



Report and recommendations of the Environmental Protection Authority



Yilgarn Operations – Windarling Range W4 East Deposit

Cliffs Asia Pacific Iron Ore Pty Ltd

Report 1438

May 2012

Assessment on Proponent Information

Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
28/02/11	Level of assessment set	
06/04/11	Scoping guideline issued by EPA	5
15/05/12	Proponent's Final API document received by EPA	58
28/05/12	Publication of EPA report (3 days after report to Minister)	2
11/06/12	Close of appeals period	2

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority met its timeline objective in the completion of the assessment and provision of a report to the Minister.



Dr Paul Vogel

Chairman

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1. Introduction and background

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for Environment on the proposal by Cliffs Asia Pacific Iron Ore Pty Ltd (Cliffs) to develop an iron ore mine and haul road known as the Windarling Range W4 East Deposit 130 kilometres (km) north of Southern Cross.

Section 44 of the *Environmental Protection Act 1986* (EP Act) requires the EPA to report to the Minister for Environment on the outcome of its assessment of a proposal. The report must set out:

- the key environmental factors identified in the course of the assessment; and
- the EPA's recommendations as to whether or not the proposal may be implemented, and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation should be subject.

The EPA may include in the report any other advice and recommendations as it sees fit.

The proponent has submitted an Assessment on Proponent Information (API) document setting out the details of the proposal, potential environmental impacts and proposed commitments to manage those impacts.

The EPA considers that the proposal, as described, can be managed to meet the EPA's environmental objectives, subject to the EPA's recommended conditions being made legally binding.

This report provides the EPA's advice and recommendations in accordance with Section 44 of the EP Act.

2. The proposal

Cliffs Asia Pacific Iron Ore Pty Ltd (Cliffs) proposes to develop an iron ore mine, known as the W4 East Deposit, at Windarling Range, approximately 130 km north of Southern Cross. The W4 East Deposit is proposed to be incorporated into Cliffs existing Yilgarn Operations, which comprises iron ore mines at Koolyanobbing, Mount Jackson, Windarling Range and the Deception Deposit, and an ore processing plant at Koolyanobbing. Ore is transported by road and rail to the Port of Esperance (Figures 1 and 2).

The W4 East Deposit proposal includes a mine pit (up to 27.5 hectares (ha) in area) and a haul road (up to 0.5 ha in area). The W4 East Deposit is estimated to contain 6.8 million tonnes of iron ore and the mine life is expected to be five years. The mine pit will be to a depth of 403 mAHD and there will be no dewatering of the orebody.

Supporting infrastructure exists at the Windarling Range W3/5 Deposit, and will be shared with the W4 East Deposit. Waste rock from the W4 East Deposit will be taken to the existing W3/5 Deposit Waste Rock Landform, and to the W4 West Deposit mine pit which will be created following the mining of the W4 West Deposit. Both the Waste Rock Landform and the W4 West mine pit are already approved under existing Ministerial Statements and the *Mining Act 1978*.

The main characteristics of the proposal are summarised in the table below.

Table 1: Summary of key proposal characteristics

Proposal definition		Extent authorised
Element – development/infrastructure	Location of element	
1. Mine	Figure 1	Clearing of up to 27.5 ha of native vegetation for a mine pit, including impact to the Rare Flora species <i>Ricinocarpos brevis</i> , Priority 3 flora species <i>Austrostipa blackii</i> and Priority 4 flora species <i>Banksia arborea</i> , which occur within the area of the mine.
2. Ancillary infrastructure	Figures 1 and 2	Clearing of up to 0.5 ha of native vegetation for a haul road.

The potential impacts of the proposal are discussed by the proponent in the referral document (Cliffs, 2012).

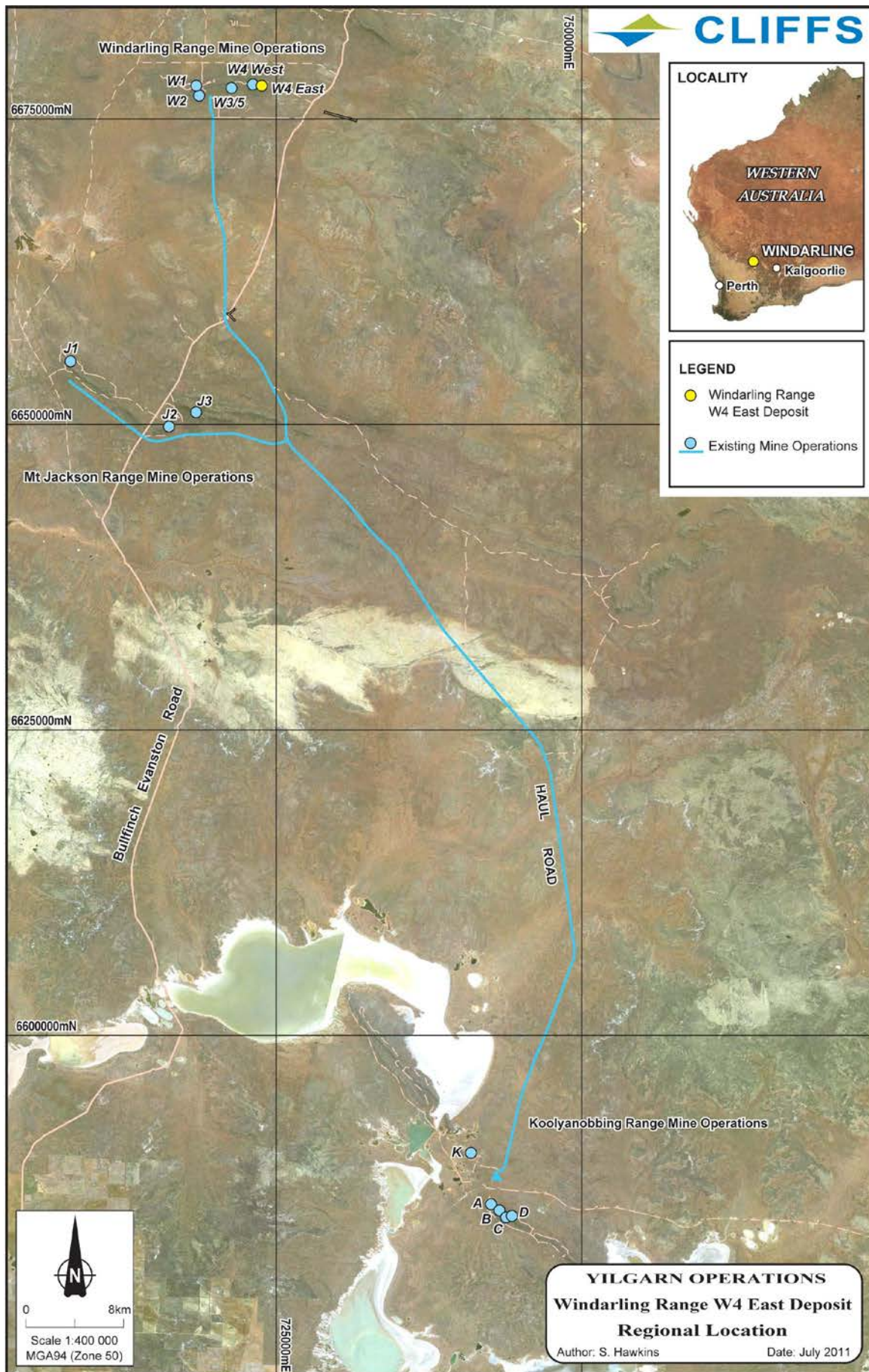


Figure 1 Regional setting

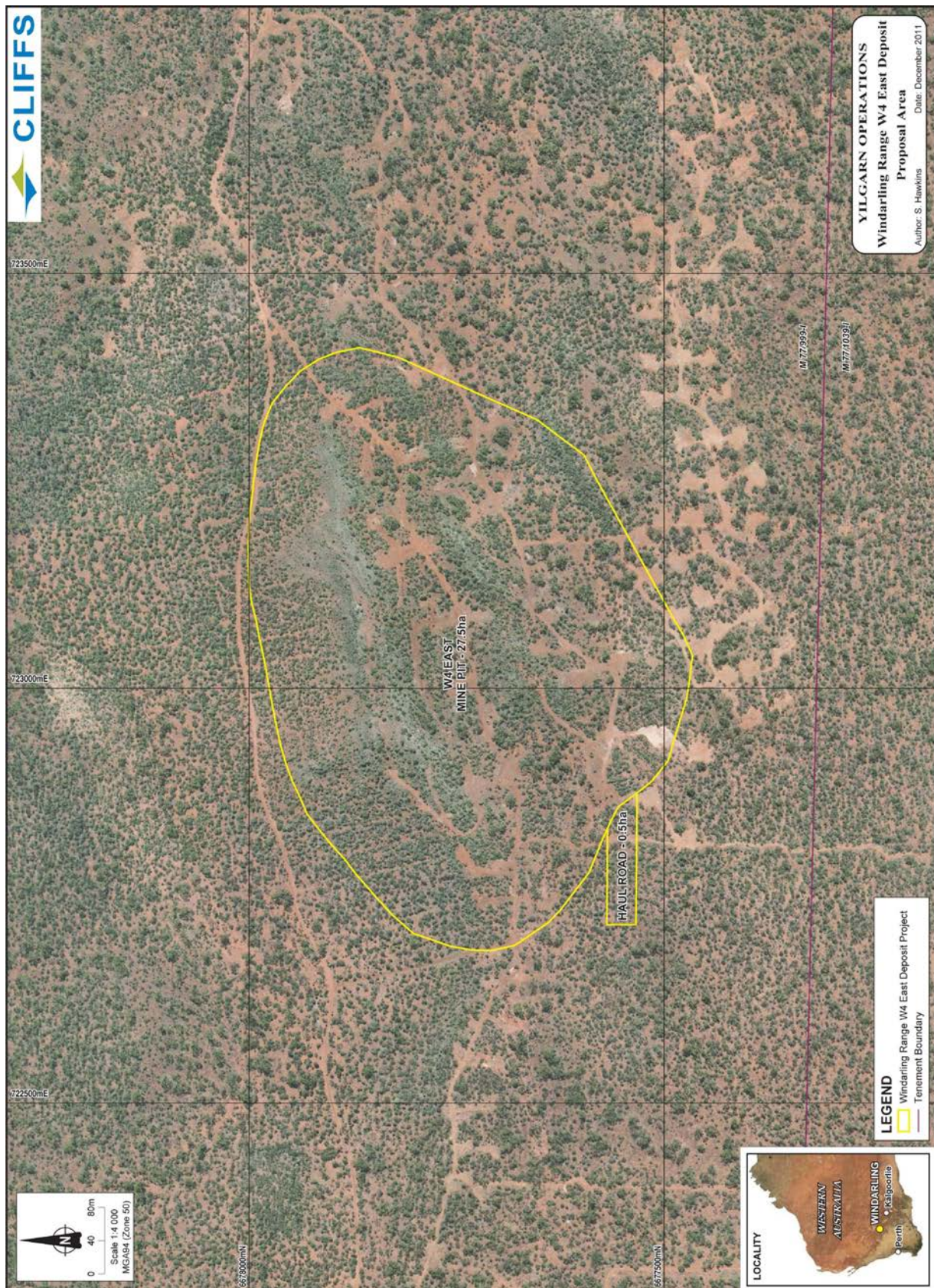


Figure 2 Project footprint and location of key components

3. Consultation

During the preparation of the API, the proponent has undertaken consultation with government agencies and key stakeholders. The agencies, groups and organisations consulted, the comments received and the proponent's response are detailed in the proponent's API document (Cliffs, 2012).

A number of environmental issues were raised by the stakeholders during the consultation. Table 2 summarises the main issues raised and details the actions taken by the proponent to address the issues.

Table 2: Summary of issues raised during stakeholder consultation

Issue raised	Stakeholder	Response
Impacts on Declared Rare Flora (DRF) species <i>Ricinocarpus brevis</i> , specifically genetic impacts. Proposed direct and indirect offsets for <i>R. brevis</i> .	Department of Environment and Conservation (DEC)	Cliffs completed and supplied the DEC with a Genetic Assessment for <i>R. brevis</i> . Proposed offsets discussed with the DEC and Office of EPA.
Location and design of mine pit and environmental impacts to be addressed in the Mining proposal required under the <i>Mining Act 1978</i> .	Department of Mines and Petroleum (DMP)	Cliffs acknowledges requirements for a mining proposal to be submitted to the DMP.
Non Government Organisations	Impacts on DRF species <i>R. brevis</i> .	API presents information on the extent of potential impacts on the species.

The EPA considers that the consultation process has been appropriate and that reasonable steps have been taken to inform the community and stakeholders on the proposed development.

4. Key environmental factors

It is the EPA's opinion that the following key environmental factors relevant to the proposal require evaluation in this report:

- (a) Vegetation and flora
- (b) Fauna
- (c) Rehabilitation and mine closure.

The key environmental factors are discussed in Sections 4.1 – 4.3. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

Vegetation and flora

Description

The potential direct impacts to vegetation and flora from the Windarling Range W4 East Deposit proposal are the clearing of up to 28 ha of native vegetation for the development of a mine pit and haul road. Potential indirect impacts to vegetation could occur through the introduction of weeds, fires that are started due to mining operations and smothering from dust.

The W4 East Deposit proposal is located in the Coolgardie Bioregion, near the southern boundary of the Murchison Bioregion. The Coolgardie Bioregion is characterised by rocky granite outcrops, low hills, salt lakes and broad plains. The region lies in the inter-zone between the mulga/spinifex environments and Eucalypt environments.

The W4 East Deposit proposal is located within a proposed Conservation and Mining Reserve. This Reserve is yet to be proclaimed as formal land tenure under the *Land Administration Act 1997*. Mining of the W4 East Deposit is consistent with the accepted land use of this proposed land tenure, provided good environmental management practices are employed.

Flora surveys of the Windarling Range were undertaken during 2009 and 2010 by Western Botanical, on behalf of Cliffs. The surveys identified the occurrence of 44 vegetation units and 217 flora species across Windarling Range, including two flora species classified by the DEC as Declared Rare Flora (DRF) and five flora species classified by the DEC as Priority species (Western Botanical 2010; 2011a; 2011b). Reports from the flora surveys conducted by Western Botanical are included as an appendix to the Windarling Range W4 East Deposit API document. Flora surveys at Windarling Range were carried out in accordance with EPA Guidance Statement 51: *Guidance for the Assessment of Environmental Factors – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004).

The W4 East Deposit proposal coincides with one DRF species, being *R. brevis*, and two Priority flora species, being *Austrostipa blackii* (Priority 3) and *Banksia arborea* (Priority 4). The proposal also coincides with ten vegetation units and the DEC classified 'Windarling Ranges vegetation complex' Priority Ecological Community (PEC) (Western Botanical 2010; 2011a; 2011b).

Vegetation units

A total of 44 vegetation units were recorded by Western Botanical at Windarling Range. Of these 44 vegetation units, ten will be disturbed by the W4 East Deposit proposal.

All but one of the ten vegetation units recorded within the area of the W4 East Deposit proposal have been recorded outside of the impact area. Vegetation unit *Maireana integra* Low Heath has not been recorded outside of the proposal area,

however *Maireana integra* individuals have been recorded throughout the Yilgarn Region. *Maireana integra* Low Heath is monotypic, in that it only contains the *Maireana integra* flora species. It is not listed as a Threatened Species under the Commonwealth *Environment Protection and Biodiversity Protection Act 1999* (EPBC Act), Declared Rare Flora under the *Wildlife Conservation Act 1950* (WA), or classified by the DEC as a Priority flora species. The proposal involves the clearing of 0.1 ha of this vegetation unit (Cliffs, 2012).

The proposal would result in the removal of 13.6 ha of the 'Windarling Range vegetation complex' PEC. This PEC extends outside the project area and across the Windarling Ranges. Data collected during Western Botanical surveys is expected to improve the distribution mapping of this PEC.

Ricinocarpos brevis

Ricinocarpos brevis is classified as 'critically endangered' under the *Wildlife Conservation Act 1950* and listed as a Threatened species under the EPBC Act. The W4 proposal would result in the loss of approximately 1073 individuals of *R. brevis*.

There are five known populations of *R. brevis* in the Yilgarn region, found in three separate locations. There are three populations at Windarling Range and single populations at both the Johnston Range and Perrinvale Range (Department of Sustainability, Environment, Water, Population, and Communities, 2010).

Ministerial Statement 627 gave approval for mining operations at Windarling Range W1, W2, W3/5 and W4 West Deposits, where Cliffs is the proponent. Ministerial Statement 627 allowed impacts on the *R. brevis* populations at these Windarling Range deposits. At the time Ministerial Statement 627 was issued, *R. brevis* was classified by the DEC as a Priority 1 flora species. The declaration of Rare Flora was based on an assessment by the DEC in 2004 using the International Union for Conservation of Nature (IUCN) threat criteria. The 2004 assessment by the DEC identified that *R. brevis* met the category of 'critically endangered' (DEC, 2004). Approximately 45% of the *R. brevis* population at Windarling Range (8,190 individuals) occurs within the proposal areas of the W1, W2, W3/5 and W4 West Deposits. As at 1 December 2011, 32% (5,841 individuals) of the *R. brevis* population at Windarling Range had been removed in development of the Windarling Range W2 and W3/5 Deposits. With the further development of the W1, W3/5 and W4 West Deposits a further 13% (2,349 individuals) will be removed, taking the total *R. brevis* population impacted at Windarling Range to 45% (8,190 individuals) (Cliffs, 2012).

Following the approval of mining operations at the W1, W2, W3/5 and W4 West Deposits, a subsequent population census of *R. brevis* was conducted at Windarling Range by Western Botanical, on behalf of Cliffs. The census revealed more than 6,600 additional *R. brevis* individuals at Windarling Range, which increased the total pre-mining population at Windarling Range to 14,994 individuals (Western Botanical, 2011).

In 2007 an additional population of *R. brevis* was discovered by the DEC at Johnston Range, approximately 30 km north of Windarling Range. This population identified approximately 3,000 *R. brevis* individuals (DEC, 2011a). In 2008, Western Botanical, on behalf of Cliffs, discovered a third location of *R. brevis*, identifying approximately 2,982 individuals at Perrinvale Range, approximately 110 km north-

east of Windarling Range (Western Botanical, 2008). These additional populations discovered at Johnston Range and Perrinvale Range increased the regional, pre-mining population of *R. brevis* to 20,976 individuals (Cliffs, 2012).

In 2009 a further population census of *R. brevis* at Windarling Range was conducted by Western Botanical on behalf of Cliffs. This led to the pre-mining population at Windarling Range being revised to 18,112 individuals (Western Botanical, 2011). The identification of new populations at Johnston Range and Perrinvale Range, as well as the identification of additional individuals at Windarling Range, increased the regional, pre-mining population of *R. brevis* to 24,094 individuals (Cliffs, 2012).

A genetic assessment of *R. brevis* populations at Windarling Range, Johnston Range and Perrinvale Range was undertaken by the Botanic Gardens and Parks Authority in 2011. The assessment found that populations in the three separate locations were not genetically distinct from one another (Botanic Gardens and Parks Authority, 2011).

The DEC has advised that this proposal would not detrimentally affect the ranking of *R. brevis* according to the IUCN threat criteria and there is the potential for changing the ranking to 'endangered' from 'critically endangered' given the increase in known population numbers. The DEC also indicated that, given previous levels of botanical survey across iron ore resources in the region, there is no guarantee that additional surveys would yield additional populations of *R. brevis*.

Other flora species of conservation significance

Austrostipa blackii is a grass species that is classified Priority 3 flora by the DEC. *Austrostipa blackii* has been recorded at six locations across the Windarling Range, of which three locations occur within the W4 East Deposit proposal area (Western Botanical, 2010). Cliffs has stated that due to the seasonal and inconspicuous nature of *Austrostipa blackii*, it is likely the species is more widespread than recorded in the Yilgarn Region (Cliffs, 2012). *Austrostipa blackii* has been recorded at the Mount Jackson Range, Hunt Range, Mt Finnerty Range and Highclene Hills in the Yilgarn Region (Western Botanical, 2010). The DEC has identified that *Austrostipa blackii* has a linear distribution of more than 600 km (DEC, 2011b).

Banksia arborea is classified Priority 4 flora by the DEC. *Banksia arborea* has been recorded across the length of the Windarling Range with more than 1,100 individuals estimated, 159 of which are located within the W4 East Deposit proposal area (Western Botanical, 2010). *Banksia arborea* occurs at most Banded Ironstone Formation (BIF) ranges in the Yilgarn Region, with previous recordings at Mt Elvire, Mt Manning Range, Die Hardy Range, Mt Jackson Range, Bungalbin Hill, Koolyanobbing Range, Hunt Range, Pigeon Rocks, Yorkradine Hill, Mt Finnerty and Perrinvale Range (Western Botanical, 2010).

Indirect impacts

To manage the indirect impacts of the proposal, Cliffs have developed a number of management plans for its operations. These management plans cover land clearing, dust, weeds and fire and are included as appendices to the API document. Cliffs currently utilises these management plans for all its existing Yilgarn operations.

Assessment

The EPA's environmental objectives for this factor are:

- To maintain the abundance, diversity, geographic distribution and productivity of flora at species and ecosystem levels through the avoidance or management of adverse impacts and improvement of knowledge.
- To ensure that native flora is conserved consistent with the *Wildlife Conservation Act 1950* and the *Environment Protection and Biodiversity Conservation Act 1999*.

The EPA notes that the Windarling Range W4 East Deposit proposal will result in the clearing of up to 28 ha of native vegetation and impact upon ten vegetation units, as well as the 'Windarling Range Vegetation Complex' PEC. The EPA also notes that all but one of the ten vegetation units found in the W4 East Deposit proposal area are also found outside of the proposal area and that the PEC is more widely distributed across the Windarling Range.

The *Maireana integra* Low Heath vegetation unit has not been recorded outside of the proposal area. This vegetation unit is unusual in that it is monotypic and only contains the *Maireana integra* flora species. *Maireana integra* is not a listed species and has a widespread distribution throughout the Yilgarn Region and therefore the impact of the Windarling Range W4 East Deposit on this flora species is not expected to be significant.

The Windarling Range W4 East Deposit proposal will have an impact on one Declared Rare Flora species, *R. brevis*, and two Priority flora species, *Austrostipa blackii* and *Banksia arborea*.

The EPA also notes that the impact on the Declared Rare Flora species *R. brevis* from the implementation of the Windarling Range W4 East Deposit proposal is significant at both a local and regional level. The W4 East Deposit proposal will directly impact upon 1073 *R. brevis* individuals, which takes the total impact to the *Ricinocarpus brevis* population at Windarling Range to 9,263 individuals or approximately 51% of the known local population, equating to approximately 38% of the known regional population.

The EPA notes that the proponent is required to obtain a permit to take rare flora under the *Wildlife Conservation Act 1950*. The EPA considers that a requirement of this permit should be that seed and other vegetative matter of *R. brevis* be salvaged and stored for use in rehabilitation.

The proponent has proposed both direct and indirect environmental offsets to mitigate the impact that the W4 East Deposit proposal will have on 1,073 individuals of the *R. brevis* population as described below.

The direct offset proposed by the proponent include the surrender of the approval to take 282 *R. brevis* individuals at the Windarling Range W1 Deposit and 71 individuals at the W3/5 Deposit (353 individuals in total), which were approved for impact by Ministerial Statement 627.

The impacts at local and regional levels with and without the surrender of 353 *R. brevis* individuals are shown in the table below:

Table 3. Impacts on *Ricinocarpos brevis* populations as a result of the implementation of the Windarling Range W4 East proposal

	Total known individuals	Individuals approved for impact under 627	Proposed impact at W4 East	Approved impact + proposed impact	Offset proposed	Total impact with offset
Windarling Range	18,112	8,190	1,073	9,263 (51%)	353	8,923 (49%)
Yilgarn Region	24,094	-	-	38%	-	37%

To give effect to the surrender of the 353 *R. brevis* plants that are already approved to be cleared will require the proponent to change the proposal approved under Ministerial Statement 627, excluding the area containing the *R. brevis* plants from mining and disturbance. The proponent has submitted an application under section 45C of the EP Act to change the proposal. The EPA considers that this change to proposal for the existing Ministerial Statement 627 is a positive environmental outcome and therefore is unlikely to have a significant environmental effect in addition to or different from the effects of the original proposal. The EPA notes that the Minister for Environment will consider the approval of the section 45C application under Ministerial Statement 627 concurrently with the decision about whether or not the W4 East proposal should be implemented.

The proponent will also undertake a rehabilitation program for *R. brevis* at the W4 West Deposit Waste Rock Landform to further mitigate the impact to *R. brevis* at the W4 East Deposit. The rehabilitation program is to be conducted over a period of five years with a germination target of approximately 1,000 *R. brevis* individuals. The EPA welcomes this rehabilitation program, however considers it to be best practice rather than a direct environmental offset. The EPA's *Position Statement No. 9 Environmental Offsets* states that "Offsets go beyond normal environmental management responsibilities", and it is questionable whether the rehabilitation program for *R. brevis* meets Principle D ("positive environmental offset ratios should apply where the risk of failure is apparent"); and Principle H ("environmental offsets must ensure a long lasting benefit") (EPA, 2005). The DEC has advised the risk of failure of the rehabilitation program for *R. brevis* at the W4 West Waste Rock Landform is likely to be high, due to the high angled slopes, artificial substrate, and the lack of knowledge regarding *R. brevis* habitat.

The EPA notes that the proponent, in an agreement with the Botanic Gardens and Parks Authority, will engage in a *R. brevis* research program over a period of five years. This research program represents an indirect environmental offset (research category) with the purpose of developing an understanding of the technologies and processes necessary for the restoration of sustainable *R. brevis* populations. This work will build on, but not include, the work already undertaken by Cliffs to develop a further understanding of *R. brevis*. The proponent is currently undertaking seeding and seedling trials for *R. brevis* at Windarling Range, and has advised that it considers the seeding trials to be successful to date.

The EPA also notes the proponent will commence a translocation program for *R. brevis* at the W1 Deposit and the W4 East Deposit, as an indirect environmental offset. The translocation program at the W1 Deposit has already been submitted to

the DEC as part of the approvals obtained under Ministerial Statement 627, and therefore cannot be used as an environmental offset for the W4 East Deposit proposal. The translocation program at the W4 East Deposit is scheduled to commence in 2013, with a plan to be developed by the proponent and submitted to the DEC for approval.

The EPA considers that the proposed offsets package is generally appropriate to mitigate the residual environmental impacts of the W4 East proposal, and that the EPA's objectives for this factor can be met as a result.

The EPA has recommended conditions 13-1 and 13-2 to ensure that these proposed environmental offsets are implemented.

It should be noted however, that in the event that the section 45C application to change the proposal approved under Ministerial Statement 627 to allow for the 353 plants of *R. brevis* to be retained does not proceed, or it is not approved, then the offsets package will need to be modified to take into account the additional residual impact of removing extra individuals of *R. brevis*.

The EPA notes that the proposal will have an impact on the Priority flora species *Austrostipa blackii* and *Banksia arborea*. Both species are widespread in the Yilgarn Region and therefore the implementation of the proposal is not expected to have a significant impact on either flora species.

The W4 East Deposit proposal may also have indirect impacts on vegetation and flora through dust, fire and the introduction of weeds as a result of mining operations. The proponent has developed Environmental Management Plans to manage these potential indirect impacts to vegetation and flora. The EPA considers that these management plans should be implemented and has recommended conditions 6, 10, 11 and 12 to ensure that the plans and proposed management actions are implemented.

Summary

Having particular regard to:

- the clearing of up to 28 ha of native vegetation including DRF species *Ricinoscarpos brevis*, Priority 3 flora species *Austrostipa blackii* and Priority 4 flora species *Banksia arborea*;
- all but one of the ten vegetation units found in the W4 East Deposit proposal area also being found outside of the proposal area. The remaining *Maireana integra* Low Heath vegetation unit is monotypic and only contains the *Maireana integra* flora species. *Maireana integra* is not a listed species and has a widespread distribution throughout the Yilgarn Region.
- the proposed indirect environmental offsets package, that includes seeding and translocation trials, to offset the impact to 1,073 *Ricinoscarpos brevis* individuals that will result from the implementation of the proposal; and
- the proponent having developed Environmental Management Plans to manage any direct and indirect impacts the proposal may have on vegetation and flora;

the EPA considers the issue of vegetation and flora has been adequately addressed and the proposal can meet the EPA's objectives for this factor, subject to the

recommended conditions that address offsets and the management plans being implemented.

Fauna

Description

Vertebrate surveys were undertaken across Windarling Range in 2009 and 2010 by Bamford Consulting Ecologists (BCE), on behalf of Cliffs. The surveys found that a total of 254 vertebrate species could potentially occur at Windarling Range. Fauna surveys at Windarling Range were carried out in accordance with *EPA Guidance Statement 56: Guidance for the Assessment of Environmental Factors – Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004).

Of the 254 vertebrate species that could potentially occur at Windarling Range, the fauna survey found that 170 vertebrate species could potentially occur within the Windarling Range W4 East Deposit proposal area (BCE, 2010). These 170 species were comprised of 92 avifauna species; 54 reptile species; 21 mammal species; and three amphibian species (BCE, 2010). Of the 170 vertebrate species that potentially occur in the W4 East Deposit proposal area, 76 species were recorded in the vicinity by BCE in 2009/2010 (BCE, 2010).

Of the 254 vertebrate species that potentially occur at Windarling Range, ten are of conservation significance.

These species are:

- Malleefowl *Leipoa ocellata* (Threatened Species, Specially Protected Fauna);
- Rainbow Bee-eater *Merops ornatus* (Migratory Species, Specially Protected Species);
- Fork-tailed Swift *Apus pacificus* (Migratory Species, Specially Protected Fauna);
- Peregrine Falcon *Falco peregrinus* (Specially Protected Fauna)
- South-western Carpet Python *Morelia spilota imbricata* (Specially Protected Fauna);
- Major Mitchell's Cockatoo *Cacatua leadbeateri* (Specially Protected Fauna)
- Crested Bellbird (Southern) *Oreocia gutturalis gutturalis* (Priority 4);
- White-browed Babbler (Wheatbelt) *Pomatostomus superciliosus ashby* (Priority 4);
- Australian Bustard *Ardeotis australis* (Priority 4); and
- Inland Greater Long-eared Bat *Nyctophilus major tor* (Priority 4).

Habitat for these species is widespread outside the W4 East Deposit proposal area. Rainbow Bee-eater *Merops ornatus*, which is classified as a Migratory Species and Specially Protected Fauna, may visit the Windarling Range area during spring/summer breeding season, although its preferred habitat occurs outside of the Windarling Range.

A targeted survey for Malleefowl was also undertaken by Asparsia Wildlife in 2009. The survey identified two inactive mounds in the vicinity of the Windarling W4 East Deposit proposal.

A survey for Short Range Endemic invertebrate fauna species was undertaken in 2011 by Biota, on behalf of Cliffs. The survey recorded eight Short Range Endemic invertebrate fauna species within the vicinity of the Windarling Range W4 East Deposit proposal area (Biota, 2011a). These eight species are comprised of:

- two land snail taxa;
- three millipede taxa; and
- three mygalomorph spider taxa.

None of the Short Range Endemic fauna species recorded within the vicinity of the W4 East Deposit are of conservation significance.

While not considered a Short Range Endemic invertebrate fauna species, Biota recorded the Tree-stem Trapdoor Spider *Aganippe castellum* at Windarling Range. The Tree-stem Trapdoor Spider is classified by the DEC as a Priority 4 fauna species, and has been recorded widely in the Yilgarn Region including across the Windarling Range, Mt Jackson Range, Koolyanobbing Range, Helena and Aurora Range and Die Hardy Range (Biota, 2011). There are approximately 44,000 Tree-stem Trapdoor Spider individuals at Koolyanobbing Range, and approximately 200,000 individuals at Mt Jackson Range (Cliffs, 2010).

Surveys for subterranean invertebrate fauna species have also been undertaken at the Windarling Range. A survey for troglobitic subterranean fauna, undertaken by Bennelongia in 2009, recorded three troglobitic subterranean fauna taxa within the vicinity of the Windarling Range W4 East Deposit proposal area (Bennelongia, 2010).

Previous surveys for stygobitic invertebrate subterranean fauna species at Windarling Range by Wetland Research and Management did not identify any stygobitic subterranean fauna (Wetland Research and Management, 2008; 2009).

Assessment

The EPA's environmental objectives for this factor are:

- to maintain the abundance, diversity, geographic distribution and productivity of fauna at species and ecosystem levels through avoidance or management of adverse impacts and improvement of knowledge; and
- protect Threatened Fauna and Priority Fauna species and their habitats consistent with the provisions of the *Wildlife Conservation Act 1950*.

While there are ten vertebrate species of conservation significance that potentially occur within the W4 East Deposit proposal area, none of these vertebrate species, with the exception of Malleefowl, are expected to be significantly impacted by the implementation of the proposal, as the habitats of these species are widespread outside the W4 East Deposit proposal area.

However, the Windarling Range may provide key nesting habitat for Malleefowl, *Leipoa ocellata*, which is classified as a Threatened Species and Specially Protected Fauna. The hills associated with the project area are part of the core

distribution of Malleefowl habitat. Although targeted surveys did not record any currently active mounds in the project area, the presence of inactive mounds both within and outside the proposal area indicate suitable breeding habitat is present. Malleefowl are known to reuse old mounds as well as constructing new mounds, so use of any particular area can vary between years depending on seasonal conditions.

The DEC has provided advice that a Malleefowl Conservation Plan should be developed for the project and the EPA supports this position and has recommended a condition requiring that the existing Malleefowl Conservation Plan that the proponent implements for its Yilgarn Operations also be implemented for the W4 East proposal.

The EPA also noted that the W4 East Deposit proposal is unlikely to have a significant impact on Short Range Endemic invertebrate species. While there are eight Short Range Endemic invertebrate species found in the W4 East Deposit proposal area, these species are widespread throughout Windarling Range and the Yilgarn Region, and therefore the implementation of the proposal is not expected to have a significant impact on these species.

In regard to other fauna species, the Tree-stem Trapdoor Spider *Aganippe castellum*, which is classified by the DEC as a Priority 4 fauna species, is found at the W4 East Deposit proposal area, however, the species has a wide distribution throughout the Yilgarn Region and therefore is not expected to be significantly impacted by the proposal.

The EPA notes that the proponent has prepared a fauna management plan that details how the project will be managed to reduce the likelihood that the implementation of the proposal will lead to significant impacts to fauna. The fauna management plan is available as an appendix to the API document. The EPA considers that this management plan should be implemented and has recommended condition 7 to ensure this occurs.

Summary

Having particular regard to the:

- proposal area not being a key habitat for any fauna species of conservation significance, besides Malleefowl;
- implementation of the proposal being unlikely to have a significant impact on any Short Range Endemic invertebrate fauna species; and
- proponent having developed Environmental Management Plans to manage any direct and indirect impacts the proposal may have on fauna,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objectives for this factor, subject to conditions for the implementation of a Malleefowl Conservation Plan and the implementation of the Fauna Management Plan.

Rehabilitation and mine closure

Description

The Windarling Range W4 East Deposit proposal includes a mine pit and haul road and completion of mining is currently scheduled for 2017.

Cliffs has divided mine closure for the Windarling Range W4 East Deposit into two management units. These units and their broad mine closure objectives are shown in the following table:

Table 4. Mine closure management unit

Management unit	Mine closure objective
Mine pit	Abandonment bunding installed
Haul road	Rehabilitated with vegetation native to the Windarling Range

Mine pit

The W4 East Deposit mine pit will cover an area of up to 27.5 ha and be a depth of approximately 403 mAHD which is approximately 100 m below the current ground surface. The mined-out pit will be left as an open void following the completion of mining. As the mine pit will be above the water table, the proponent does not expect the mine void to form a permanent pit lake once mining operations have been completed.

Abandonment bunding will be installed around the pit to prevent fauna from accessing the open void. This will be placed within 10 m of the edge of the pit, be five metres in width and two metres in height. The proponent has stated that rehabilitation of the mine pit itself will not be attempted due to the steep sides not being conducive to successful rehabilitation, as well as it being considered unsafe to attempt rehabilitation in such areas.

Waste rock from the W4 East Deposit will be disposed of to a combination of the W3/5 Deposit Waste Rock Landform and by backfilling the W4 West Deposit following its mining.

Haul road

The haul road, which will cover an area of up to 0.5 ha, will be fully rehabilitated with vegetation native to the Windarling Range. This will include the spreading of topsoil, subsoil and retained vegetation (which will be stockpiled during initial clearing), deep ripping for improved soil condition and drainage purposes and the spreading of local seed.

Mine closure planning

Cliffs have developed a draft mine closure plan for the Windarling Range W4 East Deposit proposal, in accordance with the DMP/EPA *Guidelines for Preparing Mine Closure Plans*.

As well as the W4 East Deposit mine pit and haul road, the draft mine closure plan incorporates the W4 West Deposit mine pit and the W4 West Deposit Waste Rock Landform, which are separate from the W4 East Deposit proposal.

The draft mine closure plan addresses the following key considerations for mine closure:

- mine closure aspects;
- mine closure objectives;
- completion criteria; and
- monitoring.

Assessment

The EPA's environmental objectives for this factor are:

- to ensure, as far as practicable, that rehabilitation achieves a stable and functioning landform which is consistent with the surrounding landscape and other environmental values.
- mine closure planning and rehabilitation are carried out in a coordinated, ecologically sustainable, progressive manner and are treated as an integral part of mine development, consistent with the *ANZMEC/MCA Strategic Framework for Mine Closure* and the *EPA/DMP Guidelines for Preparing Mine Closure Plans*;
- the visual amenity of the area and adjacent surrounds are not unduly affected by the proposal; and
- regionally significant landforms and geo-conservation values are protected.

The EPA notes that the proponent has prepared a draft mine closure plan that is consistent with the *DMP/EPA Guidelines for Preparing Mine Closure*.

It is the EPA's preference that mine pits are backfilled, however the EPA acknowledges that this is not always achievable. The EPA also notes that the mine void is not expected to form a permanent lake and it is therefore less likely that the open void will attract fauna.

It is noted that the haul road will be fully rehabilitated using topsoil, subsoil, and native vegetation which will have been stockpiled during initial clearing.

In view of the statutory requirements of the *Mining Act 1978*, the EPA is satisfied that rehabilitation and, mine closure and decommissioning can be managed by the DMP consistent with the *DMP/EPA Guidelines for Preparing Mine Closure Plans*. The EPA advises that key matters to be considered by the Department of Mines and Petroleum (DMP) in approving the mine closure plan include:

- Determination as to whether geochemical characterisation of the waste rock material to be produced at the W4 East Deposit is required.
- Formal consideration as to whether the proponent has properly considered options for backfilling. As the EPA's position on mine closure is that mine pits be backfilled rather than left as an open void, the EPA encourages the proponent to continue to explore options for backfilling during mine closure.

- Consideration of using waste rock material from the W4 East Deposit to backfill the W3/5 Deposit mine pit so that a water filled void is not present at closure.
- The involvement of the DEC as a key stakeholder in the Mine Closure Plan for the Windarling Range W4 East Deposit, as the DEC is the proposed post-mining land manager of the W4 East Deposit location.

Summary

Having particular regard to the:

- Windarling Range W4 East Deposit draft mine closure plan; and
- mine closure and rehabilitation being managed by the DMP in accordance with the requirements of the *Mining Act 1978*,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

5. Recommended conditions

Recommended conditions

Having considered the information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by Cliffs Asia Pacific Iron Ore Pty Ltd to construct and operate an open cut iron ore mine and haul road, 130 km north of Southern Cross is approved for implementation. These conditions are presented in Appendix 2. Matters addressed in the conditions include:

- Vegetation and flora.
- Fauna.
- Environmental offsets (in relation to vegetation and flora).

6. Other advice

The EPA advises that given the historic impacts of mining on flora and fauna species it is important that proponents should present information on the cumulative impacts on conservation significant flora and fauna species at the local and regional scale so that the cumulative impact on biodiversity values can be determined.

The EPA also reminds proponents that the survey data underpinning information provided in environmental review documentation needs to be made available not only to the EPA but also to key Government agencies that provide advice to the EPA. The early provision of survey data to Government agencies assists in the timely consideration of assessments.

The EPA also advises that, as the DEC are the responsible land manager for the area post mining, the DEC should be consulted as to the implementation or future revisions of the management plans for Cliffs' Yilgarn Operations to ensure that the plans appropriately address issues associated with the management of the sites post mine closure.

7. Conclusions

The EPA has considered the proposal by Cliffs Asia Pacific Iron Ore Pty Ltd to construct and operate an open cut iron ore mine and haul road, 130 km north of Southern Cross.

In conducting its assessment of the proposal the EPA has determined that the key environmental factors of vegetation and flora, fauna, and rehabilitation and mine closure required assessment in this report.

The proponent has undertaken surveys across Windarling Range to evaluate the impact the Windarling Range W4 East Deposit proposal will have on vegetation and flora. The clearing of 28 ha of vegetation is unlikely to significantly impact any vegetation associations. The EPA has recommended the proponent's Environmental Management Plans to manage any direct and indirect impacts the proposal may have on vegetation and flora are included as conditions of the proposal proceeding.

The proposal will however have an impact on the DRF species *Ricinocarpus brevis* with the loss of approximately 1073 individuals. This proposal would take the total impact to the *R. brevis* population at Windarling Range to 9,263 individuals or approximately 51% of the known local Windarling Range population, equating to approximately 38% of the known regional population.

The proponent has proposed environmental offsets to mitigate for the impact on this flora species. The offsets include the proponent surrendering its existing approval to clear 353 *R. brevis* plants, reducing the overall impact on *R. brevis* on the Windarling Range to approximately 49%. This will require the proponent to change the proposal approved under Ministerial Statement 627, excluding the area containing the *R. brevis* plants from mining and disturbance. The proponent has submitted an application under section 45C of the EP Act to change the proposal. The proponent has also proposed offsets relating to a *R. brevis* research program. The EPA has recommended a condition to ensure that the proponent's offsets are implemented. The EPA considers that the offsets package is sufficient to mitigate the significant residual environmental impacts of the W4 East proposal.

The proponent has undertaken surveys across Windarling Range to evaluate the impact the Windarling Range W4 East Deposit proposal will have on fauna species. Ten vertebrate species of conservation significance, several Short Range Endemic invertebrate fauna species, several subterranean fauna species and the Tree-stem Trapdoor Spider *Aganippe castellum* potentially occur in the area of the W4 East Deposit. The EPA notes that the implementation of this proposal is not expected to have a significant impact on any of these fauna species, or their key habitats, with the exception of Malleefowl. Although targeted surveys did not record any currently active Malleefowl mounds in the project area, the presence of inactive mounds both within and outside the proposal area indicate suitable breeding habitat is present. The EPA has recommended conditions to ensure that the proponent's Fauna Management Plan is implemented and a Malleefowl Conservation Plan is implemented.

The proponent has developed a draft mine closure plan in accordance with the DMP/EPA *Guidelines for Preparing Mine Closure Plans*. The EPA considers that mine closure for the W4 East Deposit can be adequately managed by the DMP consistent with the requirements of the *Mining Act 1978*.

The EPA has therefore concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2.

8. Recommendations

The EPA submits the following recommendations to the Minister for Environment:

- (a) That the Minister notes that the proposal being assessed is for the development of an open cut iron ore mine and haul road, 130 km north of Southern Cross.
- (b) That the Minister considers the report on the key environmental factors as set out in Section 3.
- (c) That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2.
- (d) That the Minister notes the proponent has submitted an application under section 45C of the EP Act to change the proposal approved under Ministerial Statement 627 to allow for 353 individuals of the DRF species *Ricinocarpus brevis* to be retained and not cleared. The EPA considers that this change to proposal for the existing Ministerial Statement 627 is a positive environmental outcome and therefore is unlikely to have a significant environmental effect in addition to or different from the effects of the original proposal. The EPA understands that the Minister for Environment will consider the approval of the section 45C application under Ministerial Statement 627 concurrently with the decision about whether or not the W4 East proposal should be implemented to ensure that the proponent's intention to surrender the approval to clear the 353 individuals of *R. brevis* occurs.
- (e) That the Minister imposes the conditions and procedures recommended in Appendix 2 of this report.

Appendix 1

References

Bamford Consulting Ecologists (2010). *Fauna Assessment of the Windarling Range W4 Deposit*. September 2010.

Bennelongia Pty Ltd (2010). *Troglota Survey of the Windarling Range W4 East Deposit*. April 2010.

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Environmental Protection Authority (2005). *Position Statement No. 9 Environmental Offsets.* June 2005.

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Western Botanical (2010). *Flora and Vegetation Survey of the Windarling Range W4 Deposit.* Report prepared by Eckermann B and Cockerton G for Cliffs Asia Pacific Iron Ore Pty Ltd. October 2010.

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Western Botanical (2011b). *Ricinocarpos brevis 2009 Census at Windarling Range.* Report prepared by McNee S for Cliffs Asia Pacific Iron Ore Pty Ltd. October 2011.

Wetland Research and Management (2009). *Stygofauna sampling at Mt Jackson J1 Deposit, Western Australia.* Report to Cliffs Asia Pacific Iron Ore Pty Ltd (formerly as Portman Iron Ore Limited). January 2009.

Appendix 2

Identified Decision-making Authorities and Recommended Environmental Conditions

Identified Decision-making Authorities

Section 44(2) of the *Environmental Protection Act 1986* specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities, and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified for this consultation:

Decision-making Authority	Approval
Minister for Environment	<i>Wildlife Conservation Act 1950</i> approval to take Rare Flora
Department of Mines and Petroleum – Director, Environment Division	<i>Mining Act 1978</i> approval of Mining Proposal
Department of Environment and Conservation	Works Approval and Licence under Part V of the <i>Environmental Protection Act 1986</i>
Shire of Yilgarn	Planning approval under the <i>Planning and Development Act 2005</i>

Note: In this instance, agreement is only required with DMA #1 since this DMA is a Minister.

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

Yilgarn Operations Windarling Range W4 East Deposit

Proposal: The proposal is to construct and operate an open cut iron ore mine and haul road at the Windarling Range W4 East Deposit, located approximately 130 kilometres north of Southern Cross.

The proposal is further documented in schedule 1 of this statement.

Proponent: Cliffs Asia Pacific Iron Ore Pty Ltd

Proponent Address: Level 12, The Quadrant, 1 William St,
PERTH WA 6000

Assessment Number: 1872

Report of the Environmental Protection Authority: 1438

The proposal referred to in Report 1438 of the Environmental Protection Authority may be implemented. The terms and phrases used in the implementation conditions and procedures of this Statement are defined in Schedule 3. The implementation of that proposal is subject to the following conditions and procedures:

1 Proposal Implementation

1-1 The proponent shall implement the proposal as documented and described in schedule 1 of this statement subject to the conditions and procedures of this statement.

2 Contact Details

2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within 28 days of such change. Where the proponent is a corporation or an

association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit of Authorisation

- 3-1 The authorisation to implement the proposal provided for in this statement shall lapse and be void five years after the date of this statement if the proposal to which this statement relates is not substantially commenced.
- 3-2 The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.

4 Compliance Reporting

- 4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.
- 4-2 The proponent shall submit to the CEO the compliance assessment plan required by condition 4-1 at least six months prior to the first compliance report required by condition 4-6, or prior to implementation, whichever is sooner.

The compliance assessment plan shall indicate:

- 1 the frequency of compliance reporting;
 - 2 the approach and timing of compliance assessments;
 - 3 the retention of compliance assessments;
 - 4 the method of reporting of potential non-compliances and corrective actions taken;
 - 5 the table of contents of compliance assessment reports; and
 - 6 public availability of compliance assessment reports.
- 4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.
 - 4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 4-1 and shall make those reports available when requested by the CEO.
 - 4-5 The proponent shall advise the CEO of any potential non-compliance within seven days of that non-compliance being known.

- 4-6 The proponent shall submit to the CEO an annual compliance assessment report by 30 April each year for the preceding calendar year.

The compliance assessment report shall:

- 1 be endorsed by the proponent's Managing Director or a person delegated to sign on the Managing Director's behalf;
- 2 include a statement as to whether the proponent has complied with the conditions;
- 3 identify all potential non-compliances and describe corrective and preventative actions taken;
- 4 be made publicly available in accordance with the approved compliance assessment plan; and
- 5 indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5 Public Availability of Data

- 5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.

- 5-2 If any data referred to in condition 5-1 contains particulars of:

- 1 a secret formula or process; or
- 2 confidential commercially sensitive information

The proponent may submit a request for approval from the CEO to not make this data publically available. In making such a request the Proponent shall provide the CEO with an explanation and reasons why the data should not be made publically available.

6 Land Clearing Management Plan

- 6-1 The proponent shall implement the proposal in accordance with the "*Yilgarn Operations Land Clearing Management Plan*" (Cliffs Asia Pacific Iron Ore Pty Ltd, April 2011), or subsequent revisions approved by the CEO.

7 Fauna Management Plan

- 7-1 The proponent shall implement the proposal in accordance with the “*Yilgarn Operations Land Clearing Management Plan*” (Cliffs Asia Pacific Iron Ore Pty Ltd, June 2011), or subsequent revisions approved by the CEO.

8 Malleefowl Conservation Plan

- 8-1 The proponent shall implement the proposal in accordance with the “*Malleefowl Conservation Plan*” (Cliffs Asia Pacific Iron Ore Pty Ltd, October 2009), or subsequent revisions approved by the CEO.

9 Death or Injury of Malleefowl

- 9-1 The proponent shall record and report the death or injury of any Malleefowl *Leipoa ocellata* as a result of the implementation of this proposal to the CEO within seven days of that death or injury being known.

10 Weed Management Plan

- 10-1 The proponent shall implement the proposal in accordance with the “*Yilgarn Operations Weed Management Plan*” (Cliffs Asia Pacific Iron Ore Pty Ltd, June 2011), or subsequent revisions approved by the CEO.

11 Fire Management Plan

- 11-1 The proponent shall implement the proposal in accordance with the “*Yilgarn Operations Fire Management Plan*” (Cliffs Asia Pacific Iron Ore Pty Ltd, April 2011), or subsequent revisions approved by the CEO.

12 Dust Management Plan

- 12-1 The proponent shall implement the proposal in accordance with the “*Yilgarn Operations Dust Management Plan*” (Cliffs Asia Pacific Iron Ore Pty Ltd, April 2011), or subsequent revisions approved by the CEO.

13 Residual Impacts and Risk Management Measures

- 13-1 The proponent shall provide a minimum of \$640,000 over a five year period, for funding for Project A, as specified in Schedule 2, which aims to contribute scientific understanding of the long term recovery and protection of sustainable populations of *Ricinocarpos brevis* at Windarling Range. The research plan will be finalised by the proponent in consultation with the

Department of Environment and Conservation and to the satisfaction of the CEO.

- 13-2 The proponent will develop and implement Project B, as specified in Schedule 2, with a minimum total expenditure of \$40,000, to translocate individuals of *Ricinocarpus brevis* which will be removed in implementing this proposal. The translocation plan will be developed by the proponent in consultation with the Department of Environment and Conservation and to the satisfaction of the CEO.

The Proposal (Assessment No. 1872)

The proposal is to construct and operate:

- An open cut, above the water table iron ore mine pit at Windarling Range W4 East Deposit, approximately 130 km north of Southern Cross; and
- A haul road to connect the mine pit to infrastructure located at the existing Windarling Range mining operations.

The location of the various project components is shown in Figure 1.

Waste rock from the W4 East Deposit will be disposed of to the Windarling Range W3/5 Deposit Waste Rock Landform and by backfilling of the Windarling Range W4 West Deposit Mine Pit following its mining. Both the Windarling Range W3/5 Deposit Waste Rock Landform and the Windarling Range W4 West Deposit Mine Pit were previously approved under Ministerial Statement 627. The Windarling Range W4 East waste rock can be disposed of under current existing approvals without changes to Statement 627.

The main characteristics of the proposal are summarised in Table 1 below. A detailed description of the proposal is provided in section 1 of the document;

- Cliffs Asia Pacific Iron Ore Pty Ltd (2012). *Yilgarn Operations Windarling Range W4 East Deposit – Environmental Impact Assessment (Assessment on Proponent Information)*. May 2012.

Table 1: Summary of Key Proposal Characteristics

Proposal Definition		Extent Authorised
Element – development/infrastructure	Location of element	
1. Mine	Figure 1	Clearing of up to 27.5 ha of native vegetation for a mine pit, including impact to the Rare Flora species <i>Ricinocarpos brevis</i> , Priority 3 flora species <i>Austrostipa blackii</i> and Priority 4 flora species <i>Banksia arborea</i> , which occur within the area of the mine.
2. Ancillary infrastructure	Figure 1	Clearing of up to 0.5 ha of native vegetation for a haul road.

Figures (attached)

Figure 1 Location Windarling Range W4 East Deposit proposal

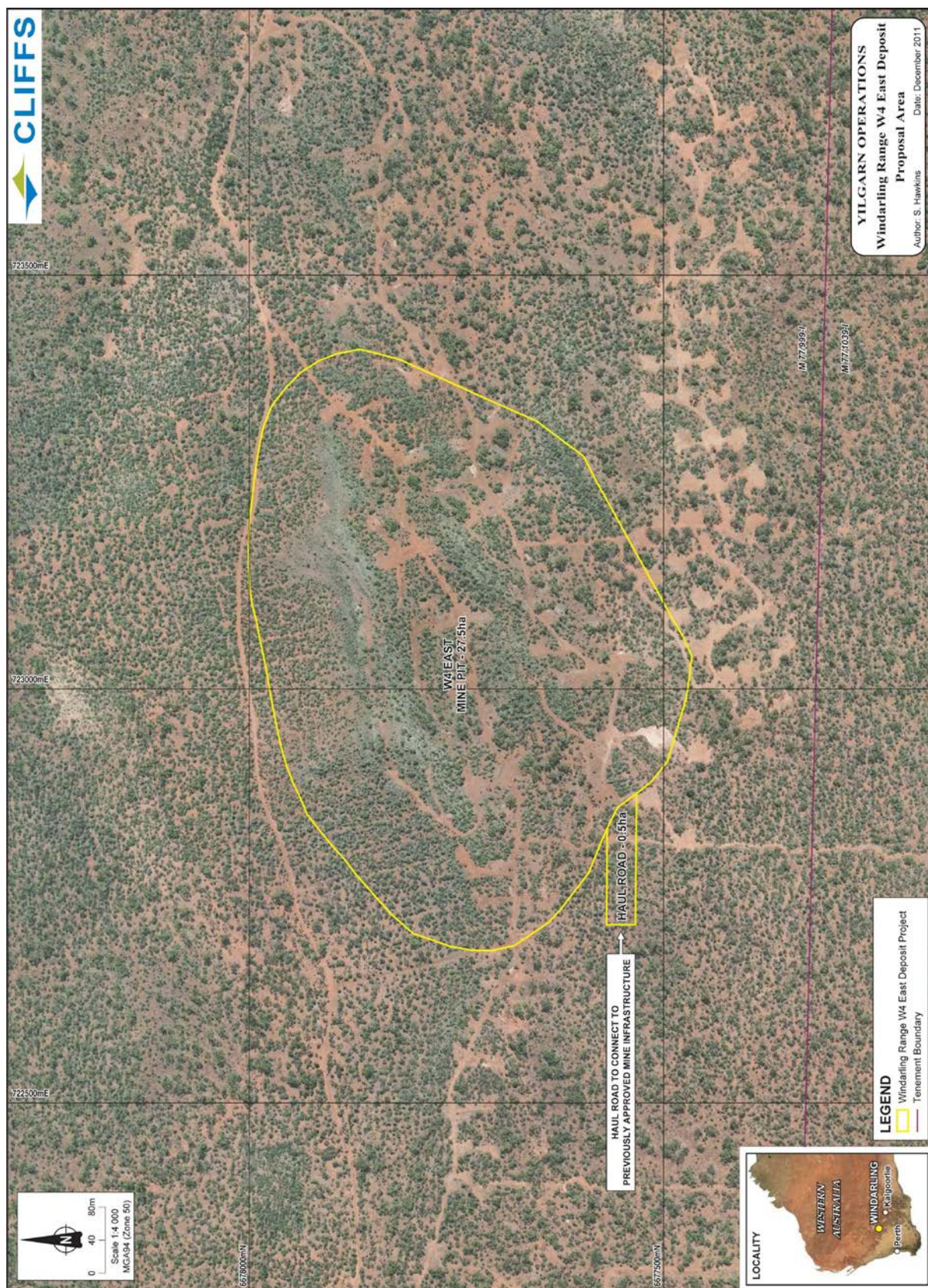


Figure 1 Location of Windarling Range W4 East Deposit proposal

Schedule 2

Residual impacts and risk management measures for impact to Declared Rare Flora species *Ricinocarpus brevis* at the Windarling Range W4 East Deposit

Project	Value and timing
<p>Project A – Research Project</p> <p>Contribute scientific understanding to the long term recovery and protection of sustainable populations of <i>Ricinocarpus brevis</i> at Windarling Range.</p>	<p>Minimum of \$640,000 over a five year period, commencing within 12 months of the finalisation of the research plan required by Condition 13-1.</p>
<p>Project B – Translocation trial of <i>Ricinocarpus brevis</i> individuals removed by the Windarling Range W4 East Deposit proposal</p> <p>Identify the potential for <i>R. brevis</i> individuals to be translocated with the aim of preserving the number of individuals and the long term protection of <i>R. brevis</i> at Windarling Range. The number of individuals to be translocated will be subject to practicability considerations such as plant size, site accessibility, and the aims and objectives of the trial.</p>	<p>Minimum expenditure of \$40,000 with timing to be determined by the translocation plan required by condition 13-2.</p>

Schedule 3

Term or Phrase	Definition
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.