay to the Mine via the Suttor Development Road.

The western boundary of ML 70257 is adjacent to the Mallawa Haul Road (ML 70109) owned and operated by a separate subsidiary of BCC, which provides the only access to the Mine via the Burton Mine administration office located 26 kilometres north. The haul road concludes at the Mallawa Train Load Out facility (TLO) that connects to the Aurizon Goonyella Rail System south of the Mine (PRCP v1 Figure 3-26).

BCC purchased the 845-hectare (ha) ML 70257 from Peabody (Burton Coal) Pty Ltd, which led to the de-amalgamation from nearby tenures and associated EA on 24 August 2020. EA0002465, last issued on 2 February 2023, holds the following Environmentally Relevant Activities (ERA) for ML 70257:

- Resource Activity, Schedule 3, 13: Mining black coal;
- Resource Activity, Schedule 3, 09: A mining activity involving drilling, costeaning, pitting or carrying out geological surveys causing significant disturbance;
- Ancillary Activity, Schedule 2, 60(1): Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection 1(a)—(d) more than 200,000t; and
- Ancillary Activity, Schedule 2, 60(2): Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b)—(c) more than 5,000t but not more than 10,000t.

The Mine is approved to extract 1.9 million tonnes per annum (mtpa) of high-quality metallurgical coal over an estimated five-year mine life. Mining activities occur within a 434 ha approved disturbance area within ML 70257. The 434 ha approved disturbance area consists of an open pit and associated infrastructure centrally located on the widest section of the ML. Mine construction began in June 2022, and the operation now employs the truck and shovel method to mine the resource in a southerly direction.

3 Appropriately qualified persons

The EA definition for “appropriately qualified person” (AQP) means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

The RDVP has been prepared by persons that meet the qualifications of the definition. A review was carried out by the Manager Sustainability (BCC) who also meets the definition of an AQP.

4 Condition G10 requirements

The following table describes the requirements under the Environmental Authority, condition G11 and how they have been met by the submitted PRCP.

EA Condition	Requirement	PRCP section
G6	**Residual Void Outcome** Only the residual void detailed in **Appendix 5, Table G1 - Post Mine Land Use (PMLU) and Rehabilitation Methods**, is permitted at the approved place located as per **Figure 4 - Final Landform**. The residual void must comply with its design requirements specified in **Appendix 5, Table G2 - PMLU Rehabilitation Success Criteria**	PRCP v1 Section 3.5.3
G7	The south residual void as detailed in **Appendix 5, Table G1 - Post Mine Land Use (PMLU) and Rehabilitation Methods** must act as groundwater sink to the receiving groundwater environment.	PRCP v1 Section 3.5.3.4
G8	A Residual Void Design and Closure Plan must be developed and submitted for a review to the administering authority by **29 September 2023**.	This document
G9	Within twenty (20) business days of receiving comments from the administering authority as per **Condition G8**, a Residual Void Design and Closure plan must be updated by the AQP to address any comments suggested by the administering authority.	PRCP assessment process per transitional provisions
G10	A Residual Void (Southern void) Design and Closure Plan required by **Condition G8** must include, but is not limited to, the following details:	-
a)	A study of options available for minimising residual void area and volume;	PRCP v1 Section 3.5.3.1
b)	Detailed design criteria and rehabilitation methodology of residual voids in accordance with **Appendix 5, Table G1 - Post Mine Land Use (PMLU)** and **Rehabilitation Methods and Table G2 – PMLU Rehabilitation Success Criteria;**	PRCP v1 Section 3.5.3.1, Table 3-41, Section 3.5.3.5, and Section 3.5.3.6
c)	A void hydrology study, addressing the long-term water balance in the void, connections to groundwater resources and water quality parameters in the long-term;	PRCP v1 Section 3.5.3.3, Section 3.5.3.5 and Attachment F
d)	a pit wall stability study, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events;	PRCP v1 Section 3.5.3.2
e)	a study of void capability to support a PMLU of stock watering as per the relevant Water Quality Objectives;	PRCP v1 Section 3.5.3.6, Figures 3-57 and 3-58.
f)	a proposal/s for end of mine void rehabilitation success criteria and residual void areas and volumes; and	PRCP v1 Section 3.3.2, Table 3-18, and Section 3.5.3.8

EA Condition	Requirement	PRCP section
g)	post closure monitoring and management requirements.	PRCP v1 Section 3.5.3.8 and Section 3.7.3

5 Next steps

It is understood from discussions with the Department of Environment and Science that the next steps are as follows:

- Review of the PRCP submitted 29 September 2023 conducted by the department;
- Review of this document against the environmental authority and the submitted PRCP;
- Information requests, if required, from the department; and
- when the department determines that the requirements under the conditions about this Residual (Southern Void) Design and Closure Plan are met, an amendment to the Environmental Authority will commence, clarifying that all rehabilitation requirements will be met via the approved PRCP for BME.