

SARAJI EAST MINING LEASE PROJECT

Environmental Impact Statement

Appendix O-1 Summary of Commitments

BHP

Saraji East Mining Lease Project

Summary of Commitments

ID	Commitment	Reference
1	BMA will complete the conversion of the Mining Lease Application to Mining Lease as per the requirements of the <i>Mineral Resources Act 1989</i> .	Design
2	Through detailed design, BMA will re-visit the approvals framework to identify any outstanding approval requirements for the Project and undertake consultation with relevant government bodies where additional approvals are identified.	Design
3	<p>BMA will collect information required for detailed design phase of the Project, including but not limited to:</p> <ul style="list-style-type: none"> geotechnical investigations to assess ground conditions and enable detailed design of all infrastructure and structures associated with the Project soil investigations assessing the potential for competent materials to be present onsite geological exploration activities, including drilling to further define the coal resources associated with the Project. 	Design
4	BMA will limit land surface disturbance associated with longwall mining to the minimum required for operational success. The Project will utilise the existing open-cut highwall to establish highwall entry for mine access. Surface infrastructure will be preferentially sited on previously disturbed areas. Where vegetation clearing is unavoidable, disturbance areas will be clearly delineated and minimised to the extent necessary to facilitate the safe construction and operation of above-ground infrastructure.	Design
5	BMA will design and construct Incidental Mine Gas (IMG) management infrastructure to minimise disturbance to riparian zones along the Boomerang Creek, Plumtree Creek, Hughes Creek and oxbow wetlands and preferentially avoid placement of IMG extraction wells and infrastructure within remnant vegetation and particularly within Endangered Regional Ecosystems (REs 11.3.1, RE 11.4.8 and RE 11.4.9 where alternative locations are suitable. Where unavoidable, requirement for offsets will be confirmed in the Offset Management Plan.	Design
6	BMA will design crossings of creeks and drainage lines to preferentially utilise natural breaks in vegetation or existing disturbed areas. Low impact work practices (e.g. pruning vegetation instead of clearing) will be implemented when working in the riparian zone associated with Phillips Creek.	Design
7	<p>To manage potential to disturb existing contaminated soil during construction or operational phases of the Project, BMA will:</p> <ul style="list-style-type: none"> direct excavation works, spoil or topsoil storage during planned operations and remediation to avoid potentially contaminated areas design drainage to minimise the amount of run-off occurring near, or across, potentially contaminated land undertake an environmental assessment of potentially contaminated sites that will be impacted. 	Design
8	<p>Following detailed design, BMA will prepare a Water Management Plan to describe the mine water management system (WMS) for the life of the Project, including but not limited to:</p> <ul style="list-style-type: none"> mine water balance, including inflows and outflows 	Water

ID	Commitment	Reference
	<ul style="list-style-type: none"> location and sizing of storage dams and assessment of consequence categories raw water demand and sources quantity, quality, location and timing of potential releases (both controlled and uncontrolled) WMS management and reporting. 	
9	Surface water will be managed through a series of drains and mine water dams designed to contemporary standards to comply with regulatory requirements. Runoff from undisturbed areas will be segregated from disturbed areas to convey clean water downstream.	Water
10	Mine affected water (MAW) from mining processes and disturbed areas will be separated from clean water. Runoff from disturbed surface areas of the Project will be diverted away from undisturbed surface areas and pumped to the mine water management system and used preferentially to satisfy the Project dust suppression and Coal Handling and Preparation Plant (CHPP) process water demands.	
11	Excess mine affected water (MAW) entering underground workings will be transferred via a new pipeline to the proposed process water dam as required and used preferentially to supplement the mine water demands and reduce raw water usage.	Water
12	Wastewater from vehicle washdown areas will be directed through oil and grease separators and utilised for dust suppression or directed to the mine water management system for reuse.	Water
13	Mine water storages shall be designed to meet capacity requirements as predicted by the water balance model, taking account all inputs and outputs, and which has run through a long-term period of climate data, particularly in high rainfall wet seasons. Pipes and pump systems will be designed with consideration to volume requirements predicted from water balance modelling and designed by a suitably qualified engineer.	Water
14	Consequence categories for all proposed dams will be confirmed through a detailed failure impact assessment (FIA) to be undertaken in detailed design.	Water
15	A sewage treatment plant (STP) will be installed to service the Mine Infrastructure Area (MIA), the accommodation villages, and to treat all sewage generated onsite. Effluent from the STP will be managed as part of the overall existing Saraji Mine water management system.	Water
16	The Mandatory Reporting Level (MRL) will be marked on regulated dams in such a way that during routine inspections of that dam, it is clearly observable. BMA will notify the administering authority when the contents of a regulated dam reaches the MRL.	Water
17	Regular inspections of mine water storages, pipeline, drain, bund and levees will be undertaken, particularly in relation to integrity of constructed embankments.	Water
18	<p>Prior to construction, BMA will develop and implement an overarching Construction Environmental Management Plan (CEMP) to outline a preferred hierarchy for environmental management and SMART controls to mitigate and manage impacts and reduce threatening processes to environmental values during the construction phase. This plan will be developed to outline and describe the following:</p> <ul style="list-style-type: none"> objectives risk assessment environmental management activities and mitigation measures the timing of actions 	Construction

ID	Commitment	Reference
	<ul style="list-style-type: none"> • a monitoring program, which will include: • performance indicators (clear and concise criteria against which achievement of outcomes are to be measured), which are capable of accurate and reliable measurement • outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes) • monitoring requirements (timing and frequency of monitoring to detect changes in the • performance indicators, to determine if outcomes are being achieved, and to inform adaptive management) • trigger values for corrective actions. • potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed • roles and responsibilities for activities • auditing and review mechanisms. 	
19	<p>Through the CEMP, BMA will implement SMART controls to minimise the risk of ground and water contamination through hydrocarbon and/or chemical spills (and the generation of associated waste) including but not limited to:</p> <ul style="list-style-type: none"> • site drainage designed to facilitate retention of spills onsite • stormwater directed away from potentially contaminated areas • engineered hardstand above the natural ground level • construction of appropriate spill containment facilities for all areas where process reagent and petroleum products are stored (e.g. impervious containment and bunding around stationery/fixed storage areas in accordance with Australian Standard (AS) 1940) • storing oil drums in locations where the possibility of impacts from vehicles is minimised • appropriate housekeeping i.e. ensuring only the required number of oil drums are taken underground • capture of oil drained from machinery during maintenance in containers to be returned to the surface and pumped into waste oil storage • regular inspection and maintenance of spillage control devices such as overfill protection and auto-shutoff nozzles on vehicles • procedure for the storage and handling of hazardous substances • procedure for the refuelling and servicing of vehicles and machinery • prompt spill clean-up and reporting • spill kits located at points that are easily identifiable, accessible and most likely to be needed such as high-risk areas i.e. refuelling points and the workshops • firefighting equipment readily available, easily identifiable and accessible in high risk areas associated with hydrocarbons • appropriate personal protective equipment to be used. 	Construction
20	<p>Prior to construction, BMA will develop and implement an Erosion and Sediment Control Plan with SMART controls to mitigate generation of sediment and transport to waterways through design, mitigation and corrective action, including but not limited to:</p> <ul style="list-style-type: none"> • permanent stormwater management systems such as sediment dams will be installed prior to vegetation clearing and earthworks • vegetation clearing and earthworks will occur over incremental stages necessary to the scope of works 	Erosion

ID	Commitment	Reference
	<ul style="list-style-type: none"> • timing clearing and earthworks for construction of creek crossings and diversions to occur in the dry season or during a period with no rainfall predicted • stabilising road crossings to minimise wash outs and bank erosion (e.g. matting) • establishing buffer zones to maintain and enhance riparian vegetation • directing surface water runoff using contour banks or ditches across cleared slopes away from creeks and drainage lines • minimising extent and duration of soil exposure by restricting clearing areas, diverting runoff around exposed areas and using erosion and sediment control measures (e.g. gravelling, mulching, sediment fencing, erosion control blankets, etc.) • ongoing proactive erosion and sediment control for all ground disturbance and creek crossings • routine inspection and monitoring of erosion and sediment control structures to ensure effective, and corrective action taken • routine inspections of road and pipeline alignments to ensure that disturbed surfaces are stable and not subject to concentration of flows or erosion, and corrective action taken. 	
21	<p>A Receiving Environment Monitoring Program (REMP) will be developed and implemented prior to construction to monitor potentially affected waterways and assess effectiveness of management strategies, including but not limited to:</p> <ul style="list-style-type: none"> • confirm location of release point for controlled discharge of mine-affected water (MAW) (indicatively located on Boomerang Creek adjacent to the proposed process water dam) • include baseline data on surface water flows and quality, and site-specific water quality objectives for monitoring and trigger levels for investigations • monitoring electrical conductivity (EC) and pH (acidity or alkalinity) and other water parameters in potentially affected waterways (upstream and downstream of impact in accordance with the Project Environmental Authority (EA)) • development of a Trigger Action Response Plan (TARP) to identify the corrective actions and responses required in the event that operations result in exceedances in surface water quality or adverse changes in stream health. 	Water
22	Field monitoring equipment, such as electrical conductivity and pH meters will be calibrated. QA/QC laboratory samples will be collected. All external laboratories will be National Association of Testing Authorities (NATA) accredited for the analytical procedures they are performing.	Water
23	Prior to the operational phase, BMA will develop and implement a Groundwater Monitoring Program to detect a significant change to water quality values due to activities that are part of the Project. The groundwater monitoring program will be reviewed by a suitably qualified hydrogeologist to identify unforeseen potential impacts, and factor in any changes to the mine plan that could influence groundwater impacts.	Groundwater
24	<p>As part of the Groundwater Monitoring Program, BMA will conduct an ongoing geochemical assessment program that is commensurate with the current Acid Mine Drainage risk of the mineral wastes, including analysis for pH (1:5), EC (1:5), static geochemistry, bulk chemistry, leach testwork and CEC, sodium adsorption ration (SAR) and exchangeable sodium percentage (ESP).</p> <p>Monitoring of potential drainage/seepage water quality from in-pit spoil dumps, with parameters to include for pH, EC, acidity, major cations and</p>	Groundwater

ID	Commitment	Reference
	<p>ions, and dissolved to include at a minimum Al, As, Cd, Cu, Cr, Co, Fe, Pb, Ni, Mo, Hg, Se and Zn. The monitoring protocol will be reviewed and where appropriate improved overtime based on results of ongoing monitoring.</p> <p>If the groundwater levels decline in excess of the levels defined through predictive modelling, an investigation will commence within 14 days of detection. The investigation will aim at determining if the fluctuations in groundwater levels are a result of:</p> <ul style="list-style-type: none"> • mining activities authorised under the Project EA • pumping from licensed bores • seasonal variation • neighbouring land use resulting in groundwater impacts. <p>If the trigger exceedance is as a result of authorised mining activities, BMA will complete an investigation into the potential for environmental harm and notify Department of Environment and Science (DES) within 28 days.</p>	
25	All monitoring bores are to be drilled using a water bore drilling rig, using mud-rotary, air-percussion or other appropriate techniques. The groundwater monitoring bores are to be designed in accordance with the Minimum Construction Requirements for Water Bores in Australia, 3rd Edition (National Water Commission, 2012) or as current.	Groundwater
26	All documentation and information related to groundwater level and groundwater quality monitoring will be kept in a secure archive. All calibration records, laboratory chain-of-custody forms, photographs, laboratory certificates, and laboratory reports will be kept up-to-date and archived. A dedicated groundwater monitoring database will be developed and maintained to meet compliance conditions and allow impacts to be detected as soon as practicably possible.	Groundwater
27	A post-mining monitoring program will be developed by a suitably qualified hydrogeologist towards the end of mining operations (e.g. within two years of mine closure). The program will be customised to address recovery of actual groundwater drawdown impacts observed during operation of the underground mine.	Groundwater
28	<p>BMA will implement the Subsidence Management Plan (Appendix K-2) to manage impacts on landform, surface water, groundwater, ecology and infrastructure prior to subsidence impacts. The Plan will outline SMART controls for mitigation, monitoring and rehabilitation, including but not limited to:</p> <ul style="list-style-type: none"> • pre-subsidence monitoring and risk assessment to identify suitable measures to mitigate environmental risk • locate or remove infrastructure outside areas of predicted subsidence • early identification of high energy areas of the subsided landform • managing bed and bank stability e.g. access control, channel reprofiling, contour banks • erosion protection measures and revegetation as appropriate • corrective actions such as crack infilling, erosion control matting and drop structures • progressive rehabilitation of subsidence cracking and replanting • ongoing subsidence monitoring, evaluation, review and improvement program. <p>Monitoring for surface subsidence parameters will commence after cessation of subsidence movements at the completion of each panel and will continue periodically in accordance with the Subsidence Management Plan and EA conditions. The subsidence monitoring program will be reviewed every two years or after any major change to operations.</p>	Subsidence

ID	Commitment	Reference
29	Slumping of stockpiles will be controlled by construction to appropriate slopes and provision of adequate drainage systems. Mine collapse will be controlled by the use of hydraulic roof supports at the underground working face along with secondary supports in other areas to ensure stability. Floor and roof mapping and regular checks will be undertaken to check wall and roof stability.	Subsidence
30	Remnant vegetation within subsidence impacted areas will be monitored for foliar discolouration, partial defoliation, increased pathogenic attack, or tree death as signs of vegetation impacts from subsidence. Tree deaths and regrowth in areas affected by subsidence will be monitored to assess whether rehabilitation is required. In areas where natural regrowth is not sufficient to replace dead trees, replanting will be undertaken.	Subsidence
31	<p>The existing Saraji Mine mineral waste management strategy will be refined to accommodate the Project and will adopt the following general practices for management of spoil:</p> <ul style="list-style-type: none"> • Prioritise reuse of spoil material with suitable geotechnical properties for engineering and construction purposes such as bulk fill, road sub-base and construction material for laydown areas. • For spoil unsuitable for engineering purposes or in excess of construction requirements, transport (via truck) and place within Saraji Mine in-pit storage dumps to be managed in accordance with the Saraji Mine EA (EPML00862313). 	Waste
32	<p>The existing Saraji Mine mineral waste management strategy will be refined to accommodate the Project and will adopt the following general practices for management of rejects and tailings:</p> <ul style="list-style-type: none"> • For reject and tailings material will be transported (via truck) and placed within Saraji Mine in-pit storage dumps already authorised and managed in accordance with the Saraji Mine Saraji Mine EA EPML00862313. • In the event that reject haulage falls behind, the rejects bin will overflow to the designated bunker, which will provide access for a loader to remove coarse rejects and dewatered tailings material. 	Waste
33	<p>Within the existing Saraji Mine in-pit storage dumps managed in accordance with the Saraji Mine EA (EPML00862313), BMA will adopt the following general practices for management of in-pit storage dumps:</p> <ul style="list-style-type: none"> • Mixing and compaction will occur as appropriate to the properties of the materials to achieve a sustainable final landform. • Reject materials will be mixed via alternating disposal of the reject and waste rock material into in-pit spoil dumps at the existing Saraji Mine. • As a contingency, if marked amounts of potentially acid-forming (PAF) rejects are identified, BMA will consider the option of controlled blending of high acid neutralising capacity (ANC) waste rock and/or limestone with PAF waste. Lime dosing of compacted coarse reject layers (one to two metres) may be used as a precautionary measure to extend the lag period in the unlikely event of acid generation. • Pre-strip weathered waste rock materials will be used to cap the reject disposal and dewatered tailings areas. A minimum thickness of two metres of inert cover material will be used, with final thickness to be determined based on the material characteristics. • Coarse reject placement will be sequenced such that capping of the rejects will be completed progressively as the working face progresses down the dip. No reject material will be placed below the pre-mining groundwater table and in-pit spoil dumps will be free draining to minimise the potential for geotechnical instability. 	Waste

ID	Commitment	Reference
	<ul style="list-style-type: none"> Over time, in-pit rejects will be covered by waste rock, topsoil and rehabilitated. These areas may be re-shaped and will be covered with a suitable growth media and revegetated with a species mix appropriate to the post-mining land use, or a combination of native grasses supplemented with introduced pasture species in areas where continuous pasture cover is necessary for erosion control. 	
34	<p>Prior to construction, BMA will prepare a Waste Management Plan to outline SMART controls for safe reuse, recycling and disposal of each waste stream and to detail waste management control strategies for segregation and storage, transport and spill response planning. Primary objectives of the Waste Management Plan will be to:</p> <ul style="list-style-type: none"> avoid or minimise waste generation by for example, accurate estimation of materials and bulk purchase to avoid excess and packaging waste. maximise resource recovery by sorting and segregating recoverable waste streams to maximise reuse and recycling safely manage waste streams to protect health and environmental values by preventing odours, noise, dust, leachate and vermin/pests. comply with waste management, monitoring and reporting requirements. <p>Regular waste monitoring will be undertaken and the Waste Management Plan will be audited periodically to track performance against overall objectives to identify trends and gaps so that corrective actions can be implemented where required.</p>	Waste
35	<p>Aboriginal cultural heritage will be managed under the existing Cultural Heritage Management Plan (CHMP) that was developed in accordance with requirements established under the Queensland <i>Aboriginal Cultural Heritage Act 2003</i>. The CHMP will includes measures such as:</p> <ul style="list-style-type: none"> cultural heritage inductions will be provided for all project personnel engaged in works requiring ground disturbance procedures will be implemented in the case of unexpected items of cultural heritage significance, including all works will cease in the vicinity of the find supervisor or cultural heritage coordinator will be informed <p>A qualified archaeologist will make an assessment and recommend management measures</p>	Heritage
36	<p>Prior to construction, BMA will consult with the Barada Barna Aboriginal Corporation and local Indigenous community organisations to ensure that the Social Impact Assessment's recommended strategies for Indigenous engagement and employment are still appropriate.</p>	Heritage
37	<p>BMA will develop an Offset Management Plan prior to impacts for each stage of the Project to finalise the offset mechanism to be used for the Project and SMART controls to manage the offset. The Offset Management Plan will:</p> <ul style="list-style-type: none"> identify BMA owned properties or other lands that will be secured as offsets, their locations and contribution towards offset requirements and those offset requirements secured through payment or indirect offset proposals. identify the ongoing management actions required at each area for: <ul style="list-style-type: none"> access control fencing to restrict informal access controlled grazing weed suppression and control pest control management of fire risk revegetation and supplementary planting (for areas of non-remnant vegetation). 	Offsets

ID	Commitment	Reference
	<ul style="list-style-type: none"> identify requirements for periodic monitoring of performance targets and completion criteria for improved vegetation condition and habitat quality to demonstrate success in achieving an overall conservation outcome. 	
38	<p>Prior to subsidence impacts (Stage 2 and Stage 3), BMA will confirm the offset requirement and update the Offset Management Plan to manage subsidence impacts. Prior to and during the period of subsidence impacts (Stage 2 and Stage 3), BMA will conduct monitoring to quantify impacts and any difference between projected and actual significant residual impact will be reconciled when the offset requirement is calculated for the next stage of the Project. Surplus offsets will be accounted for and carried over to the next stage offset requirement. If a surplus in offsets is identified at the end of the Project, this will be reconciled and may be utilised as an advanced offset for future BHP projects.</p>	Offsets
39	<p>Prior to construction, BMA will develop and implement a Weed and Pest Management Plan for the Project to identify targeted mitigation measures and SMART controls to minimise introduction and spread of weeds and pest, including but not limited to:</p> <ul style="list-style-type: none"> regular inspection of the Project Site to identify any new incidence of weed infestation minimise clearing of vegetation to minimum required to enable safe construction, operation and maintenance of the Project, including infrastructure corridors hygiene and wash down protocols for any vehicles or machinery entering and leaving site weed control practices (particularly for <i>Parthenium hysterophorus</i>) in line with local management practice from the IRC and/or the Queensland Government Pest Fact sheets and/or Queensland Department of Agriculture and Fisheries monitoring and identification of weed infestations and prioritisation of areas requiring weed treatment maintaining a clean, rubbish-free environment to discourage feral animals restrict fauna access to any waste storage facilities associated with the Project awareness of weed management through Project site induction and provide information to Project staff on the identification of Restricted Matter weed species and their dispersal methods prioritise rehabilitation activities for disused areas of the mine to minimise opportunity for weed invasion engagement of appropriately qualified personnel to undertake periodic pest animal monitoring in the Project area, including: <ul style="list-style-type: none"> mapping of major weed infestations during pre-clearing surveys incidental observations recorded by site personnel for weeds of management concern monitoring for pest plants and fauna within subsided areas where ponding occurs will be undertaken to determine the need for management. 	Weeds and pests
40	<p>Vehicle washdown will take place in designated areas away from flood plains and drainage lines, with wastewater treated to remove seeds, oils and other contaminants before it is reused for dust suppression or other process use.</p>	Biosecurity
41	<p>Prior to construction, BMA will develop and implement a Topsoil Management Procedure to facilitate reuse of topsoil in rehabilitation of</p>	Land resources

ID	Commitment	Reference
	<p>disturbed areas, including SMART controls for soil stripping, stockpiling and replacement such as:</p> <ul style="list-style-type: none"> maintaining topsoil stockpiles as low mounds at a maximum height of 3 m across the surface area, with a greater number of lower mounds preferred. locating topsoil stockpiles away from drainage lines to protect from erosion by surface water runoff. deep ripping/rock raking reapplication of stockpiled topsoil progressive rehabilitation and replanting only with species stipulated in the Rehabilitation Management Plan (Appendix K-1). 	
42	Habitat trees that can be retained without compromising safety shall be retained, marked and adequately protected. Habitat features, such as felled trees and logs, will be relocated to suitable areas nearby.	Ecology
43	<p>Prior to construction, BMA will develop a Threatened Species Management Plan prior to construction to comply with Commonwealth and Queensland legislation and promote conservation outcomes for:</p> <ul style="list-style-type: none"> Ornamental Snake (<i>Denisonia maculata</i>) Koala (<i>Phascolarctos cinereus</i>) Squatter Pigeon (<i>Geophaps scripta scripta</i>) Australian Painted Snipe (<i>Rostratula australis</i>) Greater Glider (<i>Petauroides volans</i>). <p>The Threatened Species Management Plan will include species-specific mitigation measures and SMART controls to minimise and mitigate long term impacts on these species, including but not limited to:</p> <ul style="list-style-type: none"> lighting design to minimise light spill into adjacent habitat areas suitably qualified fauna spotter catchers with appropriate permits to remove fauna present or accidentally injured designated access routes and heavy vehicles areas induction training and work instructions. 	Fauna
44	BMA will report annual greenhouse gas (GHG) emissions under the National Greenhouse and Energy Reporting System under the <i>National Greenhouse and Energy Reporting Act 2007</i> (NGER Act).	Greenhouse gases
45	BMA will comply with any prevailing regulatory mechanisms for reducing emissions, such as the Federal Government's Safeguard Mechanism and other similar and successor policies.	Greenhouse gases
46	<p>BMA will investigate cost effective opportunities in the detailed design stage to reduce greenhouse gas emissions in accordance with BHP's management standards and contribute if and as required to the delivery of the company's emissions reduction targets. To minimise greenhouse gas emissions during operation, the following measures will be applied:</p> <ul style="list-style-type: none"> collect and flare of incidental mine gas preferential selection of fuel-efficient mining equipment during procurement maintain mining equipment in good working order use appropriately sized equipment. 	Greenhouse gases
47	<p>BMA will develop and implement an Air Quality Management Plan prior to construction to minimise and monitor air quality impacts such as dust nuisance and dust deposition. The Air Quality Management Plan will include SMART controls for dust suppression including, but not limited to:</p> <ul style="list-style-type: none"> minimising extent of disturbance and exposed surface areas sealing or gravelling frequently trafficked surfaces 	Air quality

ID	Commitment	Reference
	<ul style="list-style-type: none"> • minimising vehicle speeds and haulage distances on well-defined roads • using water sprays on unsealed roads, exposed areas and stockpiles, in particular during high wind conditions • stockpiles maintained in accordance with Topsoil Management Procedure • regular maintenance of erosion and sediment control devices in accordance with Erosion and Sediment Control Plan • adhering to plant and equipment maintenance programs and maintaining good working order • monitoring • progressive rehabilitation of exposed areas in accordance with Rehabilitation Management Plan. <p>All personnel will be familiar with objectives and requirements of the Air Quality Management Plan.</p>	
48	The Air Management Plan for the Project will include details of the proposed air quality monitoring program. The air quality monitoring program for the Project will use continuous dust monitors to monitor PM10, and automatic weather stations to record meteorological conditions at ground level.	Air quality
49	When requested by the administering authority or as a result of an air quality complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), dust and particulate monitoring will be undertaken and the results notified to the administering authority.	Air quality
50	<p>Prior to construction, BMA will develop and implement a Noise Management Plan including noise control measures such as:</p> <ul style="list-style-type: none"> • awareness training through site inductions for all staff and contractors • working with equipment suppliers to design quieter machinery • routine maintenance of machinery to minimise noise • stopping and starting up equipment as far away as possible from receptors • maintaining internal roads in good working order • use of broadband reverse alarms on all machinery that regularly reverse (e.g. bulldozers and front-end loaders) • noise control to the ventilation shafts • orientate discharge outlets away from nearby sensitive receptors • variable speed devices fitted to fan motors. • treatments to conveyors, such as the used of low noise idlers, and partial enclosures. <p>All personnel will be familiar with objectives and requirements of the Noise Management Plan.</p>	Noise
51	<p>Community and complaints management techniques will be undertaken in accordance with the community complaints and grievances procedure that is current at the time of Project commencement. Such techniques include:</p> <ul style="list-style-type: none"> • taking steps to inform the community as to how complaints can be made • investigating the complaints and, where required, the use of appropriate dispute resolution activities • maintaining a complaint register to record all relevant information associated with the complaint, including the personnel responsible for handling the complaint and the corrective actions taken • ensuring that a complainant is advised of the outcomes in relation to their complaint. 	Noise
52	When requested by the administering authority or as a result of a noise complaint (which is neither frivolous nor vexatious nor based on mistaken	Noise

ID	Commitment	Reference
	belief in the opinion of the authorised officer), noise monitoring will be undertaken at the nearest privately-owned dwelling or affected receiver and the results notified to the administering authority.	
53	<p>The Project Site will be maintained in good condition, particularly adjacent to neighbouring properties. Fences and signage will remain in good repair and litter will be regularly removed. Vegetation will be retained in-situ for the greatest length of time possible prior to removal. This will ensure that the screening effects of existing vegetation are maintained for as long as possible. Wherever possible, existing roadside and fence line vegetation will be retained to assist in partially screening the mine expansion areas and limit views of the Project Site from sensitive receivers. This action will particularly be considered at the following locations:</p> <ul style="list-style-type: none"> • Dysart Moranbah Road (near to the MIA) • Near to residential dwellings, including Meadowbrook and Lake Vermont homesteads. 	Noise
54	<p>BMA will minimise lighting while maintaining operations and health and safety requirements to ensure lights are focussed on the areas required, with shields around the globes to limit extraneous light. Light spill will be contained to the greatest extent possible by using directional lighting wherever possible, orientating lighting inwards and screening from the outside. Specific considerations include:</p> <ul style="list-style-type: none"> • Use of aeroscreen luminaires to reduce glare and spill lighting associated with the construction village, internal roads and pedestrian walkways. • Managing light spill from CHPP by ensuring that the lights facing the sensitive areas are not tilted to keep the most amount of light possible inside the CHPP area. Alternative lower wattage lights could be placed lower down to reduce the spill light. • Reduce the potential spill of light from the ROM pad by positioned luminaires such that they shine away from the homesteads or the lights orientated to have the least amount of tilt possible so that the light is concentrated in the correct area. Alternatively, LED luminaires with specified optics could be used to limit the amount of spill lighting. 	Light
55	<p>BMA will implement a Social Impact Management Plan (SIMP) for the Project, which includes management plans for:</p> <ul style="list-style-type: none"> • Community and stakeholder engagement • Workforce management • Housing and accommodation • Health and community well being • Local business and industry content. <p>BMA will undertake periodic reviews of the SIMP during the Project in consultation with relevant stakeholders.</p>	Social
56	<p>As part of the SIMP, BMA will develop and implement a Community and Stakeholder Engagement Management Plan to identify stakeholders to be consulted, types of consultation, communication activities and timing, consultation responsibilities, communication protocols, reporting, feedback and monitoring arrangements. Engagement mechanisms will include but not limited to:</p> <ul style="list-style-type: none"> • Consultation and communication as agreed with affected and adjacent landholders to identify and mitigate concerns • Periodic construction notices, published in local media and communicated through regular engagement with key stakeholders • Periodic briefings and engagement with government agencies and councils 	Social

ID	Commitment	Reference
	<ul style="list-style-type: none"> Provision and promotion of a complaints and feedback mechanism accessible to all local stakeholders Establish internal complaints process to record and report on all complaints that may be received during the construction and operation of the Project. 	
57	The location for the FIFO hub(s) will be selected with consideration to the availability of appropriately skilled and experienced personnel prior to operation phase. Analysis of labour availability will be undertaken in consultation with Business Queensland, IRC, the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) and the Queensland Resources Council.	Social
58	When timing for the Project is known, BMA will consult with IRC to identify any issues of concern with respect to infrastructure, health services, and education capacity and/or housing demand, to support development of collaborative responses. BMA will also ensure that IRC, Queensland Health, the Department of Education and Training, and the Queensland Police, Ambulance and Fire and Emergency Services are updated on Project planning, and are advised of the intended workforce ramp-up, commencing six months prior to Project construction, and ending 12 months after full development is reached.	Social
59	<p>As part of the SIMP, BMA will develop and implement a Housing and Accommodation Management Plan to enhance the workforces' health and reduce impacts on local services by:</p> <ul style="list-style-type: none"> assessing skills availability to enable specific training and recruitment strategies to be established for both Project phases providing on-site accommodation village for construction including on-site services and facilities limiting fly-in fly-out (FIFO) workforce for the operations phase, estimating up to 300 non-resident personnel from operational peak of 500 personnel providing access to Employee Assistance Program and adequate internet and mobile phone services within accommodation village. BMA will monitor demands on local health and community health services in co-operation with the Mackay Hospital, QLD Health, IRC and Health Service Rural Services, and if a need for additional services is identified, work with local community partners in Moranbah, Dysart and Middledmount to identify appropriate service and program responses. <p>BMA will also collaborate with Hinterland Community Care in Dysart and Moranbah and District Support Services (MDSS) to identify and support programs and partnerships which develop employment pathways for local people with disability.</p>	Social
60	As part of the SIMP, BMA will develop and implement a Local Business and Industry Content Management Plan to promote additional purchasing opportunities generated by the Project for the 200 plus Local Buy Program registered businesses which make up a key component of BMA's existing local supplier base.	Social
61	<p>As part of the SIMP, BMA will develop and implement a Workforce Management Plan including, but not limited to:</p> <ul style="list-style-type: none"> training programs to raise skill levels of existing and new small business and other personnel attracted to the region as a result of the supply opportunities generated by the project maintain and expand the focus of BHP's Community Development Management Plans (CDMP) and related social investment spending on local education and training programs. 	Social

ID	Commitment	Reference
62	<p>A Traffic Management Plan will be developed and implemented prior to construction to address safety issues on public roads, including but not limited to:</p> <ul style="list-style-type: none"> • Transportation of oversize vehicles and use of escorts and/or public notices • Upgrade Lake Vermont Road for approximately 11 km from Dysart-Moranbah Road (if required for the proposed accommodation village), including sealing of the road, assessment of the existing corrugated iron tunnel currently in place under the Norwich Park Branch rail line to determine the structural integrity and tunnel dimensions required for the Project and potential upgrade of the existing tunnel • Provide intersection lighting at Intersection 1 (Lake Vermont Road / Dysart-Moranbah Road) to improve visibility in low light conditions • Construct proposed Intersection A on Dysart-Moranbah Road, including deceleration lanes on the north and south approaches to the intersection on Dysart-Moranbah Road, and active devices such as boom barriers and flashing lights in addition to road lighting at the intersection • Provide intersection lighting at Intersection 3 (Peak Downs Mine Access / Peak Downs Mine Road / Dysart-Moranbah Road) to improve visibility in low light conditions. 	Traffic
63	BMA will undertake a Pavement Impact Assessment (PIA) during the detailed design phase in consultation with the Department of Transport and Main Roads (DTMR).	Traffic
64	Where necessary BMA will arrange for ALCAM assessments to be undertaken by the railway manager (Aurizon). The outcomes of the ALCAM assessments will identify potential railway safety issues and inform the development of appropriate mitigation measures.	Traffic
65	<p>Prior to construction, BMA will develop and implement a Spill Response Procedure within the Emergency Response Plan to ensure spills are contained and cleaned up as soon as practical to mitigate the mobilisation of pollutants in drainage lines or watercourses, including but not limited to:</p> <ul style="list-style-type: none"> • Minimising quantity or volume of chemicals or fuel stored onsite • Locating spill clean-up kits in appropriate locations, based on the risk of a spill occurring and potential volume of material that might be spilled at the particular location. <p>Spill and emergency requirements will be covered through induction and work instructions.</p>	Emergency
66	Storage and use of fuels, oils and batteries will be in accordance with <i>Australian Standard 1940:2017 – The storage and handling of flammable and combustible liquids</i> and <i>AS3780 The Storage and Handling of Corrosive Substances</i> .	Emergency
67	Refuelling activities will occur within bunded, hardstand areas in accordance with <i>AS1940 The Storage and Handling of Flammable and Combustible Liquids</i> Where this is not possible, refuelling activities should be located away from streams and drainage lines and be supervised by an appropriately trained operator equipped with a spill kit at all times.	Emergency
68	<p>Prior to construction, BMA will develop and implement Fatigue and journey management procedures for operations will include:</p> <ul style="list-style-type: none"> • A training approach to educate managers, supervisors and personnel in fatigue management • Standard rosters which can only be varied through risk assessment and authorised sign-off 	Safety

ID	Commitment	Reference
	<ul style="list-style-type: none"> Monitoring employees and contractors shifts to ensure fatigue management guidelines are met Providing guidelines which outline acceptable safe journey management practices Bus transport to and from the accommodation villages and work sites, as well as to and from Moranbah Airport. 	
69	<p>BMA will identify and manage health, safety and environment risk of activities under BMA's existing approvals and standard operating procedures, policies and standards (i.e. as per existing practices across BMA's many mine sites).</p> <p>High risk activities (including working at heights and confined spaces) will comply with the <i>BHP Safety Our Requirements</i> (BHP, 2018b), including but not limited to:</p> <ul style="list-style-type: none"> Mine personnel will be trained and competent for works involving working at heights and entering confined space. Fall of persons will be controlled through appropriate elevated work platforms and the use of properly designed and maintained fall arrest equipment. Mine personnel will be trained and competent for work involving working at heights and entering confined space. Fall of persons will be controlled through appropriate EWP's and the use of properly designed and maintained fall arrest equipment. Ongoing geotechnical investigations and monitoring will be conducted to analyse early indicators to the changes of ground conditions and the effectiveness of ground support to identify and manage potential dangers to personnel from falls of ground in underground mining, at stockpiles, dam walls, waste rock dumps, trenches and similar locations. An approved Ground Control System will be developed, maintained and implemented in line with the <i>BHP Safety Our Requirements</i> (BHP, 2018b). 	Safety
70	<p>All vehicles and equipment will be inspected, maintained and serviced on a regular basis. Records of maintenance and servicing will be retained onsite for the duration of the construction, operation and decommissioning phases. Plant and equipment will comply with the following:</p> <ul style="list-style-type: none"> Any exposed moving or rotating machine components must be guarded or fenced Conduct testing of braking systems Provide safe access and egress Operators must be adequately trained. 	Safety
71	<p>Safety berms will be constructed and maintained to protect persons and equipment from driving over embankments. These will be regularly inspected to ensure structural integrity.</p>	Safety
72	<p>Staff will be provided with Personal Protective Equipment (PPE), training of risk assessment methods and maintenance lock-out/tag-out safety system prior to starting the work.</p>	Safety
73	<p>The Project will adhere to fatigue management policy current at the time of Project commencement to ensure conditions of work of personnel align with the <i>Coal Mining Safety and Health Act 1999</i> (Qld). The maximum working time per 24 hours will not exceed 14 hours, inclusive of travel time. Shift work will be of 12 hours duration; this requires that driving time to and from work should be less than one hour.</p>	Safety
74	<p>Throughout the construction, operational and decommissioning phases of the Project, public safety will be managed by limited access to the Project site. Visitors will be escorted on site at all times. Additionally, BMA has a system in place to track access into and within its operating sites by all</p>	Safety

ID	Commitment	Reference
	personnel and visitors. Exclusion zones will be developed to prevent public access, with fences and signs erected to delineate such areas.	
76	Security measures implemented may include sign-in procedures for authorised personnel, identification, surveillance camera, security personnel after-hours, and if necessary, the involvement of police to manage more serious incidents.	Safety
77	Prior to construction, BMA will develop and implement an Emergency Management Plan and safety management system in consultation with Queensland Health, Police, Ambulance and Fire and Emergency Services.	Emergency
78	<p>Prior to construction, BMA will develop and implement an Emergency Management Plan and safety management system to manage emergency situations through First Aid, fire protection, security and remote travel emergency response capabilities, including procedures and SMART controls based on:</p> <ul style="list-style-type: none"> • Analysis of the key incidents likely to take place for each operational area • Assessment of the degree of impact likely to occur • Assessment of what constitutes an emergency for each operation • An onsite plan to handle incidents • An offsite plan with reference to emergency services needed • First aid • Flood management and evacuation • Emergency rescue facilities • Access to medical and allied health support • Communication, emergency responsibilities, control centre establishment • Post emergency procedures, including recovery, debriefing and review of plan • Testing of plan under emergency-like conditions. 	Emergency
79	<p>Prior to construction, BMA will develop and implement the Emergency Response Plan and safety management system including SMART controls to minimise bushfire risk, including but not limited to:</p> <ul style="list-style-type: none"> • maintain firebreaks • undertake fuel reduction activities (e.g. thinning undergrowth, or hazard reduction burning outside periods of declared total fire bans) to limit the speed and spread of potential unscheduled fires • maintain suitably equipped water truck or trailer on site • daily review of Fire Danger Ratings during fire season and communication of extreme conditions to staff • toolbox talks and relevant health and safety plans to discuss bushfire and ignition prevention measures. <p>BMA will liaise with landowners and local authorities with respect to firebreaks and ongoing maintenance programs to minimise bushfire risk.</p>	Emergency
80	<p>Permanent facilities, such as fuel storage areas, will have a dedicated fire detection/alarm, suppression and firefighting equipment.</p> <p>Prior to operation, BMA will ensure the Project has a Queensland Fire and Emergency Service (QFES) approved fire response/fighting system that includes equipment and SMART control measures to mitigate risks of an above ground or coal stockpile fire, including but not limited to:</p> <ul style="list-style-type: none"> • All buildings and equipment fitted with approved and certified fire detection equipment and suppression systems (smoke detectors, alarms and sprinkler systems) designed and installed in consultation with the relevant fire authorities. 	Emergency

ID	Commitment	Reference
	<ul style="list-style-type: none"> Installation of First Aid and firefighting equipment (handheld extinguishers and fire hoses) will be installed at strategic points within each building. Routine inspection, testing/servicing and maintenance of fire detection and suppression systems and firefighting facilities and equipment by a certified body. Suitable signage for firefighting equipment and exit locations. All work areas will be within the required distance to reach emergency exits and fire drills will be undertaken on a regular basis. Provision of training to relevant personnel. Limit ignition sources around refuelling and fuel storage areas Appropriate control measures to minimise the risk of an above ground coal stockpile fire, including: <ul style="list-style-type: none"> Minimising stockpile age Appropriate stockpile design Regular stockpile inspections <p>Provision of adequate firefighting equipment and water.</p>	
81	<p>Fuel storage onsite will be predominantly diesel, and storage design will comply with <i>AS1940:2017 The Storage and Handling of Flammable and Combustible Liquids</i> including, but not limited to:</p> <ul style="list-style-type: none"> Tank design in accordance with the applicable Australian Standards, such as <i>AS1692:2006 Steel Tanks for Flammable and Combustible Liquids</i> to minimise the potential for failure of the diesel storage vessel. Maintenance of storage tanks to ensure safe and effective operation of all components. Adequate bunding to contain spills. Ignition sources controlled to avoid fire involving bulk fuel oil. 	Hazards
83	<p>For delivery of dangerous goods required for construction and operations, BMA will only use licensed transporters operating in compliance with Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) that display HAZCHEM signage, including placards, and carry appropriate spill containment equipment to be used by emergency services personnel in the event of emergency spill.</p>	Hazards
84	<p>Before commencing construction, BMA will implement the SMART controls outlined in the Rehabilitation Management Plan (Appendix K-1) to ensure the Project is progressively rehabilitated to achieve the rehabilitation objectives as per the BHP Queensland Coal Rehabilitation Completion Criteria, including goals for stable, non-polluting landform, safe to humans and wildlife and able to sustain an agreed post-mining land use.</p>	Rehabilitation
85	<p>To achieve Rehabilitation Completion Criteria, the Rehabilitation Management Plan will outline rehabilitation design, mitigation measures and monitoring requirements, including but not limited to:</p> <ul style="list-style-type: none"> Suitable drainage to ensure the final landform can safely shed surface runoff without giving rise to erosion with consideration of the hydraulic properties of the impacted waterways Implementing rock chutes and embankment armouring in waterways to reduce velocity of surface flow, prevent erosion and scouring, reduce sediment entrainment and capture large woody debris. Stabilise waterways prior to impacts occurring through installation of weirs, channel re-profiling, vegetation planting or erosion control matting on embankments. Progressively rehabilitating compacted areas no longer required for operations by applying deep ripping/rock raking, stockpiled topsoil and replanting. 	Rehabilitation

ID	Commitment	Reference
	Rehabilitation monitoring will be undertaken in accordance with the BHP monitoring program current at the time of rehabilitation. Progressive rehabilitation will be monitored against indicators, and ultimately against completion criteria, to demonstrate successful rehabilitation of the Project.	
86	<p>A Progressive Rehabilitation and Closure Plan (PRCP) will be developed prior to construction commencing and will demonstrate that the proposed Project will be rehabilitated to a safe and stable landform, not cause environmental harm and will sustain post mining land use.</p> <p>The proposed post mining land use will be an undulating landscape that can be used as grazing land, consistent with the surrounding pastoral land use that dominates the region. The exception to this is where remnant native bushland is disturbed. The post mining land use for these areas is woodlands habitat as this is compatible with the pre-existing land use for biodiversity values. There may be instances in which a mix of native and non-native species will be implemented.</p>	Rehabilitation
87	<p>All major infrastructure, including the CHPP, will be decommissioned and removed offsite. All water dams and other facilities, including workshops and warehouses, will be decommissioned and removed, unless otherwise agreed with the subsequent landholder and in accordance with the Project EA.</p> <p>Roads not being retained by the subsequent landholder for access purposes will be rehabilitated unless otherwise agreed with the subsequent landowner and in accordance with the EA.</p>	Closure
88	BMA in consultation with relevant parties will review all infrastructure assets towards the close of the Project and assess which structures will be retained, sold for recycling or relocation or disposed of as general or regulated waste.	Closure
89	<p>During the decommissioning phase, BMA will ensure all 'notifiable activities' conducted within the Project Site will be investigated for in-situ soil contamination and as required under the Environment Protection Act 1994 (Qld) will either:</p> <ul style="list-style-type: none"> • Be released from the DES EMR • Be remediated, confirmed by follow-up investigation(s) and released from the DES EMR • Remain on the DES EMR with an agreed site management plan. 	Closure
90	BMA will comply with the legislative amendments associated with the passing of the <i>Mineral and Energy Resources (Financial Provisioning) Bill 2018</i> .	Closure