



Vimy Resources Limited

Flora and Vegetation Monitoring and Management Plan

(Management-Based Condition Environmental Management Plan)

Mulga Rock Uranium Project

EMP-EHS-001

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Summary

Title of proposal	Mulga Rock Uranium Project (MRUP)
Proponent name	Vimy Resources Limited
Ministerial Statement Number	1046
Purpose of this EMP	The Flora and Vegetation Management Plan is submitted to fulfill the requirements of Conditions 7 and 9 of the above Statement.
Key environmental factor/s and objective/s	To maintain representation, diversity, viability and ecological function at the species, population and community level.
Key environmental objectives	<ol style="list-style-type: none"> 1) Minimise direct and indirect impacts as far as practicable on all conservation significant flora species; and 2) Minimise direct and indirect impacts as far as practicable on the vegetation communities E3 and S6.
Key provisions	<p>Management target 1: No unauthorised clearing or disturbance of flora and vegetation.</p> <p>Management target 2: Minimise dust levels above background levels within the MRUP Development Envelope as a result of the implementation of the Project.</p> <p>Management target 3: Minimise the impacts from saline water.</p> <p>Management target 4: No increase in the number of weeds above baseline levels in the MRUP Development Envelope as a result of the implementation of the Project.</p> <p>Management target 5: No change in the frequency or severity of bushfires in the MRUP Development Envelope.</p>

1. Context, Scope and Rationale

1.1 Proposal

Vimy Resources Limited (Vimy) proposes to develop the Mulga Rock Uranium Project (MRUP or the Project) which lies approximately 240km east-north-east of Kalgoorlie-Boulder in the Shire of Menzies. The area is remote, located on the western flank of the Great Victoria Desert, comprising series of large, generally parallel sand dunes, with inter-dunal swales and broad flat plains.

The MRUP covers approximately 102,000 hectares on granted mining tenure (primarily M39/1104 and M39/1105) within Unallocated Crown Land (UCL). It includes two distinct mining centres, Mulga Rock East (MRE) comprising the Princess and Ambassador resources and Mulga Rock West (MRW) comprising the Emperor and Shogun resources, which are approximately 20km apart. The deposits will be mined using large-scale open pits to produce an annualised peak capacity of 2,180 t/a (4.8 Mlbs) U₃O₈.

The anticipated Life-of-Mine (LOM) is up to 16 years, based on the currently identified resource.

This Condition Environment Management Plan (Condition EMP) has been written in accordance with the Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans (EPA, 2016).

1.2 Key environmental factor/s

This Management-based Condition EMP specifically addresses the Flora and Vegetation environmental factor, which is part of the overall Land theme.

The Flora and Vegetation within the broader Yellow Sand Plain (YSP), which the MRUP occurs within, exists in a generally Good to Pristine condition due to the remoteness of the area. Under the Interim Biogeographic Regionalisation for Australia (IBRA) the YSP corresponds to 'Pre-European Vegetation Association 84', within the GVD1 Shield IBRA subregion, and is described as Aeolian sandplains dominated by *Triodia basedowii* (Lobed Spinifex) with mainly mallees over Hummock Grassland. Scattered *Eucalyptus gongylocarpa* (Marble Gum) and *Callitris sp.* (Cypress-Pine) occur on the deeper sands, whilst Mulga (*Acacia aneura*) Woodlands occur mainly on colluvial and residual soils. Halophytes (such as Samphires) occur on salt lake margins and saline drainage areas in the region.

Flora and vegetation studies conducted for the MRUP between 2007 and 2015 has identified 14 Priority Flora species in the area and 26 vegetation communities (MCPL, 2015). The distribution, composition and quality of the vegetation within the YSP is strongly influenced by regional-scale bushfires.

Potential direct impacts to maintaining representation, diversity, viability and ecological function at the species, population and community level include:

- Clearing / ground disturbance – the MRUP has approval to clear up to 3,787ha of native vegetation, within a 9,998ha Development Envelope for the establishment of mine and associated infrastructure, of which 78% was burnt in November 2014. This approved clearing represents <0.6% of the total YSP.

Potential indirect impacts on flora and vegetation include:

- Generation of dust from mining activities and transport (vehicles).
- Use of saline water for dust suppression on transport routes.
- Alteration of fire regime.
- Introduction and spread of invasive weed species.

There are no surface or groundwater dependent ecosystems within the MRUP and therefore no indirect impact is likely to occur on the flora and vegetation in response to alteration to either hydrological or hydrogeological processes. No management actions or targets therefore need to be developed to protect against this risk.

The potential impacts of fragmentation on conservation significant flora and E3 and S6 vegetation communities are not considered relevant given that the flora and vegetation within the MRUP Development Envelopment are well represented throughout the Yellow Sand Plan (YSP) and cover <0.6% of the total area in the YSP. Consequently, fragmentation impacts on conservation significant flora and vegetation communities E3 and S6 are unlikely to occur and no management actions or targets need to be developed to protect against this risk

1.3 Condition requirements

Condition	Section in Condition EMP
9-1 The proponent shall manage the implementation of the Proposal to meet the following environmental objectives: 1) Minimise direct and indirect impacts as far as practicable on all conservation significant flora species; and 2) Minimise direct and indirect impacts as far as practicable on the vegetation communities E3 and S6.	Whole document
9-2 The proponent shall consult with Parks and Wildlife and prepare a Flora and Vegetation Monitoring and Management Plan required by condition 7-1, to meet the objective required by condition 9-1.	Section 4
9-3 The Flora and Vegetation Monitoring and Management Plan required by condition 7-1 shall include provisions required by condition 7-2 to address impacts on conservation significant flora and vegetation health including from, but not limited to: direct clearing, dust, use of groundwater for dust suppression, fire regimes and weeds.	Section 2
9-4 The proponent shall continue to implement the version of the Flora and Vegetation Monitoring and Management Plan most recently approved by the CEO until the CEO has confirmed in writing that the Flora and Vegetation monitoring and Management Plan required by condition 7-1 satisfies the requirements of condition 7-2 to meet the objectives required by condition 9-1.	Whole document

Impacts to conservation significant flora species and E3 and S6 vegetation communities are also explicitly covered by Condition 8 of MS 1046 (Flora and Vegetation) which provides the following specific environment outcomes to protect these species and vegetation communities:

- Condition 8-1 (1) avoid direct impacts to *Hakea sp.* LAC139 and LAC140 including a 50m buffer;
- Condition 8-1 (2) ensure that no more than 3,474ha of vegetation community E3 and 200ha of vegetation community S6 is cleared within the project development envelope; and
- Condition 8-1 (3) ensure the eradication of all weeds introduced in the development envelope as a result of the implementation of the proposal.

In addition, impacts on E3 and S6 from saline water overspray along the access and haul roads are covered by the following environmental outcome specified in Condition 13:

- Condition 13-1 (1) maintain soil quality within background concentrations established during baseline studies 10 metres from areas where dewater has been used for dust suppressions in Sandhill Dunnart Habitat (i.e. E3 and S6 vegetation communities).

It is considered that the above environmental outcomes, combined with the environmental objectives specified in Condition 9 (and addressed in this CEMP), are sufficient to maintain representation, diversity, viability and ecological function at the species, population and community level within the MRUP.

1.4 Rationale and approach

1.4.1 Survey and study findings

The MRUP area falls within the Shield subregion (GVD1) of the Great Victoria Desert bioregion. The MRUP area corresponds to 'Pre-European Vegetation Association 84', within the GVD1 Shield IBRA sub region.

Flora and vegetation surveys undertaken within the MRUP between 2007 and 2015 are summarised below.

Date	Author	Title and Scope of Survey	Survey Level
20-24 Aug 2007	Mattiske Consulting Pty Ltd (MCPL)	Reconnaissance	Level 1
18-24 Feb 2008	MCPL	Mapping	Level 1
8-12 Dec 2008	MCPL	Mapping and Targeted Surveys	Level 2
17-23 Aug 2009	MCPL	Mapping and Targeted Surveys	Level 2
14-18 Sept 2009	MCPL	Mapping and Targeted Surveys	Level 2
9-13 Nov 2009	MCPL	Targeted Survey	Level 2
18-23 March 2010	MCPL	Mapping and Targeted Surveys	Level 2
22-28 May 2010	MCPL	Mapping and Update on Survey Work Completed	Level 2
15-23 July 2010	MCPL	Mapping and Update on Survey Work Completed	Level 2
2-5 Nov 2010	MCPL	Mapping and Update on Survey Work Completed	Level 2
2013	MCPL	Update on Survey Work Completed	Level 2
7-14 April 2014	MCPL	Mapping	Level 2
8-15 Aug 2014	MCPL	Targeted Survey	Level 2
2 – 9 Sept 2015	MCPL	Mapping update	Level 2

The MRUP area is located in a region where the condition of the vegetation is typically Good to Pristine depending on the fire history. A large bushfire in November 2014 burnt 78% of the Project Disturbance Footprint and 74% of the Project Development Envelope reducing the vegetation condition temporarily to Degraded (MCPL 2015). Fire activity may be a significant threat to conservation significant flora; however, it is also acknowledged that fire may be an important aspect for the germination, establishment and successive of the native vegetation in the MRUP region.

Flora

A total of 239 permanent monitoring plots were set up across the MRUP area with an additional 587 relevé mapping sites. A total of 326 vascular plant taxa, representative of 140 genera and 43 families,

have been recorded during surveys at the Project area. The majority of taxa recorded were representative of the *Fabaceae* (52 taxa), *Myrtaceae* (40 taxa), *Goodeniaceae* (25 taxa) and *Proteaceae* (23 taxa) families, with no introduced species recorded. Fourteen Priority Flora species were recorded:

- *Hibbertia crispula* (Priority 1 and Vulnerable).
- *Dampiera eriantha* (Priority 1).
- *Neurachne lanigera* (Priority 1).
- *Isotropis canescens* (Priority 2).
- *Malleostemon* sp. Officer Basin (D. Pearson 350) (Priority 2).
- *Styphelia* sp. Great Victoria Desert (N. Murdock 44) (Priority 2).
- *Baeckea* ?sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963) (Priority 3).
- *Labichea eremaea* (Priority 3).
- *Ptilotus blackii* (Priority 3).
- *Comesperma viscidulum* (Priority 4).
- *Conospermum toddii* (Priority 4).
- *Dicrastylis cundeeleensis* (Priority 4).
- *Grevillea secunda* (Priority 4).
- *Olearia arida* (Priority 4).

Vegetation

A total of 26 vegetation communities have been defined within the MRUP area. Of these 26 communities, there are 14 'Eucalypt woodland communities' (E1-E14), one 'Acacia woodland community' (A1), 10 'Shrubland communities' (S1-S10) and one 'Chenopod shrubland community' (C1) (MCPL, 2015). The Eucalypt woodland community represents the most dominant vegetation system in the MRUP representing 75% of the total mapped vegetation.

No Threatened Ecological Communities (TECs) as defined by the EPBC Act are known to occur within or in close proximity to the MRUP area.

One Priority Ecological Community (PEC – Priority 3(iii)¹) known as the 'Yellow sand plain communities of the Great Victoria Desert', located in the Goldfields region is recognised by Department of Parks and Wildlife (DPAW; now the Department of Biodiversity, Conservation and Attractions, DBCA) to exist in the region due to very diverse mammalian and reptile fauna and distinctive plant communities. Whilst this PEC is not clearly identified or defined, it is similar to vegetation community S6 (MCPL, 2015).

1.4.2 Key assumptions and uncertainties

It is assumed that the desktop investigations and surveys undertaken for MRUP between 2007 and 2015 have sufficiently identified the species and mapped the vegetation within and surrounding the Project area. However, given the large spatial extent of the MRUP and the complexities in natural disturbances such as fire, it is possible that species may not have been recorded during the survey effort.

1.4.3 Management approach

To minimise direct and indirect impacts, as far as practicable, on all conservation significant flora species and vegetation communities E3 and S6, Vimy have developed a Ground Disturbance Activity Permit

¹ At the time of the submission and approval of the Public Environmental Review (PER) the YSP community was classified as a Priority 3(ii). In June 2017, this classification was changed to a Priority 3(iii) (DPBA, 2017).

(GDAP) system that will prevent any unauthorised clearing from occurring, and will also ensure that adequate controls are in place prior to ground disturbing activities to reduce the risk of indirect impacts. The GIS-based GDAP system includes the location of the mapped conservation significant flora species (CSFS) and of the vegetation communities throughout the MRUP. All proposed clearing will be assessed for potential impacts on conservation significant flora and on the cumulative cleared area of E3 and S6 disturbed, and must be internally authorised before occurring. This process will therefore ensure that direct and indirect impacts on flora and vegetation are minimised.

In addition to the GDAP system, the management approach will rely on:

- Environmental Inductions – to ensure that all new personnel entering the MRUP are aware of the environmental qualities within the MRUP and how their actions may impact on these qualities.
- Environmental Training – this will ensure that all personnel undertaking works that may have either a direct or indirect impact on conservation significant flora and E3 and S6 vegetation communities are properly trained, are competent to perform the task, and that fit-for-purpose equipment is used to minimise the environmental impacts.
- Contributing Factors – identification and implementation of management actions to minimise and prevent the contributing factors that may cause either a direct or indirect impact on conservation significant flora and E3 and S6 vegetation communities.

If direct or indirect impacts are reported on conservation significant flora species and vegetation communities E3 and S6 then investigations will be undertaken to determine the contributing factors and re-evaluate the appropriateness of existing management actions, establishing new management actions if required, to achieve the management targets and overall environmental objectives.

With respect to the spread of weeds within the MRUP and the necessary hygiene requirements, vehicles that are considered 'High-Risk' will require a Weed and Seed Clearance Permit to enter the site, whilst all other vehicles do not require this permit. A High-Risk vehicle is one that meets the following criteria:

- Has driven off-road on its way to the MRUP; or
- Was involved in earthmoving activities immediately prior to arriving at the MRUP; and
- Will drive off designated haul and site access roads whilst in the MRUP.

It is important to acknowledge that the risk of any vehicle spreading weeds or seeds whilst remaining on designated haul and site access roads is considered very low as the roads are continually sprayed with saline – hypersaline water, which will effectively kill any weeds and seeds. Furthermore, all designated haul roads and site access roads will have associated drainage structures with sufficient capacity to prevent the release of saline – hypersaline water into the surrounding environment.

1.4.4 Rationale for choice of provisions

A management target has been established for each contributing factor listed in Section 1.2 that may cause either a direct or indirect impact on conservation significant flora and E3 and S6 vegetation communities in the Development Envelope of the MRUP. It is expected that by implementing the identified management actions, then the management targets will be achieved which will ensure that the environmental objectives are met.

Further protection of conservation significant flora and E3 and S6 vegetation communities are provided by the following Conditions and mitigating factors:

- Weeds – Condition 8-1 (3) requires the “eradication of all weeds introduced in the development envelope as a result of the implementation of the proposal”.

- Saline water – Condition 13-1 (1) requires the maintenance of “soil quality within background concentrations established during baseline studies 10 metres from areas where dewater has been used for dust suppression in Sandhill Dunnart Habitat (i.e. E3 and S6 vegetation communities)”.
- Fire – 78% of the proposed Disturbance Footprint was burnt in the large November 2014 bushfire. Research has shown that it will take 15-20 years for the *Trioda sp.* to re-establish a sufficient interconnecting groundcover to ‘carry’ or ‘support’ a fire and therefore no fires are likely to occur within the MRUP for the next 15-20 years.

2. EMP Provisions

This section of the EMP identifies the legal provisions that Vimy proposes to implement to minimise direct and indirect impacts as far as practicable on all conservation significant flora species (CSFS); and minimise direct and indirect impacts as far as practicable on the vegetation communities E3 and S6. It identifies the management actions that Vimy will implement and how they will be monitored and reported, to achieve the management target; thus ensuring that the environmental objectives of Condition 9-1 are met. Table 1 provides a detailed list of these provisions.

This section also identifies how Vimy will review and revise management actions if the management targets are exceeded.

2.1 Objective

As specified in Ministerial Statement No. 1046 the environmental objectives for Condition 9 are:

- Condition 9-1(1): Minimise direct and indirect impacts as far as practicable on all conservation significant flora species (**CSFS**);
- Condition 9-1(2): Minimise direct and indirect impacts as far as practicable on the vegetation communities E3 and S6.

2.2 Management targets

The following management targets have been identified to ensure that the above environmental objectives are met:

- **Management Target 1:** No unauthorised clearing or disturbance of flora and vegetation.
- **Management Target 2:** Minimise dust levels above background levels within the MRUP Development Envelope as a result of the implementation of the Project.
- **Management Target 3:** Minimise the impacts from saline water.
- **Management Target 4:** No increase in the number of weeds above baseline levels in the MRUP Development Envelope as a result of the implementation of the Project.
- **Management Target 5:** No change in the frequency or severity of bushfires in the MRUP Development Envelope.

No management targets have been established for changing hydrological / hydrogeological regimes or fragmentation impacts on CSFS and E3 and S6 vegetation communities as their risk of impact is very low to unlikely.

2.3 Management actions

The following specific management actions will be implemented to achieve the above management targets. They are prioritised such that the greatest management effort will be placed on the Project activities that have the highest risk of causing environmental impact.

2.3.1 Direct Risks / Impacts

Clearing / Disturbance of Flora and Vegetation

Risk Rating: High

Corresponding Management Target: 1. No unauthorised clearing or disturbance of flora and vegetation.

Management Actions to be implemented to achieve Management Target 1:

- **Management Action 1** (Development Envelope) – no clearing outside of the approved Development Envelope.
- **Management Action 2** (Disturbance Footprint) – no unauthorised clearing outside of the approved Disturbance Footprint and checks for vegetation health (regarded as a symptom of disturbance) in soil monitoring locations.
- **Management Action 3** (Ground Disturbance) – Implement GDAP system to prevent unauthorised clearing and minimise disturbance to E3/S6/CSFS as far as practicable.
- **Management Action 4** (Remnant Vegetation) – no unauthorised access to remnant (unburnt) vegetation areas.
- **Management Action 5** (Environmental Induction) – all new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.
- **Management Action 6** (Environmental Training) – all personnel involved in clearing of vegetation will undertake training on GDAP process, which includes sign off by operators that they understand work involved; all such personnel will also have their understanding of their obligations under Ministerial conditions refreshed as part of regular tool-box meetings.

2.3.2 Indirect Risks / Impacts

Dust

Risk Rating: Moderate

Corresponding Management Target: 2. Minimise dust levels above background levels within the MRUP Development Envelope as a result of the implementation of the Project.

Management Actions to be implemented to achieve Management Target 2:

- **Management Action 7** (Dust Suppression) – use dust suppression techniques on existing and constructed roads to control dust generation.
- **Management Action 8** (Clearing) – keep 'open' or exposed / cleared surfaces to a minimum.
- **Management Action 9** (Rehabilitation) – rehabilitate disturbance areas as soon as practicable after activities cease.

- **Management Action 10** (Driving) – speed limits will be used to minimise dust from vehicles and no unauthorised driving off existing roads / tracks will be permitted. Speed limits will be initially set as follows:
 - Site Access Road – 80km/hr;
 - Plant, Village and Aerodrome Access Roads – 60km/hr; and
 - Haul Roads and Site Tracks – 40 km/r.
- **Management Action 11** (Environmental conditions) – earthworks and mining activities that may generate dust will be suspended during periods of extreme winds.
- **Management Action 12** (Environmental Induction) – new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.

Saline Water

Risk Rating: Moderate

Corresponding Management Target: 3. Minimise the impacts from saline water.

Management Actions to be implemented to achieve Management Target 3:

- **Management Action 13** (Dust suppression) – dust suppression with saline water will only occur in operational areas after topsoil has been removed.
- **Management Action 14** (Overspray) – the occurrence of overspray and the potential impacts on E3 and S6 vegetation communities is covered by Condition 13-1(1).
- **Management Action 15** (Runoff) – runoff from areas treated with saline water will be contained
- **Management Action 16** (Spills) – engineering controls (e.g. bunding or trenching) will be used around saline water sources to minimise the impact from saline spills.
- **Management Action 17** (Environmental Induction) – new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.
- **Management Action 18** (Environmental Training) – personnel involved in dust suppression activities will be trained so that they understand the potential risks to flora and vegetation; all such personnel will also have their understanding of their obligations under Ministerial conditions refreshed as part of regular tool-box meetings.
- **Management Action 19** (Competence) – only personnel who have undertaken Environmental Training will be able to operate dust suppression equipment (e.g. water cart).
- **Management Action 20** (Fit-for-purpose) – ensure all equipment used in dust suppression activities are fit-for-purpose to minimise impacts on flora and vegetation.

Weeds

Risk Rating: Moderate

Corresponding Management Target: 4. No increase in the number of weeds above baseline levels in the MRUP Development Envelope as a result of the implementation of the Project.

Management Actions to be implemented to achieve Management Target 4:

- **Management Action 21** (Disturbance) – minimise land surface disturbance as this may encourage weeds.
- **Management Action 22** (Clearance Permit) – High-Risk vehicles entering the MRUP will be visually checked for weeds and seeds and receive a Weeds and Seeds Clearance Permit before entering the site.

- **Management Action 23** (Eradication of Weeds) – covered by Condition 8-1(3).
- **Management Action 24** (Monitoring) – continue monitoring of permanent vegetation quadrats.
- **Management Action 25** (Environmental Induction) – new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.

Fire

Risk Rating: Low

Corresponding Management Target: 5. No change in the frequency or severity of bushfires in the MRUP Development Envelope.

Management Actions to be implemented to achieve Management Target 5:

- **Management Action 26** (Fire Regime) – regularly review Geoscience Australia Sentinel Hotspots to record bushfire activity in the MRUP.
- **Management Action 27** (Earthworks) – clearing activities will be conducted in a manner that does not increase the frequency or severity of bushfires.
- **Management Action 28** (Emergency Response) – establish Emergency Response Procedures (ERPs) to prevent operational activities starting a bushfire.

2.4 Monitoring

For each management action listed above, a specific monitoring program or task will be undertaken to ensure that the management action is implemented, and its requirements met. If monitoring identifies that the requirements of the management action has not been met, then there is a risk that the management target will not be achieved and that the environmental objectives are not attained.

The specific monitoring tasks to be undertaken for each management action is outlined below.

Management Action	Monitoring
<i>Clearing / Disturbance (Management Target 1: No unauthorised clearing or disturbance of flora and vegetation)</i>	
1. No clearing outside of the approved Development Envelope.	Annual audit of cleared / disturbed areas recorded in the GDAP system against approved Development Envelope boundary.
2. No unauthorised clearing outside of the approved Disturbance Footprint and checks for vegetation health (regarded as a symptom of disturbance) in soil monitoring locations.	Annual audit of cleared / disturbed areas in the GDAP system against approved Disturbance Footprint area. This annual audit will include drone surveys and on the ground checks to ensure any disturbance aligns with what was authorised through the GDAP process. On the ground checks will include vegetation monitoring around soil monitoring locations which will be undertaken at the same time as the soil checks – i.e. every six months or more frequently if the soil monitoring sampling review indicates results that warrant more frequent sampling.

Management Action	Monitoring
	<p>Vegetation health will be recorded on a ranking scale, documented with photographic evidence and checked against prior ranking (and photographic evidence) to determine whether there has been any deterioration in vegetation health.</p> <p>This ranking involves observing the general health of the plants by vegetation types (if more than one type present and story (overstorey and understorey if different layers are present) looking for signs of stressed plants or species – such as atypical leaf colouration, leaf death, limb death and whole plant death and then rating (by type and layer) according to the following ranking:</p> <p>0 = healthy and no signs of stress;</p> <p>1 = some early signs of stress, a few individuals, likely one species;</p> <p>2 = signs of stress in several individuals, one or more species;</p> <p>3 = signs of stress in many individuals, several species;</p> <p>4 = advanced decline and/or death of many individuals and several or most species.</p> <p><i>{See – Section 3.2.4 f) of Native Vegetation Condition Assessment and Monitoring Manual for Western Australia; Department of Environment and Conservation; 2009}.</i></p>
<p>3. Implement GDAP system to prevent unauthorised clearing and minimise disturbance to E3/S6/CSFS as far as practicable.</p>	<p>The GDAP system is a continuous monitoring system which requires the area that is intended for clearing to be authorised prior to any clearing being undertaken.</p> <p>Before authorisation will be given the area scheduled for clearance will be checked to determine whether the proposed disturbance area contains E3 and/or S6 vegetation communities and for the presence of conservation significant flora species (CSFS).</p> <p>If the check of the co-ordinates proposed for clearance indicates the presence of E3/S6/CSFS, a check will be made with the party requesting the GDAP as to whether it would be practicable for the proposed clearance to be modified to reduce the amount of E3/S6/CSFS impacted.</p> <p>A record will be kept of any E3/S6/CSFS that could not practically be avoided as well as any disturbance that was avoided as a result of amending the proposed clearance area. This will consist of the area of E3/S6 that was disturbed or was avoided measured in square metres and any CSFS disturbed or avoided measured by an estimate of the number of specimens of CSFS in the area disturbed or avoided.</p> <p>The baseline data is the existing record of vegetation community areas established as part of the PER and the record of individual CSFS.</p>

Management Action	Monitoring
	<p>There is no actual monitoring location it happens at every location where any clearance is proposed; there is no particular frequency it simply occurs every time any clearance is proposed, and the timing is before clearing is allowed to proceed each time clearing is proposed.</p> <p>Annual audit of authorised vs. actual cleared areas and of the requirements of Condition 8-1 (1) & (2) and 9-1(1) & (2).</p>
4. No unauthorised access to remnant (unburnt) vegetation areas.	Annual assessment of aerial photography.
5. All new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.	Annual audit of induction records.
6. All personnel involved in clearing of vegetation will undertake training on GDAP process, which includes sign off by operators that they understand work involved; all such personnel will also have their understanding of their obligations under Ministerial conditions refreshed as part of regular tool-box meetings.	Annual audit of training records.
<i>Dust (Management Target 2: Minimise dust levels above background levels)</i>	
7. Use dust suppression techniques on existing and constructed roads to control dust generation.	Annual assessment of dust monitoring results.
8. Keep 'open' or exposed / cleared surfaces to a minimum.	Annual audit of 'open' or exposed / cleared surfaces recorded in GDAP system and comparison with active operational areas.
9. Rehabilitate disturbance areas as soon as practicable after activities cease.	Annual reconciliation of 'open', 'closed', and operational areas.
10. Speed limits will be used to minimise dust from vehicles and no unauthorised driving off existing roads / tracks will be permitted.	Annual assessment of dust monitoring results.
<p>Speed limits will be initially set as follows:</p> <ul style="list-style-type: none"> - Site Access Road – 80km/hr; - Plant, Village and Aerodrome Access Roads – 60km/hr; and - Haul Roads and Site Tracks – 40 km/r. 	Any excessive dust deposition recorded that could not be explained by variations in background dust deposition rates as measured in g/m ² /month would be investigated for the root cause.
11. Earthworks and mining activities that may generate dust will be suspended during periods of extreme winds.	Annual assessment of mine record books and / or shift records recording number of days mining suspended due to extreme winds.

Management Action	Monitoring
12. New site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.	Annual audits of training records.
<i>Saline Water (Management Target 3: Minimise the impacts from saline water)</i>	
13. Dust suppression with saline water will only occur in operational areas after topsoil has been removed.	Annual audit of GDAP records which require dust suppression activities using saline water to be authorised
14. The occurrence of overspray and the potential impacts on E3 and S6 vegetation communities is covered by Condition 13-1(1).	-
15. Runoff from areas treated with saline water will be contained.	Annual audit of GDAP records which require dust suppression activities using saline water, including controls, to be authorised.
16. Engineering controls (e.g. bunding or trenching) will be used around saline water sources to minimise the impact from saline spills.	Annual audit of GDAP records which require dust suppression activities using saline water, including are the necessary controls in place, to be authorised.
17. New site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.	Annual audits of induction records.
18. Personnel involved in dust suppression activities will be trained so that they understand the potential risks to flora and vegetation; all such personnel will also have their understanding of their obligations under Ministerial conditions refreshed as part of regular tool-box meetings.	Annual audits of training records.
19. Only personnel who have undertaken Environmental Training will be able to operate dust suppression equipment (e.g. water cart).	Annual audits of training records and operator records.
20. Ensure all equipment used in dust suppression activities are fit-for-purpose to minimise impacts on flora and vegetation.	Annual audit of shift records and / or fleet management data to establish correct machinery was used for dust suppression.
<i>Weeds (Management Target 4: No increase in the number of weeds above baseline levels)</i>	
21. Minimise land surface disturbance as this may encourage weeds.	Annual reconciliation of 'open', 'closed', and operational areas.

Management Action	Monitoring
22. High risk vehicles entering the MRUP will be visually checked for weeds and seeds and receive a Weeds and Seeds Clearance Permit before entering the site.	Annual audit of Weeds and Seeds Clearance Permits and reconciliation against vehicles entering the MRUP.
23. The eradication of weeds is covered by Condition 8-1(3)	-
24. Monitoring of permanent vegetation quadrats.	Annual monitoring of existing permanent vegetation quadrats to identify any increase in number of weeds within the MRUP.
25. New site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.	Annual audits of induction records.
<i>Fire (Management Target 5: No change in the frequency or severity of bushfires)</i>	
26. Regularly review Geoscience Australia Sentinel Hotspots to record bushfire activity in the MRUP.	Annual audit of Sentinel Hotspots and comparison with pre-mine fire regime.
27. Clearing activities will be conducted in a manner that does not increase the frequency or severity of bushfires.	Annual audit of GDAP records which require that controls are in place to protect against starting a fire.
28. Establish Emergency Response Procedures (ERPs) to prevent operational activities starting a bushfire.	Annual audit of ERPs to ensure update and implemented across the MRUP.

As specified in Condition 7-5, if the above monitoring indicates that one or more management actions specified in this CEMP have not been implemented, then:

- (1) A report will be issued to the CEO of the DWER, in writing, within 7 days of identification of the failure to implement the management action/s;
- (2) An investigation will be undertaken to determine the cause of the management action/s not being implemented;
- (3) The potential environmental harm or alteration that may have occurred due to the failure to implement the management action/s will be determined; and
- (4) A written report will be issued to the CEO of the DWER within 21 days of the reporting required by Condition 7-5(1), with the report containing:
 - (a) the cause for the failure to implement the management action/s;
 - (b) the findings of the investigation required by Conditions 7-5(2) and 7-5(3);
 - (c) the relevant changes to the implemented to the management actions; and
 - (d) the measures to be undertaken to prevent, control or abate the environmental harm which may have occurred.

As specified in Condition 7-4, if the above monitoring indicates that one or more management targets specified in this CEMP have not been met, then:

- (1) A report will be issued to the CEO of the DWER, in writing, within 21 days of identification of the management target/s not being met;
- (2) An investigation will be undertaken to determine the cause of the management target/s not being met; and
- (3) A written report will be issued to the CEO of the DWER within 90 days of the reporting required by Condition 7-4(1), with the report containing:
 - (a) the cause of the management target/s not being met;
 - (b) the findings of the investigation required by Condition 7-4(2);
 - (c) details of the revised and / or additional management actions to be implemented to ensure that the management target/s are met; and
 - (d) relevant changes to the proposal activities.

2.5 Reporting

Reporting of the above monitoring results, and achievement of the management actions and management targets that satisfy the environmental objectives, will occur in the Compliance Assessment Report (CAR) to be submitted annually (in March; starting in 2018) to the CEO of the DWER.

In accordance with Condition 4-6, the CAR shall:

- (1) be endorsed by Vimy's CEO or other person delegated to sign on the CEO's behalf;
- (2) include a statement as to whether Vimy 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 (CAP); and
- (5) indicate any proposed changes to the CAP required by Condition 4-1.

The CAR will also include:

- Monitoring results and trends against management targets;
- Any exceedance of management targets;
- A review of the management actions and their appropriateness in achieving the management targets and the overall environmental objectives; and
- Proposed revision of the management actions, if required, to obtain formal approval from DWER to amend the CEMP.

In addition to the CAR, all clearing and disturbance areas, including rehabilitated areas, will be submitted in the annual Mine Rehabilitation Fund (MRF) reporting, and results from specific monitoring programs (e.g. dust monitoring, vegetation monitoring) and details of any environmental discharges (e.g. saline water spills) will be presented in the Annual Environmental Report (AER).

3. Adaptive Management and Review of the EMP

3.1 Review and revision of management actions

In the event that a management target is not met or is exceeded, Vimy will review and revise the risk assessment, review and revise management actions and identify additional management actions where necessary.

Risks and key impacts with associated management actions and priorities will be reviewed and revised and, if necessary, implement the following adaptive management procedure:

- Investigate the potential cause of failing to meet the management target and identify any impacts to flora or vegetation resulting from this failing.
- If the causes of failing to meet the management target or any impacts identified are a result of the MRUP, the risk assessment will be reviewed and revised risk based management actions will be implemented, following formal approval from the DWER, so that the MRUP environmental objective is met.

In accordance with Conditions 7-2(5) and 7-6, the management actions will be reviewed annually (or as directed by the CEO) and revised so that the management targets, and the overall environmental objectives, are met.

Vimy will also implement adaptive management to learn from the implementation of mitigation measures, monitoring and evaluation against management target/s, to more effectively meet the environmental objectives. The following approach will be followed:

- Monitoring data will be systematically evaluated and compared to baseline and reference site data in a process of adaptive management to verify whether responses to the impact are the same or similar to predictions.
- Re-evaluate the risk assessment and revision of risk-based priorities on the basis of monitored information.
- Review management actions when existing actions are shown not to be as effective as predicted.
- Update management actions when external changes during the life of the proposal occur (e.g. changes to the sensitivity of the key environmental factor, implementation of other activities in the area, etc.).
- Review of CEMP – changes to CEMP provisions required by a condition, timeframe, etc.

3.2 Corrective Actions

If the results of monitoring show that the management targets are not being met then the corrective actions outlined below will be implemented.

Performance Indicator	Corrective Action	Responsibility
Unauthorised clearing or disturbance of conservation significant flora species and / or E3 and S6 vegetation communities.	<ul style="list-style-type: none"> • Immediately stop ground disturbance activity in the immediate vicinity. • Conduct investigation to determine specific cause of the over clearance. • Review GDAP process and develop additional management actions if required. • Implement appropriate control measures to reduce or rectify impact. • Rehabilitate as soon as practicable. • Review and revise management actions so that management targets and environmental objectives are met. 	Mine Manager and Environmental Manager
Dust levels above background concentrations that may impact conservation significant flora species and / or E3 and S6 vegetation communities.	<ul style="list-style-type: none"> • Conduct investigation to determine the contributing factors for the excessive dust levels. • Quantify any impacts to conservation significant flora species and / or E3 and S6 vegetation communities. • Implement appropriate control measures to reduce or rectify impact. • Review and revise management actions so that management targets and environmental objectives are met. 	Mine Manager and Environmental Manager
Evidence of saline water discharge at levels that may impact conservation significant flora species and / or E3 and S6 vegetation communities.	<ul style="list-style-type: none"> • Conduct investigation to determine the contributing factors for the excessive saline water discharge. • Quantify impacts to conservation significant flora species and / or E3 and S6 vegetation communities. • Implement appropriate control measures to reduce or rectify impact. • Review and revise management actions so that management targets and environmental objectives are met. 	Mine Manager and Environmental Manager
An increase in the number of weeds in the MRUP.	<ul style="list-style-type: none"> • Conduct investigation to determine source of weeds. • Implement appropriate control and eradication measures. • Review and revise management actions so that management targets and environmental objectives are met. 	Mine Manager and Environmental Manager

Performance Indicator	Corrective Action	Responsibility
Change in the fire regime in the MRUP.	<ul style="list-style-type: none"> • Conduct investigation to determine the contributing factors for the change in fire regime. • Quantify impacts to conservation significant flora species and / or E3 and S6 vegetation communities. • Implement appropriate control measures to reduce or rectify impact. • Review and revise management actions so that management targets and environmental objectives are met. 	Mine Manager and Environmental Manager

4. Stakeholder consultation

Extensive consultation regarding conservation significant flora and vegetation within the MRUP, and potential impacts that may result from the operation, occurred during the Public Environmental Review (PER; Section 3). Specific consultation with regards to this CEMP with the Department of Biodiversity, Conservation and Attractions (DBCA; formerly the Department of Parks and Wildlife - DPAW) is outlined below.

Whilst a draft copy of this CEMP was provided to DBCA (on the 19 February 2017) for their input and feedback, an email response from DBCA on the 27 July 2017 (Appendix A), indicated that they are unable to review the CEMP due to competing priorities. DBCA recommended that the CEMP is first discussed with DWER (OEPA) rather than meeting with DBCA, and that DWER will engage DBCA directly if required.

Date	Decision Making Authority	Comment	Response
19.02.2016	DPaW	Discussed CEMP via phone with Murray Baker, advised Vimy to email draft CEMP's for review.	No response needed.
27.07.2017	DBCA	Email response from Murray Baker with expedited review comments reviewing the draft Flora and Vegetation Monitoring and Management Plan.	Revise CEMP as per comments and send to DWER as per comments.

Table 1: CEMP Provisions (management-based) table

Purpose of EMP:	To meet the legal requirements of Condition 9 of Ministerial Statement 1046.			
EPA Factor:	Flora and Vegetation			
EPA Objective:	To maintain representation, diversity, viability and ecological function at the species, population and community level.			
MS 1046 Condition 9-1 Environmental Objectives:	(1) Minimise direct and indirect impacts as far as practicable on all conservation significant flora species.			
	(2) Minimise direct and indirect impacts as far as practicable on the vegetation communities E3 and S6.			
Management-based provisions				
Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
<i>Direct Risks / Impacts</i>				
Clearing / disturbance (High)	Development Envelopment – no clearing outside of the approved 9,664ha Development Envelope.	No unauthorised clearing or disturbance of vegetation.	Annual audit of cleared / disturbed areas recorded in the GDAP system against approved Development Envelope boundary.	CAR MRF AER
	Disturbance Footprint – no unauthorised clearing outside of the approved 3,563ha Disturbance Footprint and checks for vegetation health (regarded as a symptom of disturbance) in soil monitoring locations.		Annual audit of cleared / disturbed areas in the GDAP system against approved Disturbance Footprint area (3,563ha). This annual audit will include drone surveys and on the ground checks to ensure any disturbance aligns with what was authorised through the GDAP process. On the ground checks will include vegetation monitoring around soil monitoring locations which will be undertaken at the same time as the soil checks – i.e. every six months or more frequently if the soil monitoring sampling review indicates results that warrant more frequent sampling.	CAR MRF AER



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Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
			<p>Vegetation health will be recorded on a ranking scale, documented with photographic evidence and checked against prior ranking (and photographic evidence) to determine whether there has been any deterioration in vegetation health.</p> <p>This ranking involves observing the general health of the plants by vegetation types (if more than one type present and story (overstorey and understorey if different layers are present) looking for signs of stressed plants or species – such as atypical leaf colouration, leaf death, limb death and whole plant death and then rating (by type and layer) according to the following ranking:</p> <p>0 = healthy and no signs of stress; 1 = some early signs of stress, a few individuals, likely one species; 2 = signs of stress in several individuals, one or more species; 3 = signs of stress in many individuals, several species; 4 = advanced decline and/or death of many individuals and several or most species.</p> <p><i>{See – Section 3.2.4 f) of Native Vegetation Condition Assessment and Monitoring Manual for Western Australia; Department of Environment and Conservation; 2009}.</i></p>	



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Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
	<p>Ground Disturbance – Implement GDAP system to prevent unauthorised clearing and minimise disturbance to E3/S6/CSFS as far as practicable.</p>		<p>The GDAP system is a continuous monitoring system which requires the area that is intended for clearing to be authorised prior to any clearing being undertaken.</p> <p>Before authorisation will be given the area scheduled for clearance will be checked to determine whether the proposed disturbance area contains E3 and/or S6 vegetation communities and for the presence of conservation significant flora species (CSFS).</p> <p>If the check of the co-ordinates proposed for clearance indicates the presence of E3/S6/CSFS, a check will be made with the party requesting the GDAP as to whether it would be practicable for the proposed clearance to be modified to reduce the amount of E3/S6/CSFS impacted.</p> <p>A record will be kept of any E3/S6/CSFS that could not practically be avoided as well as any disturbance that was avoided as a result of amending the proposed clearance area. This will consist of the area of E3/S6 that was disturbed or was avoided measured in square metres and any CSFS disturbed or avoided measured by an estimate of the number of specimens of CSFS in the area disturbed or avoided.</p> <p>The baseline data is the existing record of vegetation community areas established as part of the PER and the record of individual CSFS.</p>	<p>CAR MRF AER</p>



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Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
			<p>There is no actual monitoring location it happens at every location where any clearance is proposed; there is no particular frequency it simply occurs every time any clearance is proposed, and the timing is before clearing is allowed to proceed each time clearing is proposed.</p> <p>Audit of authorised vs. actual cleared areas and of the requirements of Condition 8-1 (1) & (2) and Condition 9-1(1) & (2).</p>	
	<p>Remnant Vegetation – no unauthorised access to remnant (unburnt) vegetation areas.</p>		<p>Annual assessment of aerial photography.</p>	<p>CAR</p>
	<p>Environmental Induction – all new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.</p>		<p>Annual audit of induction records.</p>	<p>CAR</p>
	<p>Environmental Training – all personnel involved in clearing of vegetation will undertake training on GDAP process, which includes sign off by operators that they understand work involved; this will subsequently be reinforced during regular tool-box meetings.</p>		<p>Annual audit of training records.</p>	<p>CAR</p>
<i>Indirect Risks / Impacts</i>				
<p>Dust (Moderate)</p>	<p>Dust Suppression – use dust suppression techniques on existing and constructed roads to control dust generation.</p>	<p>Minimise dust levels above background levels.</p>	<p>Annual assessment of dust monitoring results.</p>	<p>CAR AER</p>



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Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
	Clearing - Keep 'open' or exposed / cleared surfaces to a minimum.		Annual audit of 'open' or exposed / cleared surfaces recorded in GDAP system and comparison with active operational areas.	CAR MRF AER
	Rehabilitation - rehabilitate disturbance areas as soon as practicable after activities cease.		Annual reconciliation of 'open', 'closed', and operational areas.	CAR MRF AER
	<p>Driving - Speed limits will be used to minimise dust from vehicles and no unauthorised driving off existing roads / tracks will be permitted.</p> <p>Speed limits will be initially set as follows:</p> <ul style="list-style-type: none"> - Site Access Road – 80km/hr; - Plant, Village and Aerodrome Access Roads – 60km/hr; and - Haul Roads and Site Tracks – 40 km/r. 		<p>Annual assessment of dust monitoring results.</p> <p>Any excessive dust deposition recorded that could not be explained by variations in background dust deposition rates as measured in g/m²/month would be investigated for the root cause.</p>	CAR AER
	Environmental conditions - Earthworks and mining activities that may generate dust will be suspended during periods of extreme winds.		Annual assessment of mine logbooks recording number of days mining suspended due to extreme winds.	CAR
	Environmental Induction - new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.		Annual audits of training records.	CAR



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Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
Saline water (Moderate)	Dust suppression – dust suppression with saline water will only occur in operational areas after topsoil has been removed.	Minimise the impacts from saline water.	Annual audit of GDAP records which require dust suppression activities using saline water to be authorised.	CAR
	Overspray –the occurrence of overspray and the potential impacts on E3 and S6 vegetation communities is covered by Condition 13-1(1).		-	-
	Runoff – runoff from areas treated with saline water will be contained.		Annual audit of GDAP records which require dust suppression activities using saline water, including controls, to be authorised.	CAR
	Spills – engineering controls (e.g. bunding or trenching) will be used around saline water sources to minimise the impact from saline spills.		Annual audit of GDAP records which require dust suppression activities using saline water, including are the necessary controls in place, to be authorised.	CAR
	Environmental Induction - new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.		Annual audits of induction records.	CAR
	Environmental Training - personnel involved in dust suppression activities will be trained so that they understand the potential risks to flora and vegetation; this will be reinforced during regular tool-box meetings to ensure workers understand their obligations under Ministerial Conditions.		Annual audits of training records.	CAR



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Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
	Competence – only personnel who have undertaken Environmental Training will be able to operate dust suppression equipment (e.g. water cart).		Annual audits of training records and operator logbooks.	CAR
	Fit-for-purpose – ensure all equipment used in dust suppression activities are fit-for-purpose to minimise impacts on flora and vegetation.		Annual audit of mine equipment log books to establish correct machinery was used for dust suppression.	CAR
Weeds (Moderate)	Disturbance – minimise land surface disturbance as this may encourage weeds.	No increase in the number of weeds above baseline levels in the MRUP Development Envelope as a result of the implementation of the MRUP.	Annual reconciliation of ‘open’, ‘closed’, and operational areas.	CAR MRF AER
	Clearance Permit – high risk vehicles entering the MRUP will be visually checked for weeds and seeds and receive a Weeds and Seeds Clearance Permit before entering the site.		Annual audit of Weeds and Seeds Clearance Permit and reconciliation against vehicles entering the MRUP.	CAR
	Eradication of Weeds – covered by Condition 8-1(3).		-	-
	Monitoring – monitoring of permanent vegetation quadrats.		Annual monitoring of existing permanent vegetation quadrats to identify any increase in number of weeds within the MRUP.	CAR AER
	Environmental Induction - new site personnel will undertake an environmental induction, emphasising importance of flora and vegetation in the MRUP.		Annual audits of induction records.	CAR



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Risk / Impact (Risk Ranking)	Management Actions	Management Targets	Monitoring	Reporting
Fire (Low)	Fire Regime – regularly review Geoscience Australia Sentinel Hotspots to record bushfire activity in the MRUP.	No change in the frequency or severity of bushfires in the MRUP Development Envelope.	Annual audit Sentinel Hotspots and comparison with pre-mine fire regime.	CAR
	Earthworks – clearing activities will be conducted in a manner that does not increase the frequency or severity of bushfires.		Annual audit of GDAP records which require that controls are in place to protect against starting a fire.	CAR
	Emergency Response – establish Emergency Response Procedures (ERPs) to prevent operational activities starting a bushfire.		Annual audit of ERPs to ensure update and implemented across the MRUP.	CAR
Changing hydrological / hydrogeological regimes (Low)	Not Applicable - conservation significant flora and E3 and S6 vegetation communities are not surface or ground water dependent ecosystems; hence no impacts expected to occur, and no management actions or targets need to be developed to protect against this risk.			
Fragmentation (Low)	Not Applicable - flora and vegetation within the MRUP Development Envelopment are well represented throughout the Yellow Sand Plan (YSP) and cover <0.6% of the total area in the YSP; hence fragmentation impacts on conservation significant flora and vegetation communities E3 and S6 are unlikely to occur and no management actions or targets need to be developed to protect against this risk.			



5. References

The following references were used in developing this Condition EMP.

EPA (2016). *Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans*, Environmental Protection Authority (EPA), Perth, Western Australia.

MCPL (2015) *Assessment of Flora and Vegetation Surveys conducted for the Mulga Rock Uranium Project, Great Victoria Desert, WA*. Unpublished report by Mattiske Consulting Pty Ltd for Vimy Resources, October 2015.



6. Appendices

Appendix A: DBCA Email Correspondence

From: Murray Baker
To: [Adam Pratt](#)
Cc: [Paula Arthur](#); [Sandra Thomas](#); [Michelle Corbellini](#)
Subject: FW: Environmental Management Plans
Date: Thursday, 27 July 2017 11:31:38 AM

Hi Adam

Thanks for your email and apologies for the delay in providing comment on the Environmental Management Plans. The Department of Biodiversity, Conservation and Attractions (DBCA), formerly Parks and Wildlife, has been unable to extensively review the plans given competing priorities.

Based on an expedited review the following comments are provided in relation to the Flora and Vegetation Monitoring and Management Plan and the Terrestrial Fauna Monitoring and Management Plan:

- That consistency with the *EPA's Instructions on how to prepare Environmental Management Plans* (April, 2017) should be ensured, or discussed with the Department of Water and Environmental Regulation (DWER) where the proposed plan does not align with these instructions;
- That the purpose of the Flora and Vegetation Monitoring and Management Plan is amended to meet the requirements of the conditions;
- That the trigger and threshold criteria / management targets are reviewed and modified based on clearly defined SMART (specific, measurable, attainable, relevant, time-bound) objectives and outcomes and BACI (before, after, control, impact) design principles;
- That the trigger and threshold criteria or management targets should clearly align with the environmental outcomes (condition 8) and the environmental objectives (condition 9 and 10); and
- That monitoring provides a focus on ensuring that compliance with conditions can be assessed. DBCA notes that the plans currently contain limited information on monitoring methodologies and baseline state.

DWER is the decision making authority for Ministerial Statement 1046, and should be able to provide advice on whether the Flora and Vegetation Monitoring and Management Plan and the Terrestrial Fauna Monitoring and Management Plan meet the requirements of the conditions. DBCA recommends discussing the plans with DWER initially rather than meeting with DBCA, at this stage. It is also recommended that the next versions of the plans are submitted to DWER who can involve DBCA in the process as necessary.

Kind regards

Murray Baker
Acting Area Manager South

Environmental Management Branch
Department of Biodiversity, Conservation and Attractions

17 Dick Perry Avenue
Kensington WA 6151

Ph: (08) 9219 9504

Fax: (08) 9334 0140

E-mail: murray.baker@dpaw.wa.gov.au



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From early July 2017 we'll be moving to an updated IT system as part of the new Department of Biodiversity, Conservation and Attractions (DBCA). This means email addresses for staff at Kings Park and Botanic Garden, Bold Park, Rottnest Island, Perth Zoo and the former Department of Parks and Wildlife will now carry the domain [@dbca.wa.gov.au](mailto:dbca.wa.gov.au)

From: Adam Pratt [<mailto:apratt@vimyresources.com.au>]
Sent: Wednesday, 26 July 2017 12:30 PM
To: Murray Baker
Cc: Paula Arthur
Subject: Environmental Management Plans

Hi Murray,

Is there a time in the next week or two where we can catch up to discuss the Condition Environmental Management

Plans (CEMPs) for Flora and Vegetation and Fauna, that we submitted to DPaW in February 2017. We really need to finalise these documents and get a written (1 page statement) from DPaW confirming that the CEMPs meet the requirements of the Ministerial Statement 1046.

Let me know when you're free to catch up.

Cheers,
Adam

Adam Pratt

Environment, Health and Safety Manager

apratt@vimyresources.com.au

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From: Paula Arthur

Sent: Wednesday, 15 March 2017 10:59 AM

To: Murray.Baker@DPaW.wa.gov.au

Subject: Environmental Management Plans

Hi Murray

I am just touching base to see if you have any comments on the EMP's I emailed through to you in February.

As part of our Ministerial Statement No. 1046, conditions 9-2 and 10-2 we are required to consult with DPaW in regards to our Flora and Vegetation monitoring and Management Plan and Terrestrial Fauna Monitoring and Management Plan.

Any feedback you have on these would be great.

Thanks

Paula

Paula Arthur

Senior Operations Assistant / Senior Environmental Officer

parthur@vimyresources.com.au

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