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PUBLIC ENVIRONMENTAL REVIEW

environmental and social management
commitments and offsets

9 Environmental and Social Management Commitments and Offsets

9.1 Environmental and Social Management Commitments

KML's objective is to implement the Karara Iron Ore Project (KIOP) in a sustainable manner, mitigating the project's environmental impacts to the extent reasonably practicable, by the application of appropriate management measures over the life of the project.

Fulfilment of that objective depends on sound environmental knowledge. Environmental studies commenced in 2004 and have informed early project planning and have identified aspects that will benefit from further investigation. KML has a substantial program of ongoing study to better understand the distribution, diversity and abundance of biological taxa, further contribute to project detailed design, construction, operation, progressive rehabilitation and ultimately closure of the operations. In order to confidently achieve the planned environmental outcomes, key aspects of the project will be subject to systematic management, documented in management plans within its Environmental Management System.

In order to demonstrate its intention of responsible environmental management, KML makes the following formal commitments.

Commitment 1: Environmental Management System

The KIOP will be established and operated under a management system with elements consistent with those specified by the most current version of AS/NZS ISO 14001.

Commitment 2: Management Plans

Documented management plans will be established, maintained and implemented in relation to environmental aspects that require documented controls in order to ensure achievement of the intended environmental outcomes. The following plans have been identified as required. KML will adopt an adaptive management strategy and develop additional management plans as required for issues identified through the ongoing investigations, operation and management of the project.

- Audit and Compliance Management Plan
- Flora Environmental Management Plan
- Fauna Environmental Management Plan
- Conceptual Mine Closure Environmental Management Plan (including Rehabilitation)
- Water Management Plan (including Water Efficiency Management Plan)
- Vegetation Clearance and Soils Management Plan
- Weed and Plant Pathogen Management Plan
- Feral Animal Management Plan
- Noise and Vibration Management Plan
- Dust Environmental Management Plan
- Greenhouse Gas Management Plan
- Waste Management Plan
- Traffic Management Plan
- Cultural Heritage Management Plan
- Stakeholder Consultation Management Plan

Commitment 3: Environmental Offsets

Recognising that significant unavoidable impacts may result from implementation of the KIOP, KML will develop and action any of the conceptual environmental offsets (Table 9.1) identified by the Minister for the Environment's statement as required for the proposal to be implemented.

Commitment 4: Aboriginal Consultation

KML will continue consulting with the relevant Aboriginal groups, particularly native title claimant groups, during the design of the project and with respect to any future changes to the project disturbance area.

Commitment 5: Further Survey and Research

KML will undertake further survey work and research to improve the knowledge of the distribution, abundance and biology of key taxa in the Karara/Blue Hills ranges. This work will include the following listed below.

- Further surveying for FCTs of conservation significance ranking '5' (FCT 8, 11, 12, and 13), will be undertaken involving establishment of monitoring quadrats (as per CALM 2006). Quadrats will be established on ranges within the vicinity of the Karara-Mungada survey area, not previously targeted by Markey and Dillon (Markey and Dillon 2006).
- Continued flora surveying to be undertaken to extend knowledge of the range and abundance of the following species:
 - *Acacia karina*
 - *Lepidosperma* sp. Blue Hills (A. Markey and S. Dillon 3468)
 - *Calotis* affin. *cuneifolia* (A. Markey and S. Dillon 3447) (season permitting)
 - *Millotia dimorpha* (season permitting)
- Continued fauna surveying to enhance knowledge of the on-site population and distribution of the following species:
 - *Leipoa ocellata*
 - *Ergenia stokesiibadia*

9.2 Offset Philosophy

As discussed in PER section 1.4.5, the "*Strategic Review of the Conservation and Resource Values of the Banded Iron Formation of the Yilgarn Craton*" (Government of Western Australia 2007) recognises the Midwest Region as being rich in coincident iron ore resources and biodiversity values and recognises the challenge this creates in balancing the mineral resource development and environmental conservation goals.

Further, the review identifies that the assessment of environmental values individually has "the potential to preclude, or severely curtail as to render unviable, mining of millions of tonnes of iron ore", together with the loss of associated economic, social and regional development benefits. Consequently, the State Government undertook the Strategic Review "to provide an additional level of information to government to allow for a more strategic approach to resource utilisation and biodiversity conservation decision making".

KML recognises that the coincidence of the mineral resource it is seeking to develop, with the significant biodiversity values of the Banded Iron Formations, will result in unavoidable environmental impacts through activities such as vegetation clearing and mine-pit excavation with consequent temporary or permanent loss of habitat and dependent organisms.

KML has sought to avoid significant adverse environmental impacts where feasible. Management measures will be employed to reduce impacts to the extent reasonably practicable.

Accordingly, KML strongly believes that the government should approve the proposed project, having regard to the long-term social, economic and regional development benefits that will accrue to the community of Western Australia over the mine life of 40 years and potentially, considerably longer.

In arriving at this conclusion KML is cognisant that, beyond minimising the environmental impact of its activities to the extent reasonably practicable, it has a corporate and social responsibility to contribute to compensating for any critical unavoidable environmental impacts of its activity. Actions taken to counterbalance unavoidable significant environmental impacts are termed 'offsets' by the Environmental Protection Authority (EPA).

The EPA has stated that the application of environmental offsets "has potential to be a useful management tool – enabling development to occur, but not at the total expense of the environment", with the "aim to ensure that significant and unavoidable adverse environmental impacts are counterbalanced by a positive environmental gain, with an aspirational goal of achieving a 'net environmental benefit' (EPA 2006c).

Beyond minimising environmental impacts through management measures, KML is committed to contributing to the offset of the significant unavoidable impacts of its proposal. Pragmatically, KML believes that the full detail of such offsets can only be defined as the design of the project, its operational experience and the findings of its investigations evolve and mature. To that end, KML identifies below a suite of initiatives which, based on existing knowledge, represent a sound contribution to offsetting the losses that will occur. More detail will be developed through the project assessment process and subsequent studies and operational experience.

KML also notes that, consistent with the observations of the Strategic Review in regard to economic and social benefits, environmental offsets to the unavoidable impacts should not be considered in isolation from the other benefits that accrue from the project proceeding. Whilst such economic and social benefits are not matters to which the EPA should have regard in its assessment, they are matters which the State Government can consider in establishing that on balance the proposed project provides a net benefit to the state counterbalancing its impact.

9.2.1 Formulation of Environmental Offsets

In formulating environmental offsets KML has had regard to the principles of the EPA Position Statement No. 9, "*Environmental Offsets*" (EPA 2006c) and the Department of the Environment and Water Resources Discussion Paper "*Use of Environmental Offsets Under the Environment Protection and Biodiversity Conservation Act 1999*" (DEW 2007).

Environmental impact mitigation measures to be applied to avoid, minimise, rectify and reduce environmental impacts of the KIOP are addressed in PER sections 3, 7 and 8. Such measures have been and will continue to be employed to adaptively manage and mitigate potential impacts to the extent reasonably practicable.

The fifth type of mitigation measure proposed is environmental offsets, of which two types are recognised.

- *Direct Offsets*: environmentally beneficial activities undertaken to counterbalance an adverse environmental impact or harm, with the goal of achieving 'no net loss' and preferably a 'net environmental benefit'. Examples may include ameliorative actions including ecosystem restoration, rehabilitation or re-establishment or pollutant sequestration.
- *Contributing Offsets*: environmentally beneficial activities undertaken to complement and enhance the direct offset activity. Contributing offset activities do not assist in a 'no net loss' outcome, but instead add materially to environmental knowledge, research, management, protection, etc. It may extend to forms of banking, credit trading and use of trust funds where adverse impacts can be offset through the purchase of environmental improvements.

A significant consideration in assessing the capacity of KML to successfully deliver the identified offsets is the long life of this project. The project will be ongoing for at least 40 years, potentially 100 years if target exploration is successful in identifying additional resource and project continuation is permitted. KML is therefore securely placed to continue delivering environmental impact mitigation, including delivery of offsets, and has the strong incentive to achieve the identified environmental outcomes in order to secure its long-term approvals to operate for many more decades.

Having evaluated the significant environmental impacts predicted to result from implementation of the Karara Iron Ore Project, KML concludes that the critical unavoidable impacts requiring identification of offsets, are those on the following.

- Priority flora species on which the project is predicted to have a high impact on local and regional habitat and the currently known population, specifically *Lepidosperma* sp. Blue Hills (A. Markey & S. Dillon 3468), with a loss of up to 68.06% of the currently mapped population. Accurate mapping of *Lepidosperma* sp. Blue Hills (A. Markey & S. Dillon 3468) plants has shown that this entity has a scattered distribution on and adjacent to ridges within the project survey area, to the north at Jasper Hill and on ridges located to the north of Mt Karara, and also to the east near Mount Mulgine. Additional plants now known to occur at several of these locations are yet to be mapped (Woodman 2008).
- Conservation significant Floristic Community Types (FCT), in particular FCT 13 of which the project is predicted to impact an area of 139.2 ha, 53.9% of this 'conservation status 5' FCT mapped over the project survey area. FCT 13 is concluded to be restricted regionally and is a component of the Priority Ecological Community (PEC) 2 (Mid-West Region) "Blue Hills (Mt Karara/Mungada Ridge/Blue Hills) vegetation complexes (banded ironstone formation). The proposed impacts to these FCTs have the potential to increase the conservation status of the PEC to that of Threatened Ecological Community.

9.2.2 Offsets Proposed for the Karara Iron Ore Project

KML recognises that the impacts identified above relate to environmental attributes with restricted scientific knowledge and apparently restricted distribution.

The studies described in this PER have already contributed significantly to the expansion of that knowledge and the offsets listed below will further contribute to the state of knowledge.

The opportunity for direct offset through land acquisition for conservation in the immediate project area is unavailable to KML, as government already controls all such land in the immediate vicinity of the project, being former pastoral leases purchased but not yet reserved for conservation. The process of resolving the specific conservation categories of that land will be complex and take time. The Strategic Review (Government of Western Australia 2007) recognises the complexity of resolving the challenges of the State honouring existing tenement development whilst providing appropriate conservation protection, noting that it would be inappropriate at this stage to create reserve categories such as national park or Class A nature reserve over the entirety of this area.

KML therefore concludes that the most effective conservation offsets it can propose are likely to be achieved through cooperation with the State in delivering conservation objectives on the land surrounding the KML project i.e. the State's strategic regional efforts will be supported and enhanced by KML's contribution. Having said that, KML is also proposing to explore offset actions it might take on land under its control to achieve regional conservation initiatives.

KML has consulted with personnel of the Parks and Conservation Division of the Department of Conservation and Environment (DEC) (Department officers noting that consultation was on a 'without prejudice' basis) on potential offsets and proposes to continue such dialogue during and following the EPA assessment, to ensure that KML's offset contribution to conservation is effective and coordinated with the conservation initiatives of others. However, the DEC has stated in writing (DEC 2007) that it will not endorse strategies for offsetting potentially significant impacts on critical assets until the significance is adequately determined and the EPA has determined whether the project is environmentally acceptable.

The complexity of this situation makes description of specific offsets difficult, if not impossible, at this time.

KML recognises that the offsets listed below are not as prescriptive as the EPA Principle G (EPA 2006c) states: *that the offsets be clearly defined, transparent and enforceable*. KML is strongly of the view that better biodiversity outcomes will be achieved by iteratively and adaptively defining certain offsets over time and that a mechanism can be developed that provides for both the optimum conservation outcome and confidence by all parties that KML will deliver its contribution.

KML proposes that, in cooperation with the State, it adopt and implement an offsets package throughout the life of the Karara Iron Ore Project based on ongoing consultation with DEC, addressing some or all of the conceptual offsets listed below, where reasonable and practicable to do so.

Table 9.1 Conceptual Offsets for the Karara Iron Ore Project

Offset No.	Offset Description	Type of Offset
A1	Badja Station pastoral lease 3114/674 (Crown Lease 438/1966), 113,600 hectares in area, was purchased in 2007 by KIOP joint venture participant Gindalbie Metals Ltd, with the intention of managing the station, to protect and enhance significant local and regional conservation values impacted by pastoral practices and other threatening processes, as a means of offsetting significant unavoidable impacts of mining activities. Badja is in the bio-geographic region of the Karara Iron Ore Project, encompasses areas of BIF, and is contiguous with the pastoral lease areas controlled by DEC. It is proposed that following the necessary research and consultation with DEC and DoIR, areas identified as supporting suitable offset attributes will be considered for a Nature Conservation Covenant Program.	Direct A
A2	Establish an environmental trust fund that provides an additional funding source for research, management and management programs relevant to the enhancement of conservation values of the Mid West banded iron formation ranges, and more specifically the Blue Hills / Karara / Mungada region. (Refer to Offsets A3 – A9 and B3). Such trust fund to be managed by a joint steering committee to be established in consultation with the DEC.	Contributing A
A3	Fund a position within the DEC dedicated to the field management of the DEC controlled land in the Blue Hills / Karara / Mungada region, for the life of extractive mining. (Funded from allocated trust fund monies - offset A2).	Contributing A
A4	Fund for a period of five-years, a position in the Western Australian Herbarium to research and catalogue the taxonomy of flora species specific to the BIFs of the Mid West Region. (Funded from allocated trust fund monies - offset A2).	Contributing A
A5	Facilitate and drive implementation of the systematic identification of existing degraded ecosystems in the region with the objective of selecting candidate sites for restoration or rehabilitation programs. (Funded from allocated trust fund monies - offset A2).	Contributing A
A6	To support field research, restoration and rehabilitation activities, KML will facilitate and drive the establishment of a field nursery with the capacity for trial seed propagation, translocation and production of rehabilitation stock for species of significance. (Offsite activity component to be funded from allocated trust fund monies – offset A2).	Contributing A
A7	In consultation with the DEC, KML will undertake feral animal control on lands managed by KML and will contribute to a regional feral animal control program with a view to increasing the population of native fauna. (Offsite activity component to be funded from allocated trust fund monies - offset A2).	Contributing A

Table 9.1 Conceptual Offsets for the Karara Iron Ore Project (cont'd)

Offset No.	Offset Description	Type of Offset
A8	In consultation with the Department of Agriculture and the DEC, KML will undertake a weed and pathogen management program on lands managed by KML and will contribute to a regional program with the objective of protecting sensitive BIF ridges. (Offsite activity component to be funded from allocated trust fund monies – offset A2).	Contributing A
A9	In consultation with the DEC, KML will develop a fire management plan covering lands managed by KML and agreed regional areas with the objective of protecting sensitive BIF ridges. (Offsite activity component to be funded from allocated trust fund monies – offset A2).	Contributing A
B1	Offset the direct impacts of the project on the local populations of <i>Lepidosperma</i> sp. Blue Hills (A. Markey & S. Dillon 3468) by regeneration or re-establishment on suitable habitat outside the impact area of the project.	Direct B
B2	Implement a genetic variance study to taxonomically describe the <i>Lepidosperma</i> species within the project area and investigate applicable processes to conserve and restore <i>Lepidosperma</i> species. Specifically, KML will implement a research and recovery plan, in consultation with the DEC and relevant research agencies, which will evaluate: conservation and restoration genetics (provenance; mine footprint), propagation and restoration science, population and restoration ecology, ex-situ seed banking potential for long term security of the <i>Lepidosperma</i> species, and insitu conservation and translocation.	Contributing B
B3	Fund the conduct of a taxonomic revision on significant <i>Acacia</i> species occurring within the project survey area, including <i>Acacia karina</i> , <i>Acacia woodmaniorum</i> , <i>Acacia</i> affin. <i>coolgardiensis</i> (A. Markey & S. Dillon 3313), <i>Acacia</i> affin. <i>subsessilis</i> and <i>Acacia</i> sp. nov 3 to determine the taxonomic status of these species, provide taxonomic descriptions of each of these if they are determined to be separate species. (Funded from allocated trust fund monies - offset A2).	Contributing B
B4	Undertake surveys over the BIF ridges adjacent to the Karara Iron Ore Project for the three years commencing spring 2008 to provide further information on the status of significant flora species and communities.	Contributing B
C1	KIOP joint venture participant Gindalbie Metals Ltd will, for the life of the project, contribute financially to the establishment and operation of a Mid West Biodiversity Institute, with a view to underpinning continued research and environmental management programs in support of regional biodiversity enhancement. (Funded from allocated trust fund monies - offset A2).	Contributing C

