SARAJI EAST MINING LEASE PROJECT

Environmental Impact Statement

Attachment 1

Supplementary Information

August 2025

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1.0 Introduction

This attachment provides supplementary information to support the assessments of the Environmental Impact Statement (EIS). The supplementary information has been compiled to provide updated information relating to specific matters. In some instances, the information corrects or supersedes information contained within the EIS and where this is the case it is clearly stated.

2.0 Variation to Project Description

The Project Description provided as **Chapter 3** of the EIS (dated 13-Dec-2024) has been varied specifically relating to the proposed mine affected water (MAW) release point as part of the water management system. Table 3-17 and Figure 3-14 show a proposed mine water release point on Boomerang Creek adjacent to the proposed process water dam.

The Project Description will be varied such that there is no proposed mine water release point. BMA is not seeking an approval for a licenced release point as part of this EIS.

The inclusion of a release point in the Project introduces additional complexity to both the approval process and subsequent operations. After evaluating the complexities against the potential benefits of a release point, it has been determined that its inclusion is not justified.

The Project EIS is not seeking authorisation for a mine water release point. The following supporting information confirms that removal of a water release point does not compromise the ability for operations to adequate manage MAW.

*(The following information summarises content presented within **Chapter 8 Surface Water Resources** and **Appendix E-2 Mine Water Balance Technical Report** of the EIS. It does not include any additional analysis or assessment to that presented within the EIS)*

2.1 Context

The Saraji East Mining Lease Project has been designed with a comprehensive Water Management System (WMS) to manage potential impacts of the Project's mining activities on water resources. Mine water management structures for the Project are conservatively designed to avoid controlled releases of MAW to the receiving environment. Design capacities are intended to mitigate uncontrolled (spillway) release of MAW to the receiving environment. Under normal operating circumstances, no controlled or uncontrolled releases from the Project Site are anticipated.

Overall, the purpose of the Project mine WMS is to examine and address issues relevant to the importation (of raw water), generation, use, and management of water on the Project Site. Accordingly, the Project WMS has been designed to operate self-sufficiently with the benefits of being connected to the broader BMA network to allow water sharing.

Under normal operating conditions, most of the Project water supply will be MAW and the Project Mine WMS will operate independently of the existing Saraji Mine water system. However, should sufficient Project MAW not be available for CHPP process and dust suppression MAW or raw water may be imported from the existing Saraji Mine water system, following water quality testing to confirm that water is of an appropriate quality for the intended use. Similarly, where additional water demands at the existing Saraji Mine need to be met, water satisfying water quality testing may be exported from the Project to Saraji Mine.

The objective of the WMS is to minimise the quantity of water that is mine affected and released by Project activities. This will broadly be achieved by:

- managing the generation, storage, distribution, and reuse of all potentially MAW (including groundwater) captured and generated by the Project
- handling the conveyance of natural runoff originating from undisturbed clean catchments through the Project Site
- managing the storage and distribution of raw water.

The WMS includes:

- Primary containment in the Process Water Dam (PWD)
- Supporting storages such as the CHPP dam, MIA dam, ROM and product coal stockpile dams, raw water dam, and portal sump
- A network of pumps and pipelines to transfer water between storages, ensuring efficient distribution and containment

2.2 Overview of Storage Capacity and Modelling Results

Appendix E-2 reports the modelling undertaken to develop appropriate design of the WMS for the Project. Broadly, the Project used the GoldSim probabilistic modelling software which is commonly used in the mining industry for water balance modelling. The performance of the proposed WMS was validated under a range of historical climatic condition simulations. Performance was also tested under scenarios of pump failure and stress test scenarios.

The climate data utilised for the MWB included consideration of Climate Change projections in accordance with Guideline for Climate Change Adaptation in Mine Water Planning and Hydrologic Assessments (BHP, August 2020). Further detail of the guideline and climate change projections used is shown in **Section 4.3.2** of **Appendix E-2**.

The modelling results (as per **Appendix E-2 Section 4.8 Modelling Results**), based on 500 climate scenarios, indicate that the WMS proposed operates generally in water deficit, with contained inventories of MAW generally being low. Ongoing sourcing of MAW from the various site dams persistently draws down runoff reporting to the WMS and generally maintains a low overall water inventory excepting in response to very wet conditions. Consequently, a licenced release point is not a requirement to manage modelled MAW inventories.

The modelled water storage across the Project WMS is seasonally driven, with minimal to negligible water contained in the dry season and with short-term accumulation of water occurring over the wet season in response to wetter than average rainfall conditions. Accumulation of water occurring in response to significant rainfall events is typically steadily drawn down by the combined sourcing of water for site operation and processing needs, and evaporation. The greatest potential volume of water is modelled for the first year of the mine plan, reflecting the reduced operations and process sourcing requirements.

The capacity of the storages designed for the Project is summarised in Table 2-1. Sufficient system containment and transfer capacity has been provided to prevent the uncontrolled release (i.e. spillway overflow) of water to the receiving environment and without the requirement for controlled release of MAW.

Table 2-1 Storage design capacity and modelled storage requirements

Storage	Design Capacity (ML)	Modelled Volume under Extreme Scenarios (ML)		
		Maximum	95th Percentile	Median
Process Water Dam (PWD)	125	125.0	39.8	3.2
CHPP Dam	65	53.9	1.7	0.7
Product Coal Stockpile Pad Dam	87	77.2	1.7	0.6
ROM Coal Stockpile Pad Dam	42	35.6	1.6	0.6
MIA Dam	74	63.3	1.7	0.7
Raw Water Dam	200	168.4	153.8	149.4
Underground Mine Portal Area Sump	7.5	7.5	1.9	0.9
Total	**600.5**	**530.9**	**202.2**	**156.1**

2.3 Risk of Uncontrolled Release or Spill

Section 4.8.3 of **Appendix E-2** describes spill probabilities for the WMS structures estimated based on modelled water storage inventories. The output provides an indication of the WMS ability to meeting the containment criteria requirements for regulated structures. The results of spill probability modelling indicate that the WMS has sufficient capacity to manage the expected inventories of water.

The spill probability of each structure varies inter-annually, reflecting climatic variation inherent in the developed sequences and the changing rates of system water inflows and outflows.

The Project WMS has ample capacity for managing water volumes. The designed capacity makes the proposed release point a contingency plan rather than a critical operational element. In effect, the release point would offer extra flexibility to manage rare, high-volume rainfall events in a controlled and environmentally responsible manner but is not essential even in such events.

2.4 Mine Affected Water Management

Water management on site combines the understanding of water demand and supply, design of structures and ongoing management of water levels through the transfer of water as and when required.

Potential volumes of MAW generated onsite will be minimised wherever possible and stored volumes of MAW will be preferentially sourced to satisfy those Project water demands for which reuse of MAW is suitable. The following assumptions have been made in the development of the Project conceptual mine WMS:

- MAW from the stockpile dams (ROM and product coal), CHPP dam, MIA dam and the portal sump will be transferred to the PWD which is the primary storage for MAW.
- To maximise containment capacity at each collection point, MAW is assumed to be transferred to the PWD as soon as it is received. This will reduce the likelihood of spill events via emergency spillway structures, resulting in discharge of MAW being triggered by subsequent storm event inflows. Accordingly, the process area runoff dams comprise of collection dams, for short term storage of MAW prior to on-transfer to the PWD. The Saraji East WMS will operate according to a Trigger Action Response Plan (TARP), to be developed specifically for the operation.
- MAW stored onsite (primarily in the PWD) will be preferentially sourced for site water demands wherever possible. This serves to provide a continual draw on the stored inventory of MAW, thus ensuring that the capacity to receive future inflows is optimised and reliance on an external raw water source is minimised. The PWD therefore acts as the primary source of water for CHPP process demand, and stockpile and haul/light vehicle (LV) road dust suppression.
- Raw water will be stored onsite in the RWD and will be used to satisfy those Project water demands for which reuse of MAW is unsuitable (e.g. potable, underground mine and firefighting water) or when the stored inventory of MAW has been exhausted.
- Wherever practical and achievable, runoff diversion bunds will be constructed around key mining infrastructure to reduce clean runoff originating from undisturbed catchment runoff entering these areas and potentially becoming mine affected.

In addition, a conservative approach (modelling based on the higher end of volumes and inflows expected) has been taken towards controlled and uncontrolled releases of MAW from the Project. Preliminary capacity estimates for all dams and the water transfer network within the Project conceptual mine WMS have been based on the containment of all potential inflows using historical climate data and under a set of assumed operational rules. As noted in **Section 2.1.3** of **Appendix E-2** this conservative approach ensures:

- Sizing of the regulated structures is consistent with the hydraulic criteria outlined within the Manual for assessing consequence categories and hydraulic performance of structures – ESR/2016/1933 (DES, 2016)

- Detailed design of regulated structures and drainage features will be completed according to internal BMA guidelines for MAW and Erosion and Sediment Control (ESC) structures, which exceed the requirements of ESR/2016/1933
- Licensed release of MAW to the receiving environment is not required within the normal operation of the WMS, and;
- Capacities are sufficient to minimise the uncontrolled (spillway) discharge of MAW to the receiving environment.

The ability for the Project to import or export MAW from/to the existing neighbouring BMA Saraji Mine water system provides additional optionality for management of storage volumes. Water transfer is further discussed in Section 2.5.

2.5 Water Transfer Agreement

(Additional information to the information provided in the EIS is below)

Currently a water transfer agreement exists between Caval Ridge Mine (CVM), Saraji South Mine (SSM), Peak Downs Mine, and Saraji Mine. The water management systems of these individual mines are connected by the Central Regional Water Network (CRWN) Pipeline. The CRWN Pipeline is a backbone pipeline which extends from SSM to CVM allowing transfer of MAW between these operations. Branching pipelines connect the backbone to the multiple MAW storages (dams and pits) across the four locations effectively providing opportunity to reuse and store water across a number of sites with ample storage capacity.

The use of the CRWN pipeline is to predominantly allow for water reuse at other operations during times of water scarcity. The pipeline also provides BMA a contingency option for when, in the rare event, a site needs additional storage capacity (for example extreme flooding events) to manage risk of uncontrolled release.

To manage operation of the pipeline and also decision making associated with transfers, releases and with design (sizing capacity) of new storages there is a CRWN water balance model (WBM) that links the individual WBM's developed for each of the mine sites. The model accounts for the EA conditions of the sites regarding any releases and considers the water quality requirements in the source (ie the storage) and receiving waterbody. Its implementation seeks to reduce the amount of raw water used on the site and reduce environmental harm by allowing MAW to be accessed, stored and released appropriately. Through managing access to MAW for reuse and managing storages levels within appropriate design capacity the likelihood of uncontrolled releases across all sites is reduced.

The transfer agreement is referenced within each sites EA and requires the mine sites to operate in accordance with the specific conditions of the EA, General Environmental Duty, prevention of environmental harm and keeping of monitoring records. Monthly water reports are distributed outlining Trigger Action Response Plan (TARP) levels and water volumes at each site. This information is used to monitor the need for the transfer of water to and from specific sites.

For the Project the proximity of the existing Saraji Mine to the Project will provide BMA with (among other operational flexibility and efficiency) the option to transport MAW between the Project and the broader BMA network of mines via the CRWN if required. As noted in above sections the Project mine water system will operate independently under normal operation conditions and the access to the CRWN provides optionality to support BMA water needs and for managing storage volumes during extreme unforeseen events. Access to the CRWN provide access to multiple storages across a number of sites with ample capacity (dams and pits). Additional pipeline may be required to connect the Project storages to the CRWN however these will be installed within existing boundaries of the Project.

Should it be required, Project storage volumes could be managed via access to the CRWN to minimise the risk of uncontrolled release.

3.0 Social Impact Assessment Update

The Social Impact Assessment (**Appendix L**) for the Project was most recently published in April 2024. The assessment describes work undertaken and planned as part of the Smart Transformation Project.

At June 2025 the Smart Transformation Project remains a key initiative for BMA in both Moranbah and Dysart.

Following a recent review of the operating model for Smart Transformation, it was determined that the project would benefit from a more locally led, and embedded operating model. As such, BMA has been in discussions with the Isaac Business Chamber about their willingness and suitability to take over the management and oversight of Smart Transformation. The benefit of this approach is that the Smart Transformation program and its priority projects can be supported by a local, independent organisation that has a mandate and ambition to support the region with many of the issues and challenges that Smart Transformation is already seeking to address. This will simplify the organisational landscape locally, and will lead to outcomes that are better coordinated, more sustainable and embedded into a local ecosystem to drive greater impact.

At June 2025 BMA is in negotiations with the Isaac Business Chamber around the forward looking two years of the program and related resourcing to ensure the Chamber can carry this work forward. In parallel, the Outback Futures program, supported by BMA, and initiated through Smart Transformation, has just been extended for a further year, to continue delivery of allied health and community wellbeing activities for Dysart. BMA has entered into a new contract with Outback Futures to enable this work. This project will continue to be supported by BMA, but with oversight and engagement now also provided by the Isaac Business Chamber, as part of this new Smart Transformation delivery model.