

Appendix 3

Summary of Management, Mitigation and Monitoring Measures

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**Table A3-1
Summary of Management and Mitigation Measures**

EIS Section	Management and Mitigation Measures	Timeframe for Implementation
Air Quality		
Management and Mitigation Measures	<p>Prepare and implement an <i>Air Quality Management Plan</i> consistent with the Plan for the Southern Operations. That Plan would:</p> <ul style="list-style-type: none"> • identify dust emission zones and associated risk classifications within the Mine Site; • describe the management measures to be implemented; • describe the air quality-related monitoring that would be implemented; and • provide a trigger – action – response plan to facilitate adaptive management of particulate emissions from the Mine Site. 	Within 3 months of approval
	Install and operate dust suppression equipment on mobile crushers and other plant.	Continuous during crushing operations
	Install fixed, automated water sprays on the ROM Pad to facilitate management of moisture levels within ore stockpiles.	Throughout the life of the Proposal
	Install and operate a wheel wash and require all vehicles leaving the operational section of the Mine Site to pass through the wheel wash.	
	Minimise the drop height during crusher, pastefill hopper and truck loading.	
	Ensure that all vehicles transporting ore to the Southern Operations have their loads covered.	
	Maintain operational exposed areas in a moist condition by using a water cart to water down areas likely to generate wind-blown and traffic-generated dust.	
	Apply water or chemical suppressants to all roads and trafficked areas using a water truck to minimise the generation of dust.	
	Limit, where practicable, operations during periods of high winds.	
	Limit disturbance to the minimum area necessary for mining and associated activities.	
	Operate the largest practical truck size to reduce the number of vehicle movements necessary.	
	Adhere to all vehicle speed limits.	
	Where practicable, profile all disturbed surfaces to reduce velocity of overland winds.	
	Clearly define all haul roads edges with marker posts or equivalent to control their locations.	
Close, rip and rehabilitate all obsolete roads.		
Reshape, rip and rehabilitate all completed areas as soon as practicable after the completion of mining operations.	As soon as practicable after the completion of mining operations in the relevant section of the Mine Site.	

Table A3-1 (Cont'd)
Summary of Management and Mitigation Measures

EIS Section	Management and Mitigation Measures	Timeframe for Implementation
Air Quality (Cont'd)		
Monitoring	Continue to undertake deposited dust and total suspended particulate monitoring, including contained metals, at the locations identified in EPL2688 in accordance with the Air Quality Management Plan to be prepared for the Proposal.	Throughout the life of the Proposal
Human Health		
Management and Mitigation Measures	Operate a wheel wash at both the North Mine Site and the Southern Operations Mine Site and ensure that no vehicles are permitted to leave operational sections of the Mine Sites without passing through the wheel wash.	Throughout the life of the Proposal
	Ensure that all loads are covered prior to the vehicles leaving the Mine Site.	
	Continue to participate and contribute to community and government agency lead monitoring and management programs, including the Broken Hill Lead Reference Group and the State government Environmental Lead Program.	
Monitoring	Implement blood lead level monitoring and bioavailability studies at residences most exposed to the Proposal.	Periodically throughout the life of the Proposal
Noise and Blasting		
Management and Mitigation Measures	Strictly comply with the proposed hours of operation.	Throughout the life of the Proposal
	Regularly service all on-site equipment to ensure sound power levels of each item remains at or below the default/or factory-set values.	
	Install frequency modulated reversing alarms to all mobile equipment.	
	Ensure that all truck drivers are required to comply with the Applicant's Driver's Code of Conduct outlining procedures for reducing noise impacts throughout transportation within the Mine Site and off site.	
	Maintain an open dialogue with the surrounding community and neighbours to ensure any concerns over noise or vibration are addressed.	
Monitoring	Continue to monitor ground vibration at the at the locations identified in EPL2688.	Throughout the life of the Proposal
Traffic and Transportation		
Management and Mitigation Measures	Operate a wheel wash at both the North Mine Site and the Southern Operations Mine Site and ensure that no vehicles are permitted to leave operational sections of the Mine Sites without passing through the wheel wash.	Throughout the life of the Proposal
	Ensure that vehicles are not overloaded.	
	Ensure that all loads are covered prior to the vehicles leaving the Mine Site.	
	Ensure that all vehicles entering and leaving the North Mine and Southern Operations Mine Sites pass through automatic security gates and the drivers are required to swipe in and out electronically and that vehicles arriving and leaving the Mine Sites are videoed.	

Table A3-1 (Cont'd)
Summary of Management and Mitigation Measures

EIS Section	Management and Mitigation Measures	Timeframe for Implementation	
Traffic and Transportation (Cont'd)			
Management and Mitigation Measures (Cont'd)	Ensure that all vehicles have electronic data recording systems to measure location, speed and critical operational statistics, as well as dash cameras that constantly record video.	Throughout the life of the Proposal	
	Ensure that a Driver's Code of Conduct requiring the following is implemented and enforced. <ul style="list-style-type: none"> • Compliance with all RMS regulations regarding speed, load limits and driving hours. • Compliance with the requirement to cover loads. • Limit the use of the engine brake and other noisy driving practices in built-up areas. • Show courtesy to all road users at all times. • No parking whilst enroute between the Mine Site and the Southern Operations. 		
	In addition, the Applicant would implement the proposed road upgrades identified in Section 2.7.4.3, including the following. <ul style="list-style-type: none"> • Intersection of the North Mine Site Access Road and the Barrier Highway. • Intersection of Gypsum Street – Crystal Street. • Intersection of Menindee Road and Crystal Street. 		Prior to commencement of transportation operations
	Negotiate a Voluntary Planning Agreement in relation to maintenance of that section of the proposed transport route that is classified as a "Local Road", namely the section of Crystal Street between the intersection with Menindee Road and Iodide Street.		<u>Terms</u> – Prior to granting of approval <u>Signed Agreement</u> – within 6 months of approval
Non-Aboriginal Heritage			
Management and Mitigation Measures	Restrict ground-disturbing activities to those prior areas of prior disturbance identified in Section 2 of the Environmental Impact Statement.	Throughout the life of the Proposal	
	Implement an exclusion zone of at least 20m the No. 1 Mill Foundations.		
	Minimise disturbance to the Concrete Tunnel where practicable and safe to do so.		
	Undertake monitoring of the Drainage Channel to ensure that the stone lining remains intact.		
	Install a covering with a protective layer of fill over the Standard Gauge Railway Siding to prevent damage from the heavy vehicle crossing. If that is not practicable, undertake long-term archival recording and salvage of the section of the Standard Gauge Railway Siding to be removed in accordance with the advice of a qualified archaeologist.	Prior to construction the proposed haul road	
Monitoring	Undertake monitoring of the stability of the No. 1 Mill Foundations and Lead Bin and implement appropriate remediation or management measures as required.	Throughout the life of the Proposal	

**Table A3-1 (Cont'd)
Summary of Management and Mitigation Measures**

EIS Section	Management and Mitigation Measures	Timeframe for Implementation
Surface Water		
Management and Mitigation Measures	Prepare a detailed <i>Surface Water, Sediment and Erosion Control Plan</i> , including a description of surface water management structures and procedures identified in Perilya (2014).	Within 3 months of approval
	Inspect and repair all surface water management structures.	Monthly or immediately following all rainfall events of more than 20mm / 24-hours.
	Ensure that all surface water collected within the surface water storages is either used for dust suppression or mining-related purposes or is pumped to the evaporation ponds within 5 days.	Throughout the life of the Proposal
	Store all hydrocarbon and chemical products within a bunded area in accordance with <i>AS1940 – The storage and handling of flammable and combustible liquids</i> .	
	Ensure that the evaporation ponds are engineered and lined with a welded HDPE liner or similar.	Prior to construction of the evaporation ponds
Groundwater		
Management and Mitigation Measures	Ensure that all produced groundwater is transferred either to the evaporation ponds or to the Southern Operations for use in processing operations.	Throughout the life of the Proposal
	Store all hydrocarbon and chemical products within a bunded area in accordance with <i>AS1940 – The storage and handling of flammable and combustible liquids</i> .	
Monitoring	Ensure that the volume of water pumped out of and into the Mine is monitored and recorded to enable net groundwater extraction rate to be determined.	
	Continue to monitor the standing water level within the No.3 Shaft.	
Ecology		
Management and Mitigation Measures	Ensure that any declared noxious weeds identified throughout construction operations are managed in accordance with the requirements of the <i>Noxious Weeds Act 1993</i> .	Throughout the life of the Proposal
	Ensure that all ground-engaging machinery is cleaned prior to arriving at or departing the Mine Site.	
	Ensure that all food scraps and rubbish are disposed of in sealed, animal-proof containers to prevent increased levels of pest species within the Mine Site.	
Aboriginal Heritage		
Management and Mitigation Measures	Restrict ground-disturbing activities to those presented in Section 2 and Figure 2.1 of the EIS.	Throughout the life of the Proposal
	Ensure that all employees are aware of their responsibilities concerning the management of any unanticipated discovered Aboriginal objects under the NPW Act.	

Table A3-1 (Cont'd)
Summary of Management and Mitigation Measures

EIS Section	Management and Mitigation Measures	Timeframe for Implementation
Aboriginal Heritage (Cont'd)		
Management and Mitigation Measures (Cont'd)	Ensure that, in the event that an unanticipated Aboriginal object is discovered, the following procedure is implemented. <ul style="list-style-type: none"> • Cease all ground surface disturbance in the area of the find immediately. • Notify the following authorities or personnel of the discovery: <ul style="list-style-type: none"> – OEH (Environment Line: 131 555); – Relevant Aboriginal Community Representatives; and – NSW Police (if the find is suspected to be human remains). 	Throughout the life of the Proposal in the event that an unanticipated Aboriginal object is discovered.
Visual Amenity		
Management and Mitigation Measures	Implement active dust suppression to reduce the potential for the creation of a 'dust cloud' over the Mine Site.	Throughout the life of the Proposal
	Practice appropriate waste management to prevent wind-blown rubbish.	
	Ensure that night-time lighting is the minimum required for safe operation and is pointed towards the ground. Lighting not required would be turned off.	
	Ensure that the operators of Outback Astronomy are consulted following the commencement of night-time operations to ensure that impacts associated with the Proposal are limited and implement adaptive management measures as required to resolve any identified issues.	Following the commencement of night-time operations
Bush Fire		
Management and Mitigation Measures	Ensure that refuelling is undertaken within designated fuel bays or within cleared area of the Mine Site.	Throughout the life of the Proposal
	Ensure that a no smoking policy is enforced within the Mine Site.	
	Ensure that fire extinguishers and/or firefighting infrastructure such as pumps, hydrants, hoses and sprinklers are located and maintained within the Mine Site.	
	Ensure that a water cart is available to assist in extinguishing any fire ignited.	
	Ensure that relevant emergency services are consulted in relation to management of bushfire risks within the Mine Site and the Applicant's capability to respond to off-site bushfire events.	
Agricultural Lands and Enterprises		
Management and Mitigation Measures	Ensure that appropriate weed and pest management programs are implemented in consultation with surrounding landholders and the Broken Hill Council weeds officer.	Throughout the life of the Proposal

**Table A3-1 (Cont'd)
Summary of Management and Mitigation Measures**

EIS Section	Management and Mitigation Measures	Timeframe for Implementation
Socio-Economic		
Management and Mitigation Measures	Engage in regular dialogue with surrounding residents in relation to the Applicant’s activities and continue to implement and maintain an “open door” policy for interested parties to discuss aspects of those activities that may be perceived as problematic.	Throughout the life of the Proposal
	Negotiate a Voluntary Planning Agreement with Broken Hill Council to ensure an equitable contribution to the local community, without adversely impacting on the financial robustness of the Proposal.	<u>Terms</u> – Prior to granting of approval <u>Signed Agreement</u> – within 6 months of approval
	Continue to support community organisations, groups and events as appropriate and review any request by a community organisation for support or assistance.	Throughout the life of the Proposal
	Continue to liaise with the community through the existing, successful liaison mechanisms, including: <ul style="list-style-type: none"> • direct consultation with the Applicant’s workforce and contractors; • publication of the Perilya Post; • maintenance of a complaints/information line and open and accurate provision of information to all community members who request it; and • regular liaison with all relevant government agencies. 	
	Continue to offer all positions as residential positions only.	
	Encourage the involvement of the local Aboriginal community in the workforce.	
	Give preference, where practicable and cost-competitive, to suppliers of equipment, services or consumables located within Broken Hill.	
	Encourage and support, in consultation with the local community, the provision of services to the community. These may include health, education, transportation and other services.	