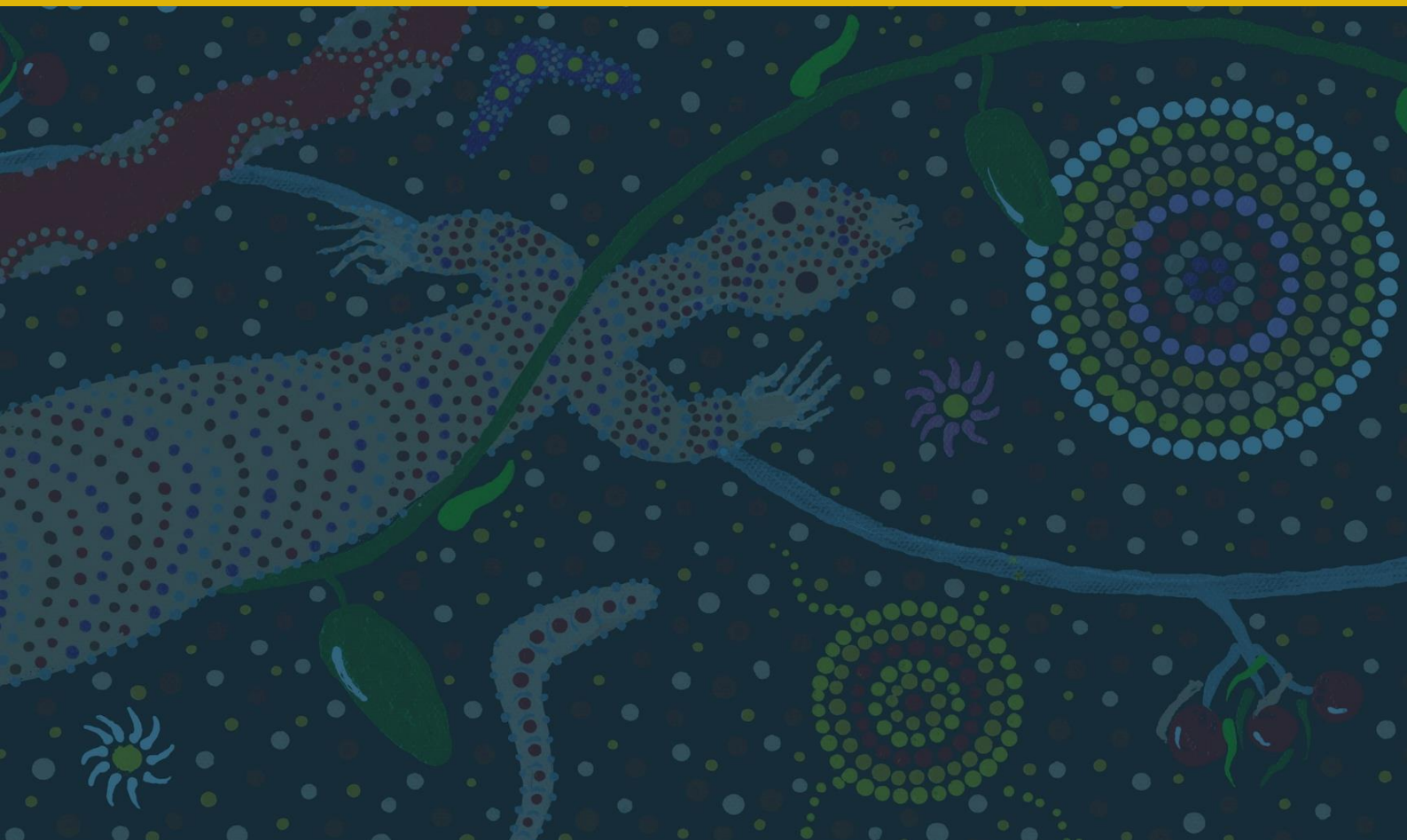


FIMISTON SOUTH PROJECT

SIGNIFICANT SPECIES MANAGEMENT PLAN



SIGNIFICANT SPECIES MANAGEMENT PLAN

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1. SUMMARY

Kalgoorlie Consolidated Gold Mines Pty Ltd (KCGM) is the proponent for the Fimiston South (FS) Project (the Proposal). The objective of the proposal is to continue the ongoing operations of the Fimiston Gold Mine and enable uninterrupted mining and mineral processing until approximately 2034.

The Proposal is summarised in Section 2.1 of this Significant Species Management Plan (SSMP) for ease of reference.

This SSMP was prepared in accordance with the ‘*Instructions on how to prepare Environmental Protection Act 1986 - Part IV Environmental Management Plans*’ published by the Western Australian (WA) Environment Protection Authority (EPA) (EPA 2020b). This SSMP details the measures that are required to manage potential impacts to conservation significant species from the Proposal. Table 1 summarises the information contained in this SSMP.

Table 1 Management Plan Summary

TITLE OF PROPOSAL	Fimiston South Project
PROPONENT	Kalgoorlie Consolidated Gold Mines Pty Ltd
MINISTERIAL STATEMENT NUMBER	Ministerial Statement 782
PURPOSE OF THE SSMP	To meet the requirements for a Significant Species Management Plan to manage potential impacts to <i>Eremophila praecox</i> (Priority 2) and <i>Jalmenus aridus</i> (Priority 1).
KEY ENVIRONMENTAL FACTOR/S AND OBJECTIVE/S	<p><u>Key Environmental Factors:</u> Flora and vegetation, Terrestrial fauna</p> <p><u>EPA Objectives:</u></p> <ul style="list-style-type: none"> <u>Flora and vegetation:</u> ‘To protect flora and vegetation so that biological diversity and ecological integrity are maintained’ (EPA, 2020a). <u>Terrestrial fauna</u> ‘To protect terrestrial fauna so that biological diversity and ecological integrity are maintained’ (EPA, 2020a).
CONDITION CLAUSES	NA
PROPOSED CONSTRUCTION DATE	Continuation of existing operations
EMP REQUIRED PRE-CONSTRUCTION?	Yes

2. CONTEXT, SCOPE AND RATIONALE

2.1. Proposal

KCGM manages and operates the following mining and processing operations for Owners, Northern Star Resources Limited (Northern Star 100%):

- Fimiston Open Pit: open pit mining and waste rock disposal.
- Mt Charlotte Underground Mine: underground mining.
- Fimiston Processing Plant: crushing, mineral processing, refining and tailings disposal.
- Gidji Gold Processing Plant: mineral processing and tailings disposal.
- Exploration: mineral resource definition drilling and core processing.

The Fimiston Operations are comprised of the Fimiston Open Pit and the Fimiston Processing Plant which are located adjacent to the City of Kalgoorlie-Boulder approximately 600 kilometres (km) east of Perth, Western Australia. On average, KCGM produces 500,000 ounces of gold each year and has a current operating mine life until 2034

Up to 80million tonnes (Mt) of ore and waste rock material are mined from the Fimiston Open Pit each year. Ore is processed at the Fimiston Processing Plant continually, whilst the waste rock material is transported to various waste rock dumps or marginal ore stockpiles adjacent to the open pit operations. The current footprint of the Fimiston Open Pit extends approximately 1.5 km in width, 3.5 km in length and to a depth of approximately 600 m making it one of the largest open pit gold mines in Australia.

The Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning: Revised Proposal, Fimiston South Project (FS Project) is to mine a cutback at the southern end of the Fimiston Open Pit using mining methods currently employed in the open pit. The cutback will allow for both the widening and deepening of the pit and extend the life of mine to 2034. The Project will require additional areas for infrastructure, waste rock dumps and tailings. The FS Project will be mined in the same manner as the current Fimiston Open Pit operations. The FS Project will also include the addition of an extra cell to the Fimiston II Extension Tailings Storage Facility (TSF), construction of a new Fimiston III TSF and extension to the existing Waste Rock Dump (WRD).

The FS Project has been referred to the Western Australian Environmental Protection Authority (EPA) for assessment under Part IV of the Environmental Protection Act 1986 (EP Act), which applies to development proposals that are likely to have a significant impact on the environment.

This SSMP will be implemented following receipt of approval under the EP Act. In the interim, the Fimiston Gold Mine Operations will continue to operate under current Ministerial Conditions and management practices.

2.2. Key Environmental Factors

This SSMP specifically addresses the 'Flora and Vegetation' and 'Terrestrial Fauna; environmental factors, as defined within the EPA's *Statement of Environmental Principles, Factors and Objectives* (EPA, April 2020).

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The environmental objective of the Flora and Vegetation factor, as defined within the EPA's *Environmental Factor Guideline: Flora and Vegetation* (EPA, 2020a), is:

To protect flora and vegetation so that biological diversity and ecological integrity are maintained

The environmental objective of the Terrestrial Fauna factor, as defined within the EPA's *Environmental Factor Guideline: Terrestrial Fauna* (EPA, 2020a), is:

To protect terrestrial fauna so that biological diversity and ecological integrity are maintained

2.2.1. Activities affecting Key Environmental Factor – Flora and Vegetation

Specific impacts on flora and vegetation potentially resulting from the Proposal are:

- direct loss of flora and native vegetation due to clearing 2246 ha of vegetation
- indirect impacts on flora and vegetation from construction and operation of expanded pit, new TSF and WRD including:
 - dust deposition on vegetation
 - impact to flora and vegetation from water used for dust suppression
 - changes to vegetation structure and composition due to altered surface drainage flow patterns resulting in changes to hydrology
 - alteration of groundwater regimes due to clearing, and water from the TSF entering groundwater
 - indirect impacts from altered fire regimes
 - invasion of introduced flora.

2.2.2. Activities affecting Key Environmental Factor – Terrestrial Fauna

Specific impacts on terrestrial fauna potentially resulting from the Proposal are:

- loss of habitat and habitat fragmentation due to 2246 ha of vegetation clearing
- vehicle strike causing injury or death
- fauna entrapment leading to injury or death
- dust generation, noise and vibration causing temporary displacement of fauna
- increase in pest species impacting native fauna due to predation and competition
- altered surface water hydrological regimes impacting on vegetation health
- altered fire regimes.

2.3. Condition Requirements

There are no specific Ministerial Condition requirements in Ministerial Statement 782 associated with Flora and Vegetation and Terrestrial Fauna other than limits on the total area to be cleared.

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The *Environmental Protection Act 1986 (EP Act)* has been considered in preparation of this SSMP.

The *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)* is not applicable to the SSMP as the species protected are not listed under this legislation.

2.4. Rationale and Approach

The Proposal has been designed to avoid impacts to key environmental factors located within the footprint; including the location of *Jalmenus aridus* and *Eremophila praecox* in relation to key mining infrastructure.

2.4.1. Survey and Study Findings

2.4.1.1 Flora

The results from ecological surveys have been used to support the assessment of potential impacts of the Proposal on flora and vegetation. The most recent flora and vegetation assessment report (Phoenix Environmental Sciences, 2022) includes a discussion on the combined vegetation and flora studies completed in recent years. Reports that document regional fauna, flora and vegetation within the surrounds of the Mine Disturbance Envelope (MDE) were also reviewed as outlined in Table 2.

In September 2021, Phoenix Environmental Sciences Pty Ltd (Phoenix) was commissioned to undertake a biological desktop review and reconnaissance survey for the Proposal to identify potential terrestrial biological values and inform further baseline survey requirements.

Table 2 Vegetation and Flora Surveys

Report	Survey Description	Survey Date
Flora and vegetation, and fauna surveys for proposed infrastructure within the Development Envelope of the Fimiston Gold Mine Operations, Phoenix, 2018a	Investigation of proposed infrastructure areas in the floodway and north of the Fimiston II TSF.	6-8 September and 11-12 November 2017
Targeted flora and short-range endemic invertebrate study for the FIM IIE Project, Phoenix 2019a	Targeted <i>Eremophila praecox</i> and general short range endemic survey for the Fimiston II Cell E TSF Project, December 2019	13-14 November 2018
Regional survey for <i>Eremophila praecox</i> for the FIM IIE Project, Phoenix, 2019b	Survey for the State listed Priority 1 flora species <i>Eremophila praecox</i> in the broader Kalgoorlie region.	9-15 August 2019
Flora and vegetation assessments for the Fimiston Gold Mine Operations, Phoenix 2022a	Gap analysis of botanical values at the Fimiston Operational Area and botanical survey in areas where survey was insufficient, including the Floodway North and Floodway South areas, Fimiston II Cell E	Floodway North and Floodway South – 19-21 May 2021 Fimiston IIE TSF and Cell G – 4-8 October 2021

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Report	Survey Description	Survey Date
	TSF, Cell G and Fimiston III TSF study areas.	Reconnaissance survey for Fimiston III TSF – 13-16 December 2021

2.4.1.1.1 *Eremophila praecox*

One Priority 2 species, *Eremophila praecox*, is present in the MDE and 13 plants may be impacted by clearing. The total overall population size for the species is 442 plants, (Phoenix 2022a) although more are anticipated to be found with future surveys. The Proposal involves the clearing of 13 plants or 2.9% of the known population. The species is most frequently recorded in clay loam soils in Eucalyptus and/or Allocasuarina woodland with a variable understorey, frequently with Acacia and Eremophila species. *Eremophila praecox* has previously been recorded in conservation reserves including the Karrawang Nature Reserve (WA Herbarium 1998-) and Bullock Holes Timber Reserve (Phoenix 2020). This indicates that the species is likely more common than is currently known and is present in reserved areas.

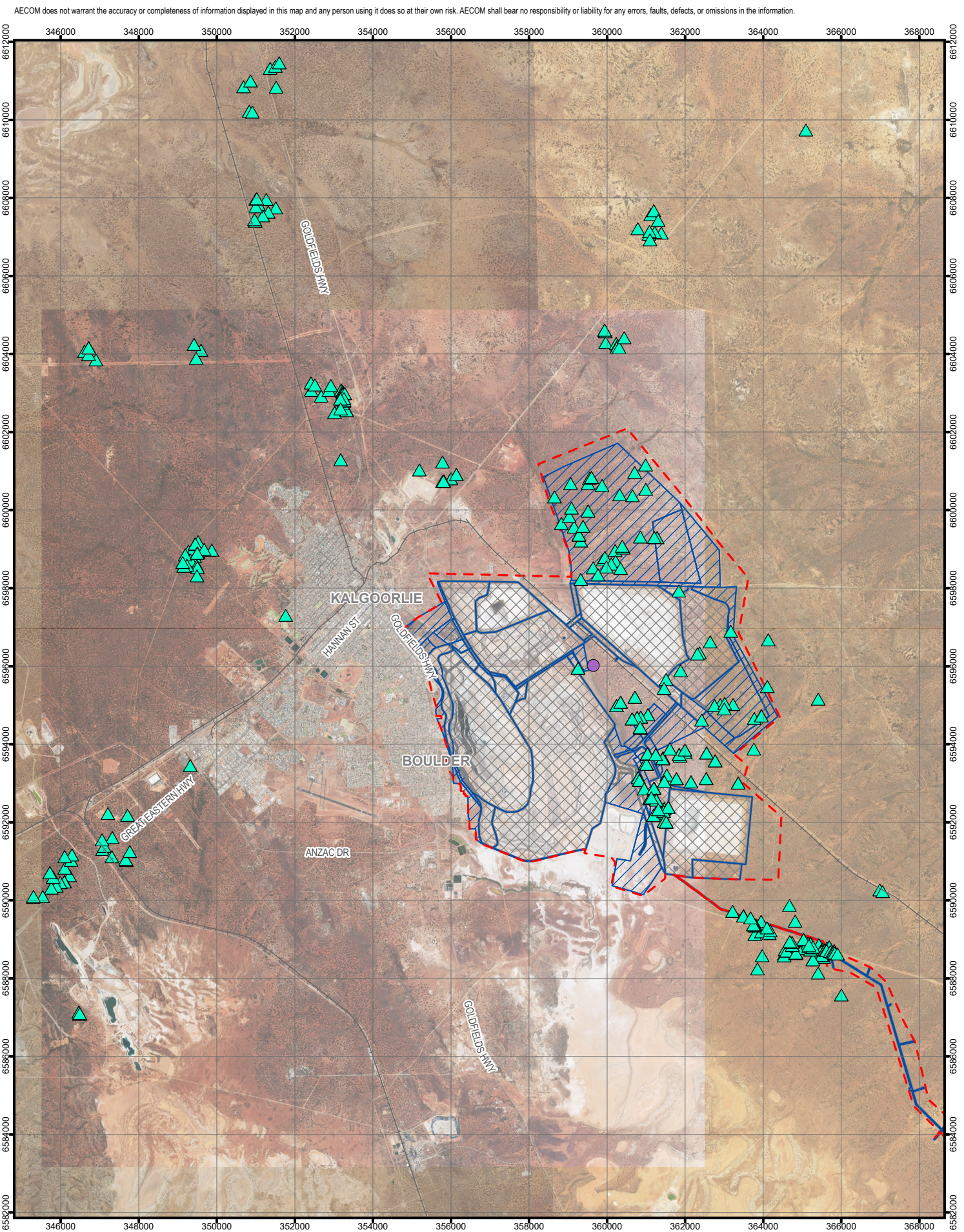
2.4.1.2 *Jalmenus aridus*

The Priority 1 butterfly, *J. aridus* was identified opportunistically during fauna surveys and as a result a separate targeted survey for this species was undertaken.

Until recently, *J. aridus* was only known from its type locality at Lake Douglas approximately 12 km SW of Kalgoorlie. It was discovered in November 1983 breeding on a single *Acacia tetragonophylla*, but soon after its discovery the tree started to die and the butterflies disappeared. The last sighting of *J. aridus* at Lake Douglas was in 1999 (Phoenix 2022b).

J. aridus breeds on *A. tetragonophylla*, and *Senna nemophilla* (= *artemisioides* ssp. *filifolia*). The *Senna* food plant is common around Kalgoorlie. It is thought that the butterfly larvae feed preferentially on the *Senna* flowers, which bloom in springtime from August to September. Adults would then be flying from late September to November. However, larvae feeding on *A. tetragonophylla* foliage may not be so constrained and so adults could be found at other times of year.

Jalmenus species are known to have strong site fidelity and can persist at a site for more than 30 years (Phoenix, 2022b). *Jalmenus* are believed to feed on a single tree/shrub for at least 12 years and perhaps as long as 24 years (Phoenix, 2022b). *J. aridus* has a mutualistic association with the common, small dolichoderine ant *Froggattella kirbii*. The butterfly larvae feed on the flowers and/or leaves of their food plant while the ants are in constant attendance. The larvae produce sweet secretions in the form of amino acids and sugars from the Newcomer's organ on the seventh abdominal segment, from which the ants feed. In return, the presence of the ants protects the butterfly larvae from parasitoids and predators. Larvae may have an attrition rate of 100% in the absence of their attendant ants (Phoenix, 2022b).



PROJECT ID 60607697
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 LAST MODIFIED 12 AUG 2022

AECOM
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Datum: GDA 1994 MGA Zone 51
 1:125,000
 0 500 1,000 1,500 2,000 metres

Data sources:
 Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)
 Service Layer Credits: Landgate_Subscription_Imagery|WAnow

LEGEND

- - - Proposed Mine Development Envelope
- Approved Disturbance Area
- Proposed New Disturbance Area
- Conservation Significant Flora
- Streptoglossa
- ▲ Eremophila Praecox

Conservation Significant Flora

KALGOORLIE CONSOLIDATED GOLD MINES
FIMISTON GOLD MINE OPERATIONS (STAGE 3) AND MINE CLOSURE PLANNING REVISED PROPOSAL

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A *S. artemisioides filifolia* breeding shrub and several other potential host plants were identified at Fimiston. Several nectaring plants were also identified.

Their attendant ant species, *F. kirbii*, has a wide distribution throughout open woodland areas across most of Australia (Shattuck 1999), so the presence of ants cannot predict the likely presence of the butterfly. The larval food plant of *J. aridus*, *Senna artemisioides* ssp. *filifolia*, also has a distribution that covers most of WA and the distribution of their *A. tetragonophylla* host plant is even broader (WA Herbarium 1998-).

A significant breeding site for *J. aridus* was discovered and a total of 114 *J. aridus* adults were recorded in an area surrounded by the existing operations. This survey (Table 3) and the location of the species is being kept confidential due to the risk of butterfly poachers. The survey report has been provided to the EPA and DBCA under a separate cover.

Table 3 Jalmenus Aridus Survey

Report	Survey Description	Date of Survey
Phoenix 2022b. Memo report: records of <i>Jalmenus aridus</i> at Fimiston.	Targeted survey for the P1 <i>Jalmenus aridus</i> butterfly	14-15/10/2021, 26/10/2021, 29/10/2021

2.4.1.3 Surface water

Events that cause flooding and connection of the floodway on the site are not frequent, with flooding requiring events greater or equal to the 12 hour, 10% Annual Exceedance Probability event.

Changes to catchment areas and flow paths can result in increases or decreases of flooding and inundation of habitat, potentially changing the plants that live there to types more suited to the new regime. Loss of catchment area due to construction of a TSF that holds water or diversion of catchment towards another creekline will lead to a loss of flow to the downstream area.

J. aridus occurs in areas near floodways and may be affected by such changes in hydrological regimes. Potential impacts to *E. praecox* are not associated with flood prone areas and have thus not been considered in the drainage design.

A catchment assessment was undertaken to estimate the size of the contributing catchments upslope of the *J. aridus* habitat areas, under both existing and post-development scenarios. Two sub-catchments have been identified which drain through the north *J. aridus* habitat area, Catchment A and Catchment B, which have areas of approximately 379 ha and 1062 ha, respectively (Table 4). The southern *J. aridus* habitat area has an upslope catchment area of approximately 34 ha (Table 4). A memo providing further details of the catchment and flows has been provided to the EPA and DBCA under a separate cover.

Table 4 Estimated Reduction in Catchment Areas Upslope of the *J. aridus* Habitat Areas

<i>J. Aridus</i> Habitat Area	Catchment	Catchment Areas		% Difference in Areas
		Existing	Post-Development	
North	A	379	205	-46%
	B	1062	1062	0%
South	C	34	34	0%

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To reduce the impact of the loss of upslope catchment areas on the identified *J. aridus* habitat, a secondary diversion is proposed. The purpose of the secondary diversion is to maximise the return of upslope flows within catchment A to the downstream northern *J. aridus* habitat area.

Table 5 summarises a comparison of the catchment areas with and without the proposed secondary diversion. The diversion will retain approximately 74 ha (or approximately 20%) of the area of Catchment A by diverting runoff back into Catchment A. Approximately 73 ha of this catchment is lost to development as part of the Proposal which is unable to be recovered and approximately 27 ha is unable to be diverted due to topographical constraints. The secondary diversion will retain an additional 5% of the total area (catchment A & B combined) draining through the northern *J. aridus* habitat area.

Table 5 Comparison of Catchment Areas Based on the Proposed Secondary Diversion

Scenario	Catchment Area (ha)		% Difference in Catchment Area	
	North	Total – North and East	North	Total – North and East
Existing	379	1441	-	-
Post-Development (no diversion)	205	1267	-46%	-12%
Post-Development (with secondary diversion)	279	1341	-26%	-7%

2.4.2. Key assumptions and uncertainties

A number of assumptions and uncertainties based on surveys undertaken to date form the basis of the proposed management approach, as listed below.

2.4.2.1 Assumptions

- Utilising areas of existing disturbance and minimising clearing and implementing progressive rehabilitation throughout the life of the project will minimise the impacts of the Proposal on conservation significant species.
- Surveys to date provide sufficient information to confirm the presence of *E. praecox* and suggest a healthy population exists within the Proposal area and also within the surrounding region.
- Surveys to date provide sufficient information to confirm the presence of *J. aridus* and suggest a healthy population exists within the Proposal area and further surveys are being undertaken to determine the likely extent of local population(s) beyond the proposal area.
- The MDE and broader regional area have been adequately surveyed for terrestrial flora and no other significant species are likely to be affected by the Proposal.

2.4.2.2 Uncertainties

- The extent to which climatic factors outside of KCGM control, including dust and fire, will impact on the health and extent of populations of Significant Species.

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- The extent to which dust generated from implementation of the Proposal will travel from the source to receptor.
- Occurrence of extreme rainfall events, drought or fire during the life of mine and post-closure.
- The resilience of conservation significant flora species to dust deposition.

2.4.3. Management approach

Management measures to minimise the intensity of the effects of the Proposal are necessary to ensure the Proposal activities will not have a significant detrimental impact on key environmental factors. Specific application of the mitigation hierarchy for the Proposal is as follows.

2.4.3.1 Avoid

Where practical, mapped occurrences of *E. praecox* have been avoided, with 327 plants retained.

Clearing of identified *J. aridus* breeding shrub and nectaring habitat have been avoided.

2.4.3.2 Minimise

Impacts on conservation significant species have been managed by minimising the area of clearing for the Proposal and construction of the secondary diversion channel.

2.4.3.3 Remediate

Consideration will be given to measures to encourage the growth of *E. praecox* and *J. aridus* host tree species in revegetation areas.

2.4.3.4 Offsets

Offsets for the potential significant residual impact of the Proposal on *E. praecox* and *J. aridus* will be described within the assessment documentation for the Proposal.

In the event that the effect of the Proposal to conservation significant fauna is greater than predicted within the assessment documentation, additional offsets may be considered to counterbalance any additional significant residual effects as part of the periodic review and revision of this SSMP.

2.4.4. Rationale for choice of indicators and/or management actions

Monitoring indicators and triggers have been chosen on the basis that they directly relate to the health of the habitat of the species and the species itself and respond to the times at which the species can best be identified.

Management actions have been chosen that directly benefit the species.

3. EMP PROVISIONS

The key objectives of the SSMP are to ensure compliance of the FS Project with EPA objectives regarding flora and vegetation and terrestrial fauna.

To meet this objective, management provisions have been established for the potential impacts as summarised in Section 2.4.3. As environmental impacts incorporate both quantifiable and non-quantifiable impacts, outcomes-based and management-based provisions have been included in this SSMP. Early response triggers for management-based provisions are detailed in the tables below.

Outcome-based provisions are performance-based and may be used where the part of the environment is able to be objectively measured and reported. Therefore, outcome-based provisions have been established to specify triggers and thresholds of direct impacts and to ensure the Proposal achieves acceptable environmental outcomes.

Management-based provisions relate to management actions and may be used where the part of the environment is not capable of being objectively measured and reported. Therefore, management-based provisions have been established to specify management actions and targets, particularly for indirect impacts that are non-quantifiable. As monitoring is undertaken and additional population data is gathered, the management targets are expected to be reviewed and quantifiable outcome-based provisions established.

3.1. Eremophila praecox

3.1.1. Outcome-based provisions

Purpose of EMP: EMP to comply with anticipated Ministerial Statement condition (Table 7 Rationale for Jalmenus aridus outcome-based provisions

EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to <i>E. praecox</i> to the maximum extent practical. Outcome/s: No significant impact to <i>E. praecox</i> outside the approved clearing areas. Key environmental values: Presence of Priority 2 species, <i>E. praecox</i> Key impacts and risks: reduction in presence of <i>E. praecox</i>				
Outcome-based				
Criteria:	Response Actions:	Monitoring	Timing / Frequency of Monitoring	Reporting
<ul style="list-style-type: none"> • Trigger criteria • Threshold criteria 	<ul style="list-style-type: none"> • Trigger level actions • Threshold contingency actions 			
<p><u>Trigger criteria</u> Reduction in mean condition ratings of vegetation health in areas containing <i>E. praecox</i> without attributable natural cause.</p>	<p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. • Change in frequency of vegetation health monitoring. 	<p>Assessment of vegetation health, condition and weed presence in permanent quadrats located in areas containing <i>E. praecox</i> and control sites away from the FS Project.</p>	<p>Annually for the first three years. Following the development of a strong dataset over this period, the monitoring methodology, frequency and monitoring sites will be reduced to every three years</p>	<p>Annual reporting of monitoring and contingency actions</p>
<p><u>Threshold criteria</u> Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation health in areas containing <i>E. praecox</i> in comparison to control sites.</p>	<p><u>Threshold contingency actions</u></p> <ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. 			

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EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to *E. praecox* to the maximum extent practical.
 Outcome/s: No significant impact to *E. praecox* outside the approved clearing areas.
 Key environmental values: Presence of Priority 2 species, *E. praecox*
 Key impacts and risks: reduction in presence of *E. praecox*

Outcome-based				
Criteria: <ul style="list-style-type: none"> • Trigger criteria • Threshold criteria 	Response Actions: <ul style="list-style-type: none"> • Trigger level actions • Threshold contingency actions 	Monitoring	Timing / Frequency of Monitoring	Reporting
	<ul style="list-style-type: none"> • Review dust, weather and weed monitoring to compare <i>E. praecox</i> and control sites. Determine whether the changes observed in the impact sites are comparable to the observations in the reference sites. • Investigate potential causes for the observed decline in vegetation health which may include but are not limited to: <ul style="list-style-type: none"> - seasonal conditions (e.g., rainfall and temperatures) - effectiveness of weed control - spatial variation (near-impact areas) versus sites located further from impact • Develop strategies based on the outcomes of the investigation to prevent a recurrence and, if necessary or possible, reverse the decline in health of the <i>E. praecox</i> habitat. Management measures may include the following: <ul style="list-style-type: none"> - Change in frequency of vegetation health monitoring • Increase in staff training and awareness on factors which have implications to vegetation health for example dust, changes to hydrology 			

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EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to *E. praecox* to the maximum extent practical.
 Outcome/s: No significant impact to *E. praecox* outside the approved clearing areas.
 Key environmental values: Presence of Priority 2 species, *E. praecox*
 Key impacts and risks: reduction in presence of *E. praecox*

Outcome-based				
Criteria:	Response Actions:	Monitoring	Timing / Frequency of Monitoring	Reporting
<ul style="list-style-type: none"> • Trigger criteria • Threshold criteria 	<ul style="list-style-type: none"> • Trigger level actions • Threshold contingency actions 			
<p>Conservation significant species within the MDE but outside areas of clearing experiences a statistically significant higher foliage cover loss rate than that of control sites and that foliage cover loss is not attributed to natural causes.</p>	<p><u>Threshold response:</u></p> <ul style="list-style-type: none"> • Report internally as an incident • Investigate cause and extent of mortality and if it is likely to result in the key environmental outcome not being achieved • If necessary (deemed to be proposal-related) consider measures to prevent a re-occurrence of the incident and/or remediation strategies to address the impact • Engagement with key stakeholders including DBCA, and relevant specialists where required to determine key actions. 	<p>Assessment of vegetation health, condition and weed presence in permanent quadrats located in areas containing <i>E. praecox</i> and control sites away from the FS Project.</p>	<p>Annually for the first three years. Following the development of a strong dataset over this period, the monitoring methodology and frequency will be reduced to every three years.</p>	<p>Annual reporting of monitoring and contingency actions</p>

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Rationale: refer to Table 6 below.

Table 6 Rationale for *Eremophila praecox* outcome-based provisions

Threshold	Rationale				
Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation health in areas containing <i>E. praecox</i> in comparison to control sites	If a decline in health is identified during vegetation health monitoring, the response actions in Table 7 Rationale for <i>Jalmenus aridus</i> outcome-based provisions				
	EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to <i>E. praecox</i> to the maximum extent practical. Outcome/s: No significant impact to <i>E. praecox</i> outside the approved clearing areas. Key environmental values: Presence of Priority 2 species, <i>E. praecox</i> Key impacts and risks: reduction in presence of <i>E. praecox</i>				
	Outcome-based				
	Criteria: <ul style="list-style-type: none"> • Trigger criteria • Threshold criteria 	Response Actions: <ul style="list-style-type: none"> • Trigger level actions • Threshold contingency actions 	Monitoring	Timing / Frequency of Monitoring	Reporting
	<u>Trigger criteria</u> Reduction in mean condition ratings of vegetation health in areas containing <i>E. praecox</i> without attributable natural cause.	<u>Trigger level actions</u> <ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. • Change in frequency of vegetation health monitoring. 	Assessment of vegetation health, condition and weed presence in permanent quadrats located in areas containing <i>E. praecox</i> and control sites away from the FS Project.	Annually for the first three years. Following the development of a strong dataset over this period, the monitoring methodology, frequency and monitoring sites will be reduced to every three years	Annual reporting of monitoring and contingency actions
<u>Threshold criteria</u>	<u>Threshold contingency actions</u>				

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Threshold	Rationale				
	<p>Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation health in areas containing <i>E. praecox</i> in comparison to control sites.</p>	<ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. • Review dust, weather and weed monitoring to compare <i>E. praecox</i> and control sites. Determine whether the changes observed in the impact sites are comparable to the observations in the reference sites. • Investigate potential causes for the observed decline in vegetation health which may include but are not limited to: <ul style="list-style-type: none"> - seasonal conditions (e.g., rainfall and temperatures) - effectiveness of weed control 			

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Threshold	Rationale				
		<ul style="list-style-type: none"> - spatial variation (near-impact areas) versus sites located further from impact • Develop strategies based on the outcomes of the investigation to prevent a recurrence and, if necessary or possible, reverse the decline in health of the E. praecox habitat. Management measures may include the following: <ul style="list-style-type: none"> - Change in frequency of vegetation health monitoring • Increase in staff training and awareness on factors which have implications to vegetation health for example dust, changes to hydrology 			
	Conservation significant species within the MDE but outside areas of	<u>Threshold response:</u> <ul style="list-style-type: none"> • Report internally as an incident 	Assessment of vegetation health, condition	Annually for the first three years. Following the development of	Annual reporting of monitoring and

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Threshold	Rationale				
	<p>clearing experiences a statistically significant higher foliage cover loss rate than that of control sites and that foliage cover loss is not attributed to natural causes.</p>	<ul style="list-style-type: none"> Investigate cause and extent of mortality and if it is likely to result in the key environmental outcome not being achieved If necessary (deemed to be proposal-related) consider measures to prevent a re-occurrence of the incident and/or remediation strategies to address the impact Engagement with key stakeholders including DBCA, and relevant specialists where required to determine key actions. 	<p>and weed presence in permanent quadrats located in areas containing <i>E. praecox</i> and control sites away from the FS Project.</p>	<p>a strong dataset over this period, the monitoring methodology and frequency will be reduced to every three years.</p>	<p>contingency actions</p>
<p>Conservation significant species within the MDE but outside areas of clearing experiences a statistically significant higher foliage cover loss rate than that of control sites (where that foliage cover loss is not attributed to direct or Project impacts).</p>	<p>will allow investigation to determine if the causes are attributed to the Proposal and, if necessary, allow for further management measures to meet the environmental outcome. The triggers for species health decline will be compared with control monitoring to allow consideration for climatic variation such as rainfall and factors outside of the proponent's control.</p> <p>The objective is for no proposal-related indirect adverse impacts to uncleared flora and vegetation within the MDE. 'Adverse' is defined as an impact likely to change the conservation status or significantly change the local population numbers of a species. It is widely known that all plants experience a natural rate of mortality. By comparing the rate of mortality of the areas containing <i>E. praecox</i>, it may be deduced if the area is experiencing natural rates of mortality. If the rate of mortality appears higher than control sites, it should be investigated, reported and corrective actions implemented if it is attributable to proposal related indirect effects. However, it should be</p>				

Threshold	Rationale
	noted that the extent of mortality will determine if the key environmental outcome is not being achieved as it may not mean the impact can be defined as 'adverse'. By reporting a difference, the proponent is adopting a precautionary approach. Through monitoring any significant foliage cover loss of conservation significant species, any potential degradation of individual health can be identified, investigated and potentially rectified prior to mortality.

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Table 7 Rationale for Jalmenus aridus outcome-based provisions

EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to <i>E. praecox</i> to the maximum extent practical. Outcome/s: No significant impact to <i>E. praecox</i> outside the approved clearing areas. Key environmental values: Presence of Priority 2 species, <i>E. praecox</i> Key impacts and risks: reduction in presence of <i>E. praecox</i>				
Outcome-based				
Criteria:	Response Actions:	Monitoring	Timing / Frequency of Monitoring	Reporting
<ul style="list-style-type: none"> • Trigger criteria • Threshold criteria 	<ul style="list-style-type: none"> • Trigger level actions • Threshold contingency actions 			
<p><u>Trigger criteria</u></p> <p>Reduction in mean condition ratings of vegetation health in areas containing <i>E. praecox</i> without attributable natural cause.</p>	<p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. • Change in frequency of vegetation health monitoring. 	<p>Assessment of vegetation health, condition and weed presence in permanent quadrats located in areas containing <i>E. praecox</i> and control sites away from the FS Project.</p>	<p>Annually for the first three years. Following the development of a strong dataset over this period, the monitoring methodology, frequency and monitoring sites will be reduced to every three years</p>	<p>Annual reporting of monitoring and contingency actions</p>
<p><u>Threshold criteria</u></p> <p>Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation health in areas containing <i>E. praecox</i> in comparison to control sites.</p>	<p><u>Threshold contingency actions</u></p> <ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. • Review dust, weather and weed monitoring to compare <i>E. praecox</i> and control sites. Determine whether the changes observed in the impact sites are comparable to the observations in the reference sites. • Investigate potential causes for the observed decline in vegetation health which may include but are not limited to: 			

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EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to <i>E. praecox</i> to the maximum extent practical. Outcome/s: No significant impact to <i>E. praecox</i> outside the approved clearing areas. Key environmental values: Presence of Priority 2 species, <i>E. praecox</i> Key impacts and risks: reduction in presence of <i>E. praecox</i>				
Outcome-based				
Criteria: <ul style="list-style-type: none"> Trigger criteria Threshold criteria 	Response Actions: <ul style="list-style-type: none"> Trigger level actions Threshold contingency actions 	Monitoring	Timing / Frequency of Monitoring	Reporting
	<ul style="list-style-type: none"> seasonal conditions (e.g., rainfall and temperatures) effectiveness of weed control spatial variation (near-impact areas) versus sites located further from impact Develop strategies based on the outcomes of the investigation to prevent a recurrence and, if necessary or possible, reverse the decline in health of the <i>E. praecox</i> habitat. Management measures may include the following: <ul style="list-style-type: none"> Change in frequency of vegetation health monitoring Increase in staff training and awareness on factors which have implications to vegetation health for example dust, changes to hydrology 			
Conservation significant species within the MDE but outside areas of clearing experiences a statistically significant higher foliage cover loss rate than that of control sites and that foliage cover loss is not attributed to natural causes.	<u>Threshold response:</u> <ul style="list-style-type: none"> Report internally as an incident Investigate cause and extent of mortality and if it is likely to result in the key environmental outcome not being achieved 	Assessment of vegetation health, condition and weed presence in permanent quadrats located in areas containing <i>E. praecox</i> and control sites away from the FS Project.	Annually for the first three years. Following the development of a strong dataset over this period, the monitoring methodology and frequency will be reduced to every three years.	Annual reporting of monitoring and contingency actions

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EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to *E. praecox* to the maximum extent practical.
Outcome/s: No significant impact to *E. praecox* outside the approved clearing areas.
Key environmental values: Presence of Priority 2 species, *E. praecox*
Key impacts and risks: reduction in presence of *E. praecox*

Outcome-based				
Criteria: <ul style="list-style-type: none"> • Trigger criteria • Threshold criteria 	Response Actions: <ul style="list-style-type: none"> • Trigger level actions • Threshold contingency actions 	Monitoring	Timing / Frequency of Monitoring	Reporting
	<ul style="list-style-type: none"> • If necessary (deemed to be proposal-related) consider measures to prevent a re-occurrence of the incident and/or remediation strategies to address the impact • Engagement with key stakeholders including DBCA, and relevant specialists where required to determine key actions. 			

3.1.2. Objective-based EMPs

Purpose of EMP: EMP to comply with anticipated Ministerial Statement condition (

Table 9)

Rationale: refer to Table 8 below.

Table 8 Rationale for *Eremophila praecox* objective-based provisions

Trigger/threshold	Rationale
Clearing without an authorised internal permit within the Mine Development Envelope (MDE) but outside the approved clearing areas.	The means by which a direct proposal-related impact may occur to Priority flora is vegetation clearing. If clearing occurs which has not received an approved internal clearing permit within the MDE, it is considered a non-compliance or failure of the procedure which is in place to prevent vegetation clearing of Priority flora.

Table 9 Objective-based conditions for *Eremophila praecox*

EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to <i>E. praecox</i> to the maximum extent practical. Objective/s: To avoid clearing and impacts to <i>E. praecox</i> Key environmental values: Presence of Priority 2 species, <i>E. praecox</i> Key impacts and risks: Reduction in presence of <i>E. praecox</i>				
Objective-based				
Management targets	Management actions	Monitoring	Timing / frequency of actions	Reporting
<p><u>Objective</u> Management of clearing boundaries to prevent unauthorised clearing.</p> <p><u>Trigger level</u> Near miss – clearing within 20 m of known <i>E. praecox</i> without appropriate clearing procedures followed.</p>	<p><u>Management Actions</u></p> <ul style="list-style-type: none"> • Train staff in clearing procedures • Survey and mark boundaries of areas prior to clearing • Environmental Officer to confirm boundaries prior to clearing occurring. <p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> • Report internally as an incident in accordance with internal procedures. • Review management strategies and implement changes to prevent future occurrences which may include the following: 	Internal audit of recorded <i>E. praecox</i> against areas of clearing.	Annual auditing of internal clearing permits and documentation of any contingency actions.	Annual reporting of monitoring and contingency actions

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EPA factor/s and objective/s: Flora and Vegetation. To avoid direct and minimise indirect impacts to <i>E. praecox</i> to the maximum extent practical. Objective/s: To avoid clearing and impacts to <i>E. praecox</i> Key environmental values: Presence of Priority 2 species, <i>E. praecox</i> Key impacts and risks: Reduction in presence of <i>E. praecox</i>				
Objective-based				
Management targets	Management actions	Monitoring	Timing / frequency of actions	Reporting
<p><u>Threshold level</u> Clearing without an authorised internal permit within the Mine Development Envelope (MDE) but outside the approved clearing areas.</p>	<ul style="list-style-type: none"> - Audit and review of training and staff inductions i.e. Increase in staff training and awareness to include information on legislative requirements, appropriate clearing procedures). - Ground Disturbance Permit competency training. <p><u>Threshold level actions</u></p> <ul style="list-style-type: none"> - Review impact of unauthorised clearing and report any noncompliance to DWER within 7 days of identification. - Installation of signage where appropriate. - Undertake rehabilitation of unauthorised clearing (i.e. disturbance from vehicle tracks, vegetation clearing) by appropriately qualified personnel as required, in accordance with rehabilitation procedure. 			

3.2. Jalmenus aridus

3.2.1. Outcome based provisions

Purpose of EMP: EMP to comply with anticipated Ministerial Statement condition.

Rationale: refer to Table 10 below.

Table 10 Rationale for *Jalmenus aridus* outcome-based provisions

Threshold	Rationale
Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of health in <i>J. aridus</i> breeding shrub(s) in comparison to non-breeding shrubs of the same tree species at a control location.	If a decline in health is identified, the response actions will allow investigation to determine if the causes are attributed to the Proposal and, if necessary, allow for further management measures to meet the environmental outcome. The triggers for species condition decline will be compared with control monitoring to allow consideration for climatic variation such as rainfall and factors outside of the proponent's control.
Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation condition in areas containing <i>J. aridus</i> nectaring areas in comparison to control sites	Vegetation health monitoring will be undertaken and if a decline in health is identified, the response actions will allow investigation to determine if the causes are attributed to the Proposal and, if necessary, allow for further management measures to meet the environmental outcome. The triggers for species health decline will be compared with control monitoring to allow consideration for climatic variation such as rainfall and factors outside of the proponent's control.
No statistically significant change in <i>J. aridus</i> population attributable to the Fimiston South operations.	Population monitoring will be undertaken on an annual basis during the flight season (September/October). The triggers for population decline will be compared with control monitoring to allow consideration for fire age, climatic variation such as rainfall and factors outside of the proponent's control.

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Table 11 Outcome-based conditions for *Jalmenus aridus*

EPA factor/s and objective/s: Terrestrial Fauna. To avoid direct and minimise indirect impacts to <i>J. aridus</i> to the maximum extent practical Outcome/s: No observable impact to <i>J. aridus</i> from the Fimiston South operations Key environmental values: Presence of Priority 1 species, <i>J. aridus</i> Key impacts and risks: Reduction in presence and population viability of <i>J. aridus</i>				
Outcome-based				
Criteria: Trigger criteria Threshold criteria	Response actions: Trigger level actions Threshold contingency actions	Monitoring	Timing / frequency of monitoring	Reporting
<p><u>Trigger criteria</u> Reduction in condition ratings of health of <i>J. aridus</i> breeding shrub without attributable natural cause.</p> <p><u>Threshold criteria</u> Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of health of <i>J. aridus</i> breeding shrub in comparison to non-breeding shrubs of the same species at a control location.</p>	<p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. Increase the frequency of health monitoring. <p><u>Threshold contingency actions</u></p> <ul style="list-style-type: none"> Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather or changes in hydrology to determine if the decrease is due to proposal related impacts. Review dust, weather and weed monitoring to compare <i>J. aridus</i> breeding shrub and shrubs of the same species at control sites. Determine whether the changes observed in the impact sites are comparable to the observations in the reference sites. Investigate potential causes for the observed decline in vegetation health which may include but are not limited to: <ul style="list-style-type: none"> seasonal conditions (e.g., rainfall and temperatures) effectiveness of weed control 	Assessment of shrub health, of <i>J. aridus</i> breeding shrub and control shrubs away from the FS Project.	Annually.	Annual reporting of monitoring and contingency actions

	<ul style="list-style-type: none"> - spatial variation (near-impact areas) versus sites located further from impact • Develop strategies based on the outcomes of the investigation to prevent a recurrence and if necessary or possible reverse the decline in health of the breeding shrub. Management measures may include the following: <ul style="list-style-type: none"> - Increase the frequency of health monitoring. - Increase staff training and awareness on factors which have implications to health for example dust, changes to hydrology. 			
<p><u>Trigger criteria</u> Reduction in condition ratings of health of <i>J. aridus</i> nectaring habitat without attributable natural cause.</p> <p><u>Threshold criteria</u> Statistically significant reduction in mean condition ratings (more than 20% difference for qualitative or quantitative) of vegetation health in <i>J. aridus</i> nectaring habitat area in comparison to similar areas at a control location.</p>	<p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather and climate to determine if the decrease is due to proposal related impacts. • Review general access to the area and any other potential cause of change of condition. . <p><u>Threshold contingency actions</u></p> <ul style="list-style-type: none"> • Review all monitoring data (including control sites) in relation to management measures and any other available data such as weather or changes in hydrology to determine if the decrease is due to proposal related impacts. • Review dust, weather and weed monitoring to compare nectaring habitat and similar vegetation at control sites. Determine whether the changes observed in the impact sites are comparable to the observations in the reference sites. • Investigate potential causes for the observed decline in vegetation health which may include but are not limited to: <ul style="list-style-type: none"> - seasonal conditions (e.g., rainfall and temperatures) - effectiveness of weed control 	Assessment of vegetation health, of <i>J. aridus</i> nectaring habitat and similar control vegetation away from the FS Project.	Annually.	Annual reporting of monitoring and contingency actions

	<ul style="list-style-type: none"> - spatial variation (near-impact areas) versus sites located further from impact • Develop strategies based on the outcomes of the investigation to prevent a recurrence and if necessary or possible reverse the decline in health of the breeding shrub. Management measures may include the following: <ul style="list-style-type: none"> - Review general access to the area and any other potential cause of change of condition. undertake weed management - staff training and awareness on factors which have implications to health for example dust, changes to hydrology. 			
<p><u>Trigger criteria</u> Reduction in number of <i>J. aridus</i> without attributable natural cause.</p> <p><u>Threshold criteria</u> Statistically significant reduction in number of <i>J. aridus</i> present compared to previous years without attributable cause.</p>	<p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> • Review all monitoring data and any other available data such as weather and changes to hydrology to determine if the decrease is due to proposal- related impacts. <p><u>Threshold response:</u></p> <ul style="list-style-type: none"> • Report internally as an incident • Investigate cause and extent of mortality and if it is likely to result in the key environmental outcome not being achieved. • If necessary (deemed to be proposal related) consider measures to prevent a re-occurrence of the incident and/or remediation strategies to address the impact. • Engagement with key stakeholders including DBCA, and relevant specialists where required to determine any appropriate contingency actions. 	Assessment of <i>J. aridus</i> numbers	Annually	Annual reporting of monitoring and contingency actions

3.2.2. Objective-based EMPs

Purpose of EMP: EMP to comply with anticipated Ministerial Statement condition (Table 13).

Rationale: refer to Table 12.

Table 12 Rationale for *Jalmenus aridus* objective-based provisions

Threshold	Rationale
<p>Clearing without an authorised internal permit within the Mine Development Envelope (MDE) but outside the approved clearing areas.</p>	<p>The means by which a direct proposal-related impact may occur to Priority flora is vegetation clearing. If clearing occurs which has not received an approved internal clearing permit within the MDE, it is considered a non-compliance or failure of the procedure which is in place to prevent vegetation clearing of Priority flora.</p>
<p>Conservation significant species within the MDE but outside areas of clearing experience a statistically significant higher foliage cover loss rate than that of control sites (where that foliage cover loss is not attributed to direct or Project impacts).</p>	<p>The objective of the key environmental outcome is for no proposal related indirect adverse impacts to uncleared flora and vegetation within the MDE, where adverse is defined as an impact likely to change the conservation status or significantly change the local population numbers of a species. It is widely known that all plants experience a natural rate of mortality. By comparing the rate of mortality of the areas containing <i>E. praecox</i>, it may be deduced if the area is experiencing natural rates of mortality. If the rate of mortality appears higher than control sites, it should be investigated, reported and corrective actions implemented if it is attributable to proposal-related indirect effects. However, it should be noted that the extent of mortality will determine if the key environmental outcome is not being achieved as it may not mean the impact can be defined as 'adverse'. By reporting a difference, the proponent is adopting a precautionary approach. Through monitoring any significant foliage cover loss of conservation significant species, any potential degradation of individual health can be identified, investigated and potentially rectified prior to mortality.</p>

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Table 13 Objective-based conditions for *Jalmenus aridus*

EPA factor/s and objective/s: Terrestrial fauna. To avoid direct and minimise indirect impacts to <i>J. aridus</i> to the maximum extent practical. Objective/s: To avoid clearing and impacts to <i>J. aridus</i> Key environmental values: Presence of Priority 1 species, <i>J. aridus</i> Key impacts and risks: Reduction in presence of <i>J. aridus</i>				
Objective-based				
Management targets	Management actions	Monitoring	Timing / frequency of actions	Reporting
<p><u>Objective</u></p> <p>Management clearing boundaries to prevent unauthorised clearing.</p> <p><u>Trigger level</u> Near miss – clearing within 20 m of known habitat without appropriate clearing procedures followed.</p> <p><u>Threshold level</u> Clearing without an authorised internal permit within the Mine Development Envelope (MDE) but outside the approved clearing areas.</p>	<p><u>Management Actions</u></p> <ul style="list-style-type: none"> • Train staff in clearing procedures • Survey and peg boundaries of areas prior to clearing • Environmental Officer to confirm boundaries prior to clearing occurring. <p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> • Report internally as an incident in accordance with internal procedures. • Review management strategies and implement changes to prevent future occurrences which may include the following: <ul style="list-style-type: none"> - Audit and review of training and staff inductions i.e. Increase in staff training and awareness to include information on legislative requirements, appropriate clearing procedures). - Ground Disturbance Permit competency training. <p><u>Threshold level actions</u></p> <ul style="list-style-type: none"> - Review impact of unauthorised clearing and report any noncompliance to DWER within 7 days of identification. 	<p>Internal audit of recorded <i>J. aridus</i> against areas of clearing.</p>	<p>Annual auditing of internal clearing permits and documentation of any contingency actions.</p>	<p>Annual reporting of monitoring and contingency actions</p>

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EPA factor/s and objective/s: Terrestrial fauna. To avoid direct and minimise indirect impacts to <i>J. aridus</i> to the maximum extent practical. Objective/s: To avoid clearing and impacts to <i>J. aridus</i> Key environmental values: Presence of Priority 1 species, <i>J. aridus</i> Key impacts and risks: Reduction in presence of <i>J. aridus</i>				
Objective-based				
Management targets	Management actions	Monitoring	Timing / frequency of actions	Reporting
	<ul style="list-style-type: none"> - Undertake rehabilitation of unauthorised clearing (i.e. disturbance from vehicle tracks, vegetation clearing) by appropriately qualified personnel as required, in accordance with rehabilitation procedure. 			
<p><u>Objective</u> Design facilities to Minimise changes to hydrology to <i>J. aridus</i> habitat areas.</p> <p><u>Trigger level</u> Near miss – Ground Disturbance Permit not reviewed for potentially impacting facilities.</p> <p><u>Threshold level</u> Construction of facilities that impact upon the hydrology of the <i>J. aridus</i> area.</p>	<p><u>Management Actions</u></p> <ul style="list-style-type: none"> • Assess design for New facilities with potential to impact on hydrology of <i>J. aridus</i> area through Ground Disturbance Permit. <p><u>Trigger level actions</u></p> <ul style="list-style-type: none"> • Report internally as an incident in accordance with internal procedures. • Ensure Ground Disturbance Permit process is followed. <p><u>Threshold level actions</u></p> <ul style="list-style-type: none"> • Report internally as an incident in accordance with internal procedures. • Review impact on hydrology and determine if remedial works are required • Review Ground Disturbance Permit process. 	Internal audit of compliance of Ground Disturbance Permits.	Annual auditing of internal Ground Disturbance Permit and documentation of any contingency actions.	Annual reporting of auditing and contingency actions

4. ADAPTIVE MANAGEMENT AND REVIEW OF THE SSMP

KCGM Operations recognises the dynamic nature of ecosystems and supports adaptive management under this SSMP. Adaptive management involves:

- monitoring and evaluation against management targets (including early response triggers) and environmental criteria (including triggers and thresholds)
- implementing mitigation measures
- systematically adapting management and mitigation measures and monitoring to meet the environmental objectives.

Any changes to the Project will instigate a review and consideration of management actions. Assumptions and uncertainties will be evaluated against collected monitoring data on a recurrent basis in a process of continual improvement and establishing early response indicators/criteria. Any review and consideration of management actions or additions to this plan made in relation to adaptive management will be submitted to DWER for formal review. Examples of adaptive management throughout operations include:

- the introduction of a different / alternative monitoring initiative to better understand vegetation health and condition
- the outcome of additional preclearance surveys which significantly change conservation significant flora species population impacts
- the identification of more effective trigger criteria or early response triggers in light of more comprehensive monitoring information.

Because knowledge of *J. aridus* is still emerging, it is proposed to review this SSMP after three years of implementation to adapt the program to the latest understanding of the species.

5. STAKEHOLDER CONSULTATION

The relevant stakeholders for this SSMP are:

- Department of Biodiversity, Conservation and Attractions (DBCA): Conservation of Priority Species.
- Western Australian Environmental Protection Authority (EPA): Assessment of the proposal under Part IV of the EP Act and development of this SSMP. All comments received during the assessment period from the EPA, other decision-making authorities and the public that relate to this SSMP will be considered and changes made to this SSMP will be made where required.
- Community: When approved, the revised plan will be made publicly available.

6. CHANGES TO THE SSMP

VERSION	DATE	SUMMARY OF CHANGE	REASON FOR CHANGE	DATE SUBMITTED TO EPA
0	August 2022	New Document. Specific Species Management Plan (SSMP) developed to meet the requirements of the Western Australian Environmental Protection Agency.	This SSMP was specifically developed to support assessment of the Fimiston South Project by the EPA under Part IV of the EP Act.	

7. GLOSSARY

DBCA	Department of Biodiversity, Conservation and Attractions
DWER	Department of Water and Environmental Regulation
EMP	Environmental Management Plan
EPA	Environmental Protection Authority (Western Australian)
EP Act	<i>Environmental Protection Act 1986</i> (Western Australian)
FIM	Fimiston
FS Project	Fimiston South Project
KCGM	Kalgoorlie Consolidated Gold Mines Pty Ltd
MDE	Mine Development Envelope
Mt	Million tonnes
SSMP	Significant Species Management Plan
TSF	Tailings Storage Facility

8. REFERENCES

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