

# Attachment A

## **Section 46 Cross Reference**



## Section 46 Requirements for the *Aboriginal Land Rights (Northern Territory) Act 1976*

Section 46 of the Act sets out the information required to be provided to the Land Council and traditional Aboriginal owners in order to grant a mining interest on Aboriginal land, as well as the process by which the mining interest will be granted. The following table only summarises the information required to be provided to the Land Council and traditional Aboriginal owners and identifies the Minemakers documents that contain or will contain this information.

Summary of subsection of the Act	Information required	Statutory approval document containing the information	Extent of compliance with the requirements
1(a) Comprehensive proposal in relation to the mining works that are proposed to be carried out on the land.	Anticipated mine life	Notice of Intent, Section 1.2	Full compliance, however, details may change as project planning progresses. Will be updated in the Public Environmental Report or Environmental Impact Statement accordingly.
	Production capacity and scale of operation	Notice of Intent, Section 1.2	
	Proposed mining techniques	Notice of Intent, Section 2.1	
	Infrastructure requirements	Notice of Intent, Sections 2.5 and 2.6	
	Proposed vehicular access to and within the mineral lease	Notice of Intent, Section 2.5	
	Details on other proposed mineral lease access requirements	Notice of Intent, Section 2.5	
	Anticipated construction and operational workforce	Notice of Intent, Section 2.9	
	Potential social impacts	Public Environmental Report /Environmental Impact Statement	Not in compliance at this stage of project approvals.
	Water, timber and other requirements to be obtained from the affected land	Notice of Intent, Section 2.6.6, Chapter 4	Partial compliance. Requirements may change as project planning progresses. Will be updated in the Public Environmental Report or Environmental Impact Statement accordingly.
	Potential impacts within and outside the mineral lease	Notice of Intent, Chapter 5	Partial compliance. Further detailed investigation will be undertaken to determine the extent and severity. Will be updated in the Public Environmental Report or Environmental Impact Statement accordingly.
1(a) Comprehensive proposal in relation to the mining works that are proposed to be carried out on the land.	Proposed impact avoidance, mitigation and management measures	Notice of Intent, Chapter 5	Partial compliance. Will be updated in the Public Environmental Report or Environmental Impact Statement.
	Rehabilitation measures	Notice of Intent, Section 2.11	Partial compliance. Will be expanded in the Public Environmental Report or Environmental Impact Statement.
	Terms and conditions relating to payments	Public Environmental Report /Environmental Impact Statement	Not in compliance at this stage of project approvals. To be negotiated during the next stage of project approvals.
1(b) Miner's representatives	Name, position and qualifications of representatives, not exceeding three persons	Notice of Intent, Section 1.3.1	Full compliance.
2. Provision of section 46 statement to the Minister	All information in relation to the requirements is to be provided to the Minister	Notice of Intent	Partial compliance. The Notice of Intent will be provided to the Minister. Further documentation will also be provided as the project progresses through the approvals process.
4. Land Council will not agree to terms and conditions unless there has been consultation and the terms and conditions are reasonable	Details of consultation with the traditional owners of the land concerning the terms and conditions of mining interest.	Notice of Intent, Chapter 6	Partial compliance. Consultation will continue throughout the approvals process. Details of when all consultation with traditional owners and the Central Land Council will be outlined in the Public Environmental Report/Environmental Impact Statement.
	Details of consultation with any other Aboriginal community or group that might be affected by the grant of the mining interest.	Notice of Intent, Chapter 6	Partial compliance. Consultation will continue throughout the approvals process. Further details will be provided in the Public Environmental Report or Environmental Impact Statement.

# Attachment B

**Summary of impacts, environmental and social outcomes, and residual impacts  
assessed for the Wonarah DSO project**



**Summary of impacts, environmental and social outcomes, and residual impacts assessed for the Wonarah DSO project**

ID	Impact	Outcome	Assessment Criteria	Likelihood	Consequence	Residual Risk
<b>Air quality</b>						
I01	Decrease in air quality at the Wonara community due to dust emissions generated within the Mineral Lease.	No decrease in air quality or visual amenity due to dust emissions outside of the Mineral Lease.	Compliance with annual average dust deposition rate does not exceed 2 g/m <sup>2</sup> /month above baseline dust deposition rate of 2.6 g/m <sup>2</sup> /month outside of the Mineral Lease. Complaints register to show no reasonable complaint unaddressed.	Rare	Moderate	Moderate
I02	Decrease in air quality for motorists travelling along the section of the Barkly Highway adjoining the Mineral Lease due to dust emissions generated within the Mineral Lease.	No decrease in air quality or visual amenity due to dust emissions outside of the Mineral Lease.	Measurements of fugitive dust do not exceed levels that may affect visibility (5 g/m <sup>2</sup> /month). To be recorded by real time dust monitoring gauges) across the Barkly Highway. Complaints register to show no reasonable complaint unaddressed.	Possible	Moderate	High
I03	Decrease in air quality due to dust emissions from project related heavy vehicles along the ore transport route.	No decrease in air quality due to dust emissions from project related heavy vehicles along the ore transport route.	Complaints register to show no reasonable complaint unaddressed.	Unlikely	Moderate	Moderate
I04	Significant increase in the amount of combustion emissions.	No decrease in air quality due to combustion emissions outside of the Mineral Lease	Maintenance records show regular servicing of vehicles and plant.	Unlikely	Insignificant	Low
I05	Decrease in air quality due to odour.	No decrease in air quality due to odour outside of the Mineral Lease.	Complaints register to show no reasonable complaint unaddressed.	Rare	Insignificant	Low
<b>Greenhouse gas emissions</b>						
I06	Significant increase in greenhouse gas emissions			Unlikely	Insignificant	Low
<b>Noise and vibration</b>						
I07	Disturbance to sensitive receptors from noise and vibration generated within the Mineral Lease.	No disturbance to sensitive receptors from noise and vibration at the mine	Complaints register to show no reasonable complaint unaddressed.	Rare	Minor	Low
I08	Disturbance to sensitive receptors	No significant increase in traffic	Complaints register to show no reasonable	Unlikely	Minor	Low

	from project related heavy vehicle noise along the ore transport route.	related noise at sensitive receptors along the ore transport route.	complaint unaddressed.			
<b>Landform, geology and soils</b>						
I09	Unstable landforms.	Landform is stable.	Slopes within the Mineral Lease are stable with drainage patterns consistent with the pre-mine landform. Slopes of waste rock storages and stockpiles do not exceed 18°.	Unlikely	Minor	Low
I10 I11 I12 I13	Significant reduction in soil quality due to altered profile, compaction, contamination and/or erosion.	No reduction in soil quality.	Verification testing of soils contaminated as a result of mining activities show remediation has been successful. Compacted areas no longer required for mining activities have been ripped and revegetated. No visible gully erosion.	Unlikely Unlikely Unlikely Possible	Minor Minor Minor Moderate	Low Low Low High
<b>Land use</b>						
I14	Reduced availability of land for traditional hunting and gathering.	Minimal reduction in Arruwurra Aboriginal Corporation land available for traditional hunting and gathering.	Complaints register to show no reasonable complaint unaddressed.	Almost Certain	Insignificant	Low
I15	Restriction of Traditional Owner access to sites of cultural significance.	Alternative access routes to be agreed in consultation with Traditional Owners.	Complaints register to show no reasonable complaint unaddressed.	Rare	Minor	Low
I16	Significant reduction in land for potential pastoral use.	No significant reduction in land for potential and actual pastoral use.	Complaints register to show no reasonable complaint unaddressed.	Unlikely	Insignificant	Low
<b>Flora</b>						
I17 I18	Reduced species abundance or significant impacts to threatened species.	Disturbance to vegetation is restricted to areas permitted within the Mineral Lease conditions.	"Annual audit of records show native vegetation clearance is in accordance with the Mineral Lease conditions.	Unlikely Unlikely	Insignificant Moderate	Low Moderate
I19	Reduced conditions favourable for plant growth due to dust	The health of remaining vegetation does not alter significantly over the life of the project.	"Annual flora surveys (including photo monitoring) at all flora monitoring sites in to show no unexpected change in abundance, composition or condition of flora species from baseline conditions.	Likely	Insignificant	Moderate
I20	Reduced conditions favourable for	The health of remaining	Annual flora surveys (including photo monitoring)	Unlikely	Insignificant	Low

	plant growth due to disturbance	vegetation does not alter significantly over the life of the project.	at all flora monitoring sites in to show no unexpected change in abundance, composition or condition of flora species from baseline conditions.			
I21 I22	Increased weed density and distribution or introduction of new weed species.	No weed species are encouraged or introduced due to the project construction and operations.	No increase in weed density/distribution and no new establishment of declared weeds, compared with control sites or baseline data.	Unlikely Unlikely	Moderate Moderate	Moderate Moderate
<b>Fauna</b>						
I23 I24	Reduced species abundance and significant impacts to threatened species.	Disturbance to vegetation is restricted to areas permitted within the Mineral Lease conditions.	"Annual audit of records show native vegetation clearance is in accordance with the Mineral Lease conditions.	Unlikely Unlikely	Minor Minor	Low Low
I25	Increased abundance of introduced species.	No introduced fauna species are encouraged or introduced due to the project construction and operations.	A reduction in abundance of pest (feral) species from baseline monitoring records.	Unlikely	Moderate	Moderate
<b>Groundwater</b>						
I26	Decrease in the availability of groundwater for third party users.	Groundwater supply from third party bores does not decrease due to the project's construction and operations.	Monitoring of nearby third party bores shows no decrease in groundwater level depth directly attributable to groundwater extraction for the project.	Unlikely	Minor	Low
I27	Unacceptable reduction in groundwater quality.	Groundwater quality is not reduced due to the project construction or operations.	Monitoring of production bores reveal no change to groundwater quality.	Unlikely	Minor	Low
<b>Surface water</b>						
I28	Adverse effects on downstream ecosystems due to fugitive sediment.	No adverse effects on downstream fauna and habitats due to the generation of fugitive sediment as a result of mining activities.	Annual flora surveys (including photo monitoring) at all flora monitoring sites to show no unexpected change in abundance, composition or condition of flora species from baseline conditions.	Possible	Minor	Moderate
I29	Adverse effects on downstream fauna and riparian vegetation due to altered flow regimes.	No adverse effects on downstream fauna and riparian vegetation due to altered flow regimes as a result of mining activities.	"Annual flora surveys (including photo monitoring) at all flora monitoring sites to show no unexpected change in abundance, composition or condition of flora species from baseline conditions.	Unlikely	Insignificant	Low
I30	Adverse effects on fauna and riparian vegetation and	No adverse effects on fauna, riparian vegetation and	Following rainfall events where there is runoff of water from the site, upstream and downstream	Unlikely	Insignificant	Low



	groundwater users due to surface water contamination.	groundwater users due to surface water contamination as a result of mining activities.	monitoring to show no statistically significant impact of the project on surface water quality (including major anions and cations, total and dissolved metals and pH, TDS, EC and total petroleum hydrocarbons).			
<b>Socio-economic</b>						
I31	Social disruption caused by population and demographics	No negative change in social cohesion in Wunara or Tennant Creek as a result of the project.	Annual audit of complaints register indicates no incidence of community complaint regarding changes in social cohesion due to project.	Unlikely	Moderate	Moderate
I32	Increased competition for skilled labour, particularly for highly skilled people with previous mining experience	Minimise adverse social impact due to increase in competition for skilled labour.	Consultation register shows liaison with existing training providers and local communities regarding training and employment.	Possible	Minor	Moderate
I33	Significant pressure placed on existing emergency services	Project does not place additional pressure on existing emergency services.	Consultation register shows liaison with existing emergency services.	Unlikely	Minor	Low
I34	Inadequate existing infrastructure and community services	No unexpected demand placed on infrastructure or services as a result of the project.	Consultation register shows liaison with relevant stakeholders.	Unlikely	Moderate	Moderate
I35 I36	Decrease in availability and affordability of housing and accommodation in Tennant Creek and Wunara	Community awareness of project and its progress is maintained so potential impacts are taken into consideration for any planning.	Consultation register shows liaison with government, shire council and Traditional Owners.	Unlikely Possible	Moderate Minor	Moderate Moderate
I37	Social problems due to drugs and alcohol	Successful management of drugs and alcohol on mine site.	Annual audit of complaints register indicates no incidence of community complaint regarding drug or alcohol issues associated with the workforce. Audit of drug and alcohol testing records demonstrate testing conducted and results acted on.	Unlikely	Moderate	Moderate
–	Positive benefits are realised	Positive socio-economic benefits are maximised.	Annual audit of procurement records show supply of goods and services have been sourced locally. Workforce statistics indicate workforce composition includes local and Northern Territory people are employed at the project.			
<b>Indigenous cultural heritage</b>						
I38	Disturbance to Indigenous cultural	No disturbance to Indigenous	Audits show that all staff are inducted, and as such	Rare	Major	High

	exclusion zones	cultural exclusion zones.	have been made aware of exclusion zones, commitments under relevant legislation and cultural heritage management plan. Audits show no disturbance to Indigenous cultural exclusion zones.			
I39	Disturbance to identified archaeological site of moderate significance	No disturbance to identified archaeological site of significance.	Audits show that all staff are inducted, and as such have been made aware of site locations, commitments under relevant legislation and cultural heritage management plan. Audits show no disturbance to site.	Rare	Moderate	Moderate
I40	Disturbance to identified archaeological sites of low significance	Disturbance to identified sites of low significance is restricted to that permitted by granted consent to disturb under the Heritage Conservation Act, i.e., within Mineral Lease.	Audits show that all staff are inducted, and as such have been made aware of commitments under relevant legislation and cultural heritage management plan. Audits show no unauthorised disturbance to sites.	Likely	Insignificant	Moderate
I41	Disturbance to unidentified archaeological sites of significance	Disturbance to identified sites of archaeological significance is restricted to that permitted by granted consent to disturb under the Heritage Conservation Act, i.e., within Mineral Lease, and within 30 m of silcrete outcroppings.		Possible	Insignificant	Low
<b>Traffic</b>						
I42 I43	Increased risk of accident	No adverse effects on safety due to increased road traffic.	Complaints register shows all reasonable complaints are investigated. Vehicular incident register shows no project-related incidents/near misses.	Possible Possible	Moderate Minor	High Low

# Attachment C

## **Environmental Management Plans**



# Attachment C1

**Air Quality Management Plan**



<b>No:</b> EIS-AQ	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Air Quality Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b>  <b>General Manager Projects Development</b>	.

## 1. Issues

Air quality management issues associated with the project include:

- Dust generation from vehicle travel on unsealed roads.
- Particulate matter from the handling and transport of ore and waste.
- Movement of dust across the Barkly Highway.
- Localised temporary changes in air quality due to exhaust fumes from vehicles, plant and generators.
- Requirement by the Northern Territory Government to minimise greenhouse gas emissions and to ensure they are kept as low as practicable.

Emissions of combustion products such as carbon monoxide, nitrogen dioxide and sulfur dioxide from the burning of fuels (mostly diesel) and from blasting are too small and too widely dispersed to impact air quality, other than in the immediate vicinity of their discharge.

## 2. Objectives

The objectives of air quality management are to minimise:

- Atmospheric emissions, including dust and odour.
- Greenhouse gas emissions.
- Creation of safety hazards from air emissions.

## 3. Recommendations and Commitments

This management plan addresses the issues identified during planning and design of the project:

- Adopt a best practice approach to dust control for mines in Australia.
- Undertake annual reporting of greenhouse gas emissions.
- Adopt predicted greenhouse gas emission estimates as initial emission targets.

- Develop a dust monitoring program, including PM<sub>2.5</sub> and PM<sub>10</sub> to prove that dust management practices are effective.
- Make the results of monitoring publicly available and document them in the annual mine plan review, for appropriate action, including continuation, cessation or modification of the program.

## 4. Responsibilities

The Minemakers Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors are responsible for compliance with this document, and for ensuring others do likewise.

## 5. Definitions

**Ore** – a mineral or mixture of minerals containing an element or compound in sufficient amounts for its extraction to be profitable.

**PM<sub>10</sub>** – the fraction of dust with a particle size of 10 µm or less; a health indicator for the fine particles of respirable dust capable of being inhaled into the lungs.

**PM<sub>2.5</sub>** – the fraction of dust with a particle size of 2.5 µm or less; a health indicator for the very fine particles of respirable dust capable of deep penetration into the lungs and alveoli.

**Stockpile** – a pile used to store material (such as low-grade ore) for future use.

**Best practice** – a process, technique, or use of technology, equipment or resource that has a proven record of success.

**Emission** – a discharge of a substance (e.g., dust) into the environment.

**Total suspended solids (TSS)** – a common measure used to determine suspended solids concentrations in a waterbody and expressed in terms of mass per unit of volume (e.g., milligrams per litre).

## 6. Performance Standards

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

### 6.1 Legislation, Guidelines and Codes

- National Environment Protection Measure for Diesel Vehicle Emissions (NEPC, 2001) – relevant in terms of maintaining diesel-operated vehicles in good working order.
- National Greenhouse Strategy; Strategic Framework for Advancing Australia's Greenhouse Response (AGO, 1998) – specifically states that the minerals and mineral processing industries should pursue best practice environmental management to reduce greenhouse gas emissions.



- Final Impact Statement for Ambient Air Quality National Environment Protection Measure. National Environment Protection Council Service Corporation (NEPC, 1998 and NEPC 2003).
- Guidelines for separation distances (EPA, 2007).
- Guidelines for controlling dust (NRETAS, Undated).

## **6.2 Associated Plans and Procedures**

- Fire Management Plan.
- Stakeholder Consultation Plan.

# **7. Procedures**

## **7.1 Air Quality Management**

To avoid generating dust Minemakers will:

- Incorporate the consideration of dust generation and meteorological conditions during the mine planning stage, e.g. locate accommodation upwind of the mining operations or at sufficient distance downwind so as to mitigate any potential dust impact.
- Minimise the extent of vegetation clearing, reducing the amount exposed areas susceptible to wind erosion.
- Use progressive clearing techniques to minimise the amount of bare ground.
- Cover products during transport.
- Rehabilitate final surfaces progressively during the project.
- Use signage and markings to ensure traffic is kept to official roadways where dust suppression techniques are in use. Off road driving will be prohibited.
- Restrict site access to necessary site vehicles only.
- Manage stockpiles and material storage to avoid dust generation, including such measures as:
  - Positioning the stockpiles lengthways to the predominant wind direction.
  - Minimising the slope of the upwind surfaces.
  - Fencing or berming stockpiles to prevent unauthorised access.
  - Stockpile coarser material on the outer slopes of stored material to prevent wind blown dust.

Where complete avoidance of dust generation is not possible Minemakers will implement the following measures to minimise the amounts of dust generated:

- Spray water or the dust suppressants dustbloc® on trafficked areas and other dust generating areas. Minemakers will keep daily records of:
  - The operational hours of mining equipment.
  - The operational hours of all water trucks.
  - The amount of water and dust suppressant used.
  - The numbers of water trucks in operation.
  - Time any mining operations ceased due to inappropriate meteorological conditions.

- Use speed limits on roads used by mine traffic to reduce vehicle dust.
- Limiting parking of vehicles to designated parking areas to minimise soil disturbance.
- Limit load sizes of haul trucks ensuring material is not above the level of the vehicle sidewalls.

Haulage contractors will be required to implement measures to minimise product leakage from haul trucks.

The movement of dust from the mine site onto the Barkly Highway has the potential to degrade the road surface during rain events or visibility during dry periods. To reduce the amount of dust carried on vehicles from site onto the Barkly Highway, Minemakers will implement the following measures:

- Harden road areas at the site access point using such means as grates, gravel pads or paving.
- Compacting the soil at site access points.
- Washing vehicle wheels using drive through wheel washing bays to remove any soils from wheels.
- Sweeping tracked soil regularly from the site entrance.

Further measures to reduce the movement of airborne dust across the Barkly Highway include:

- Designing and planning the mining operations to take into consideration the prevailing winds until the pit is at a sufficient depth that dust is not likely to move off site.
- Planting suitable screening vegetation along the Mineral Lease boundary adjacent to the Barkly Highway to minimise dust movement off site.
- Timing mining operations to take into consideration the prevailing wind direction and time of year, e.g. minimise top soil removal during dry periods.
- Pre-watering areas to be cleared when dust is expected to be of concern to users of the Barkly Highway.

Airborne dust and mud on the highway has the potential to become a safety hazard to motorists. In the event that airborne dust poses a real danger to traffic on the Barkly Highway Minemakers will discontinue the dust generating operations until conditions are more favourable (e.g., change in wind direction or speed).

On-site fugitive dust poses a potential health and safety risk for mine related traffic. Minemakers will implement the following measures to minimise the potential risk for mine drivers:

- Drivers will be informed of prevailing weather conditions and potential dust risks daily prior to beginning work.
- All haul road drivers will be in radio contact and updated regularly of dust conditions. Further, drivers will provide ongoing updates when dust poses a traffic hazard.
- Overtaking outside of designated overtaking area will be prohibited.
- Turning vehicles outside of designated turning areas will be prohibited.
- All small vehicle drivers will be trained in the appropriate techniques for passing haul trucks.

Project equipment, machinery and vehicles will meet exhaust air quality standards in the normal manner for all vehicles sold in Australia and will comply with all Northern Territory regulations. Vehicles and machinery will be fitted with the appropriate emission control equipment, and maintained and serviced frequently.

## **7.2 Greenhouse Gas Emissions**

Minemakers will employ measures that incorporate best practices for reducing greenhouse gas emissions during project construction and operations. To reduce greenhouse gas emissions Minemakers will:

- Where appropriate, establish measurable greenhouse emission targets that reflect ongoing improvement.
- Calculate greenhouse emissions from energy consumption (e.g., diesel and electricity) and compare to target emissions.
- Identify and assess economically viable opportunities for improvement.
- Develop and apply policies and procedures for efficient mine operation.
- Minimise haul distances.
- Consider use of alternative fuels (e.g., bio-diesel).

## **8. Monitoring and Reporting**

### **8.1 General**

Minemakers will:

- Review and modify as required the monitoring program described herein after 6 months of data has been obtained, and at regular intervals thereafter.
- Report results (and interpretation thereof) in the annual Mining Management Plan (other than for variations as described below).

### **8.2 Detailed**

Monitoring of dust emissions will incorporate:

- Baseline dust sampling for PM<sub>2.5</sub>, PM<sub>10</sub> and total suspended particulates. On the basis of the results from this sampling, design and implement an ongoing dust monitoring program.
- A weather station that measures wind speed, wind direction, temperature, humidity and rainfall. The Wonarah weather station is currently located within the project area.
- Monthly monitoring at eight dust deposition gauges located within (or close to) the Mineral Lease area.
- Further dust deposition gauges positioned north of the Barkly Highway to monitor the movement of fugitive dust cross the highway.

- Real time dust monitoring gauges will be employed for the first 12 months of the project operations to establish the timing and amount of dust moving across the Barkly Highway. Monitoring will then occur as required.

In addition to this:

- Public motorist notifications will be registered along with the current meteorological conditions and operation activities. This data will then be used to manage the timing of operation activities in the event a correlation is determined.
- The use of dust suppression techniques will be recorded in daily log books in order for Minemakers to gauge the effectiveness of suppression techniques against monitoring data.
- Minemakers will undertake additional nuisance air quality monitoring by complaint.
- Minemakers will undertake air quality monitoring in relation to staff and contractors as part of the project's occupational health and safety system.
- Prepare annual reports outlining the details of improvement programs designed to reduce total greenhouse gas emissions and improve efficiency.

## **9. References**

- AGO. 1998. The National greenhouse strategy: strategic framework for advancing Australia's greenhouse response. Australian Greenhouse Office, Canberra, Australian Capital Territory.
- EPA. 2007. Guidelines for separation distances. Environmental Protection Agency, Adelaide, South Australia.
- NEPC. 1998. (Ambient Air Quality) Measure: amended. National Environmental Protection Council, Canberra, Australian Capital Territory.
- NEPC. 2001. National Environment Protection (Diesel Vehicle Emissions) Measure. National Environmental Protection Council, Canberra, Australian Capital Territory.
- NEPC. 2003. (Ambient Air Quality) Measure. National Environmental Protection Council, Canberra, Australian Capital Territory.
- NRETAS. undated. Guidelines for controlling dust. Environment, Heritage and the Arts Division, Northern Territory Government, Palmerston, Northern Territory.

# Attachment C2

**Waste Management Plan**



<b>No:</b> EIS-WM	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Waste Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b>  <b>General Manager Projects Development</b>	.

## 1. Issues

During the project, domestic and industrial wastes such as waste oils, packaging, drums and general refuse will be generated. Hazardous materials (mainly hydrocarbons and explosives) require specific transport, storage, handling and disposal procedures. Waste material and hazardous materials may pose significant health, environmental and aesthetic risks if not appropriately managed.

Hazardous materials and waste management issues associated with the project include:

- Contamination of soil and water (including groundwater).
- Health risks to workers and the public.
- Adverse effects on flora and fauna.
- Inefficient resource use.

## 2. Objectives

The objectives of waste management are to:

- Avoid the contamination of soil and water (including groundwater).
- Minimise potential risks to workers and the public.
- Minimise adverse effects on flora and fauna.
- Minimise impacts to visual amenity.
- Ensure that all wastes, including hazardous material, solid putrescibles and biodegradable, and inert wastes are managed safely and in an environmentally appropriate manner.
- Promote efficient use and conservation of resources, reduce the need for waste treatment facilities and reduce the requirement of raw materials.

### 3. Responsibilities

The Minemakers Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors, are responsible for compliance with this document, and for ensuring others do likewise.

### 4. Performance Standards

The waste management plan is consistent with the following standard hierarchy of waste minimisation principles:

1. Avoid.
2. Minimise.
3. Reuse.
4. Recycle/reclaim.
5. Treat.
6. Dispose.

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

#### 4.1 Legislation, Guidelines and Codes

##### Commonwealth

- *Occupational Health and Safety Act 2000* and associated regulations.

##### Northern Territory

- *Dangerous Goods Act* and associated regulations.
- *Waste Management and Pollution Control Act* and associated regulations.
- *Water Act* and associated regulations.
- *Workplace Health and Safety Act* and associated regulations.

##### Australian Standards

- *AS 1940-2004* : The storage and handling of flammable and combustible liquids (AS 1940:2004).
- *AS/NZS 4452:1997* : The storage and handling of toxic substances (AS 4452:1997).

#### 4.2 Associated Plans and Procedures

- Emergency Response Plan.
- Stakeholder Consultation Plan.



## 5. Procedures

### 5.1 General Waste Management

Minemakers will:

- Maintain records of all wastes managed on site or sent to an off-site treatment, recycling, storage or disposal facility. Concerning the latter, the following information will be required:
  - Waste generator facility name and address.
  - Date of shipment for recycling, treatment or disposal.
  - Type of waste.
  - Quantity of waste.
  - Method of recycle, treatment or disposal.
  - Description of waste, including restricted characteristics.
  - Transporter name and address.
  - Name of recycling, treatment, storage or disposal facility accepting waste.
  - Where available, record receipt of waste from waste facility.
- Implement additional specific measures such as ensuring that:
  - Waste storage areas are well signed and delineated.
  - Licensed contractors dispose of waste off site when suppliers cannot remove waste.

In addition to the measures described above, Minemakers will implement a range of management measures for the various solid wastes that will be generated on site (Table 1).

**Table 1 Solid waste management procedures**

<b>Waste Type</b>	<b>Minimise</b>	<b>Reuse/ Recycle</b>	<b>Treatment/ Destruction</b>
Putrescible/ biodegradable litter	Minimise over- ordering		Transported to on site putrescible waste disposal facility.
Packaging, paper, plastic, recyclable cans, containers, glass	Purchase in bulk	Separate white paper and PET – HPDE, glass, plastic, cans	Collect at designated points, transfer to administration area then remove off site by licensed contractor.
Scrap steel	Minimise over- ordering	Collect for recycling	Store at designated site.

In addition to the general waste minimisation techniques outlined above Minemakers will:

- Ensure a high level of staff employee and contractor awareness of the waste management plan.
- Incorporate waste and hazardous materials management into site induction programs and training.
- Ensure that all employees and contractors operate in accordance with Minemakers procedures for waste and hazardous materials management.
- Promote a high standard of housekeeping, thereby minimising litter and vermin infestation.

- Develop and implement a recycling and waste minimisation program that will be regularly (e.g., biannually) reviewed during the lifetime of the operation. This will include consideration of the following:
  - Ordering supplies in bulk and selecting suppliers who have return policies in place for unused goods.
  - Minimising waste generation.
  - Segregating main waste types into dedicated receptacles for disposal, reuse or recycling (e.g., food waste, plastics, aluminium, timber, paper).
  - Reusing materials or equipment where feasible.
  - Taking recyclable material to a suitable waste transfer station.
  - Taking non-recyclable waste to a suitable landfill.

## **5.2 Hazardous Materials Management**

Minemakers will:

- Maintain records of all hazardous wastes managed on site or sent to an off-site treatment, recycling, storage or disposal facility. For off-site recycling, treatment, storage and disposal, record the same information as described above for general waste.
- Ensure that all contractors operate in accordance with Minemakers procedures for:
  - Transportation.
  - Storage and handling.
  - Recycling and disposal.
  - Incident reporting for all spills.
- Implement other specific measures such as:
  - Collect hydrocarbon wastes, engine coolants, grease and used absorbent materials within separate receptacles and transfer to a central on site bunded storage facility for off-site disposal by a registered contractor.
  - Wherever possible, return all hazardous wastes and packaging to the supplier for recycling or disposal. Where this cannot occur, dispose of used containers and drums, and batteries, off site by a registered contractor.
  - Remediate hydrocarbon contaminated soils in the specified bio-remediation pads.
  - Locate material safety data sheets (MSDSs) for all materials used in the project on site and in a readily accessible location.
  - Maintain a Chemical Register on site.
  - Ensure that containers/tanks to be used for storage are suitably labelled, compatible with the material to be stored, and tested/inspected for leakages prior to use and periodically during use.
  - Construct bunding to meet appropriate Australian standards (AS 1940:2004 and AS 4452:1997) and regularly inspect bunds to ensure their good condition.

- Locate vessels containing controlled wastes or dangerous goods in excess of 250 L in a bunded facility. Hold vessels containing controlled wastes or dangerous goods of 250 L or less that are not located in a bunded facility on spill trays of appropriate capacity to contain and recover spills.
- Undertake fuel transfers in designated area that have appropriate collection drainage and spill response kits.
- Supply portable spill kits and a supply of absorbent material at key areas on site (e.g., workshops, storehouse) and place trays containing absorbent material under local work areas when an oil spill is unavoidable, e.g., removing hydraulic hoses, replacing filters.
- In the event of a hazardous material spill, implement the following spill response plan:
  - Stop work and contain the spill.
  - Implement clean-up and remediation procedures. Treat and dispose of spilt substance, contaminated materials and debris in accordance with MSDS requirements, relevant guidelines and waste management procedures.
  - Ensure that the General Manager Projects Development reports the spill containment to DNRETAS in accordance with legislative requirements.
  - If necessary, implement the emergency response plan.
- Develop a waste minimisation program that includes alternatives and front-end purchasing decisions.
- Identify the needs and storage requirements for emergency containment of materials.
- Ensure that operators and contractors are suitably trained in transport, handling, storage, spill and disposal requirements.
- Implement a recording system to reconcile hydrocarbon usage against stock and minimum/maximum storage requirements.

## **6. Monitoring and Reporting**

Minemakers will:

- Review and modify as required the waste management plan described herein after six months and at regular intervals thereafter.
- Report the review findings in the annual mining management plan (MMP).

# Attachment C3

**Fire Management Plan**



<b>No:</b> EIS-FM	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Fire Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b> <b>General Manager Projects</b> <b>Development</b>	

## 1. Issues

Project construction and operations activities may lead to fire ignition within the project area or the surrounding vegetation. Sources of fire ignition may include:

- 'Hot work' (e.g., metal grinding, oxyacetylene cutting or welding).
- Vehicles.
- Static electricity.
- Inappropriate handling or storage of combustible substances.
- Discarding lit tobacco products, matches or other burning material.
- Mechanical malfunction in project facilities, vehicles or machinery.
- Explosion of the magazine.
- Vegetation coming into contact with overhead powerlines.
- Sparks caused by lightning.

The project also needs to be protected from bushfire that originates from surrounding vegetation, regardless of source.

## 2. Objectives

The objectives of fire management are to:

- Minimise fire risk.
- Protect the public and personnel.
- Protect property and minimise property damage or loss.
- Protect flora and fauna and minimise damage or loss.
- Prevent the spread of fire in the event of ignition.
- Provide adequate response in the event of an ignition.

## 3. Recommendations and Commitments

This management plan addresses the impacts identified in the EIS:

- Prepare a detailed fire management plan in consultation with key stakeholders.
- Include specific implementation measures in the fire management plan to protect fire-sensitive vegetation.

## 4. Responsibilities

The Minemakers Australia Pty Ltd (Minemakers) Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors, are responsible for compliance with this document, and for ensuring others do likewise.

## 5. Definitions

**Controlled Burn** – controlled application of fire under specified environmental conditions to a predetermined area, often used to reduce fuel loads.

## 6. Performance Standards

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

### 6.1 Legislation, Guidelines and Codes

#### Northern Territory

- *Northern Territory Bushfires Act.*
- *Northern Territory Bushfire Regulations.*

### 6.2 Associated Plans and Procedures

- Emergency Response Plan.
- Flora Management Plan.
- Fauna Management Plan
- Stakeholder Consultation Plan.

## 7. Procedures

### 7.1. Planning and Preparation

Minemakers will:

- Induct personnel in fire prevention and response.
- Enforce a total fire ban within the project area, unless prescribed burning is deemed necessary, in which case it will occur in a controlled regulated environment in consultation with the Central Land Council (CLC) and Bushfires NT.
- Consult with Bushfires NT on the timing of prescribed burning and placement of fire breaks (Bushfires NT are available to assist on such consultations (pers. comm. Bethel, 2009)).
- Discuss with Traditional Owners and the CLC opportunities for patch burning for the benefit of local biodiversity; however, the priority will always be for the health and safety of personnel and protection of property.
- Provide relevant information on project operating practices to fire authorities.

- Implement specific measures such as:
  - Fire sensitive vegetation will be protected during the dry season from fire as far as is practicable.
  - Maintain a full trailer-mounted fire-fighting tanker on-site at all times.
  - Provide and maintain appropriate fire-fighting equipment, including fire extinguishers, water knapsacks and rake hoes at strategic project locations. Fire extinguishers will be provided in all project-related vehicles. All equipment will be compatible with that of local fire authorities.
  - Not undertake 'hot work' (e.g., welding) on days of declared 'Total Fire Ban' without a permit.
  - When undertaking 'hot work', ensure that spark guards are used, the immediate area is clear of flammable materials (excepting vegetation) and fire extinguishers are on hand. Develop a 'hot work' procedure and ensure compliance.
  - Construct 50 m radius fire breaks around sensitive areas, such as the explosives magazine.
  - Park vehicles in a cleared car park on-site and not over tall groundcover vegetation.
  - Keep vehicles clean, e.g., clear grasses from belly-plates.
  - Fit chainsaws used for vegetation clearance with spark arresters.
  - Ensure all flammable materials are clearly marked and stored appropriately with fire-fighting equipment.
  - Use diesel-fuelled vehicles when practicable.
  - Not discard any lit tobacco products, matches or any other burning material into vegetated areas.
  - Clear and maintain vegetation under overhead power lines to a height considered safe for the continued operation of the power line in the event of a fire.

## **7.2 During the Fire Season**

Minemakers will:

- Monitor and record fire danger ratings on a weekly basis during the fire season and comply with all relevant statutory requirements and permits.
- Liaise with the Bushfires NT during the fire season regarding fire risk, danger ratings, preparedness and fire control.
- In the event of a fire during a fire danger period, ensure that at least one employee stays with the fire (without endangering themselves) until it is completely extinguished or the relevant authorities take over responsibility.

## **7.3 Response Management**

Minemakers will:



- Establish fire evacuation procedures and an emergency assembly area.
- Provide emergency contact numbers in the site office in an easily accessible area (i.e., noticeboard). Contacts will include the local fire brigade, local police station, medical centre, SES).
- Report all uncontrolled fire to the Resident Manager, who will report it to the relevant authorities.

## **8. Monitoring and Reporting**

Minemakers will:

- Review and modify as required the fire management plan described herein after six months, and at regular intervals thereafter.
- Report the review findings in the annual Mining Management Plan (MMP).
- Report all uncontrolled fires.

## **9. References**

Bethel, K. Bushfires NT, Department of Natural Resources, Environment and the Arts, Tennant Creek. Telephone Conversation. 26 June 2009.

# Attachment C4

## **Emergency Response Plan**



<b>No:</b> EIS-ERP	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Emergency Response Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b> <b>General Manager Projects</b> <b>Development</b>	

## 1. Issues

Accidents and incidents may occur during mining, crushing and screening, and transport activities. The risk of certain events having significant consequences requires the preparation of an Emergency Response Plan (ERP).

## 2. Objectives

The objective of emergency response planning is to ensure that a prompt and appropriate response is made to unplanned incidents where life, property or significant environmental or social values are threatened during construction and operations.

## 3. Recommendations and Commitments

This management plan addresses the potential impacts and risks identified during the planning stages of the project, and in particular those identified during the preliminary hazard and risk assessment. Minemakers Australia Pty Ltd (Minemakers) has committed to preparing a site-specific ERP for the project in consultation with key stakeholders

## 4. Responsibilities

The Minemakers Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors, are responsible for compliance with this document, and for ensuring others do likewise.

## 5. Definitions

**Hazard** – an agent or situation capable of potentially injuring or compromising the health and safety of a person or causing damage to plant or premises.

**Incident** – an event on-site that has the potential to cause a significant adverse effect on:

- The safety or health of a person.
- The environment on or off the mining site.
- The plant or equipment on a mining site.

## **6. Performance Standards**

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

### **6.1 Legislation, Guidelines and Codes**

#### **Australian Government**

- *Occupational Health and Safety Act 2000.*

#### **Northern Territory**

- *Mining Management Act.*
- *Workplace Health and Safety Act.*
- 'Hazard identification and Risk Assessment' – DRDPIFR Advisory Note.
- 'Notification of a Serious Accident' – DRDPIFR Advisory Note.

### **6.2 Associated Plans and Procedures**

- Fire Management Plan.
- Stakeholder Consultation Plan.

## **7. Procedures**

To ensure that this management plan complements the emergency response procedures of DRDPIFR and other relevant agencies, Minemakers will consult with relevant authorities regarding:

- On-site emergency procedures.
- Special risks and appropriate procedures to minimise those risks.
- Commercial ambulance and medical services.

### **7.1 Emergency Management**

Minemakers will:

- Demonstrate clear commitment and leadership by management through policy, participation, communication and allocation of resources (personnel, time, facilities and finances).
- Clearly define roles and responsibilities for personnel involved in the emergency response.
- Provide a current, written, project-specific plan, i.e., a detailed operating emergency response plan that addresses, among other matters: communication to employees, contractors and the public; and, where appropriate, the recovery needs of the community after an emergency.
- Develop a cyclone response plan.
- Ensure that facilities allocated to emergency response are maintained in working order (e.g., phone, facsimile, CB radios, satellite phone, and fire tanks).

- Ensure that all personnel wear personal protective equipment (PPE) at all times while on site, as required. The level of PPE equipment for each person will be dependent on the location and nature of the activity being undertaken.
- Induct all personnel in emergency response procedures.
- Restrict access to site, other than to the administration/reception area.
- Develop, conduct and maintain a training program, addressing operating procedures, emergency and safety procedures, regulatory compliance requirements and communication responsibilities, designed to improve the proficiency of emergency response of all employees and contractors.
- Identify emergency authorities and, where relevant, provide tours of the project area for them to promote emergency preparedness, by having current knowledge of facility operation and relevant emergency response planning information.
- Conduct emergency exercise sessions with emergency authorities and others where appropriate, to test the workability of the emergency response plan.

## 7.2 Unplanned Incident

Minemakers will:

- Identify all hazards and risks of an unplanned incident (i.e., conduct a detailed hazard and risk analysis).
- Develop an assessment process, which is periodically reviewed and updated, of potential risks from an accidental release or other emergencies to employees and contractors, and initiate actions to reduce significant risks.
- Review this assessment quarterly and update as necessary, and display in the site office.  
Credible emergencies that may potentially occur at the project site include:
  - Accidental spill of hydrocarbons or chemicals while being transported, stored or used.
  - Accidental detonation of explosives while being transported, stored or used.
  - Lightning or fire that damages facilities or the surrounding environment.
  - Injury to personnel.
  - Vehicle accident.
  - Gale-force wind or rainfall, including cyclones, that causes extreme flooding or destruction of facilities.
- Respond to the emergency in accordance with the detailed operating emergency response plan. Emergency response will be prioritised according to the following hierarchy:
  - Protection and rescue of human life.
  - Minimisation of the area impacted by the incident.
  - Protection of the environment, plant and property.
  - Rendering the area safe in which the emergency has occurred.
  - Restoration of all disrupted services.
  - Decontamination and rehabilitation of the incident scene and surrounding area.

- Immediately contact the General Manager Projects Development and other relevant personnel as provided for in the detailed emergency response plan, and provide details of the emergency such as:
  - Nature of the emergency (e.g., injury, fire, fall).
  - Location.
  - How it may have occurred.
  - Current status (e.g., who is injured, where the fire has spread to).
  - What may be needed to stop/control the emergency.
- Complete an incident/accident report as required.

## **8. Monitoring and Reporting**

Minemakers will:

- Review and modify as required the emergency response plan described herein after six months and at regular intervals thereafter.
- Report the review findings in the annual mining management plan (MMP).

# Attachment C5

## **Groundwater Management Plan**





<b>No:</b> EIS-GW	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Groundwater Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b>  <b>General Manager Projects Development</b>	

## 1. Issues

Potential groundwater issues associated with the project are changes in water availability, degraded groundwater quality or sedimentation in streams in (and downstream of) the project area that may result from:

- Discharge of groundwater produced from mine dewatering (and/or groundwater interception).
- Discharge of direct rainfall that has accumulated in the pit.

Groundwater use will also create a cone of groundwater depression that may:

- Reduce groundwater availability for other users.
- Reduce baseflows to surface waters.
- Reduce groundwater near environmentally sensitive areas (i.e., Kerringnew Swamp).

## 2. Objectives

The objectives of groundwater management are to:

- Minimise the impacts of groundwater use on the surrounding groundwater users.
- Minimise the impacts of groundwater use on the environmentally sensitive areas.
- Minimise the impacts of pit dewatering on the surrounding environment.

## 3. Responsibilities

Minemakers' Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors are responsible for compliance with this document, and for ensuring others do likewise.

## 4. Definitions

**Aquifer** – a water-bearing layer of sediment or rock.

**Bore** – a well, usually less than 20 cm diameter, sunk into the ground and from which water is pumped.

**Dewater** – to remove water from (e.g., a mine pit or an aquifer).

**Groundwater** – water naturally stored beneath the surface of the earth, which saturates the pores and fractures of sand, gravel and rock formations.

**Monitoring** – systematic sampling and, if appropriate, sample analysis to record changes over time caused by impacts associated with development such as mining.

**Runoff** – that portion of precipitation (rain, hail and snow) that flows from a specific area as water.

**Seepage** – subsurface movement of water.

**Surface Water** – all water flowing over, or contained on, a landscape (e.g., runoff, streams, lakes).

## **5. Performance Standards**

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

### **5.1 Legislation, Guidelines and Codes**

This groundwater management plan considers the relevant aspects of the following legislation, policies, guidelines and codes:

- Northern Territory *Water Act*.
- Groundwater quality objectives to be established by the NT Environment Protection Agency (EPA).
- Australian and New Zealand guidelines for fresh and marine water quality (ANZECC/ARMCANZ, 2000).
- Best practice environmental management in mining: Water management (DEH, 1999).
- Minesite water management handbook (MCA, 1997).

### **5.2 Associated Plans and Procedures**

- Flora Management Plan.
- Mine Closure and Rehabilitation Plan.
- Stakeholder Consultation Plan.

## **6. Procedures**

### **6.1 Pit dewatering**

The management of ground and surface water seepage into pits is as follows:

- Pit dewatering will adhere to the following hierarchy (listed in order of preference):
  1. Pumping from pit sumps.

2. Pumping from in-pit bores (in the unlikely event that large inflows of groundwater occur, or the quality of the water pumped from the pit is poor).
  3. Pumping from interception bores around the perimeter of the pit (if additional groundwater interception is required, which is considered unlikely).
- Monitor groundwater at the point of significant ingress to the pit if major inflows are encountered (to allow segregation and separate management of groundwater inflows of differing quality). Discharged water will be managed in accordance with the surface water management plan.
  - Consider control measures such as grouting in the unlikely event inflows of low quality groundwater prove problematic (and seek the advice of an experienced hydrogeologist on such matters).

## 6.2 Reduced Groundwater Availability

Groundwater drawdown will be monitored and any significant changes to groundwater availability for third party users will trigger a review of this management plan and new management measures will be implemented.

The environmentally sensitive area at Kerringnew swamp is not reliant on groundwater (GRM, 2009). Nevertheless, groundwater drawdown near the Kerringnew Swamp will be monitored. Should a link between the swamp and the underlying groundwater be shown, any significant changes to groundwater availability for environmentally sensitive areas will trigger a review of this management plan and new management measures will be implemented.

## 6.3 Reduced Groundwater Quality

Groundwater quality will be monitored regularly and any significant changes to groundwater quality will trigger a review of this management plan and new management measures will be implemented.

## 6.4 Monitoring

Regular monitoring will be implemented for each of the management measures. The recommended monitoring schedule for the; Arruwurra production bores, northern borefield and monitoring bores; and pit dewatering is presented in Table 6.1.

**Table 6.1 Groundwater monitoring schedule**

Monitoring Site	Parameter	Frequency	Comments
Arruwurra and Camp Area			
Production Bores	Groundwater level depth.	Monthly	
	Cumulative pumping volume.	Monthly	
	EC, temperature and pH.	Monthly	Measured in the field using a calibrated hand-held meter.

**Table 6.1 Groundwater monitoring schedule (cont'd)**

Monitoring Site	Parameter	Frequency	Comments
Northern Borefield			
Production Bores	Groundwater level depth.	Monthly	
	Cumulative pumping volume.	Monthly	
	EC, temperature and pH.	Monthly	Measured in the field using a calibrated hand-held meter.
	Water quality laboratory analysis.	Annual	Analytes: pH, TDS, EC, major ions, NO <sub>3</sub> and Fe.
Monitoring Bores	Groundwater level depth	Monthly	
Regional Sites			
Environmental monitoring bore (WNEM001)	Groundwater level depth.	Monthly	
Nearby stock bores	Groundwater level depth.	Monthly	
Pit dewatering			
Operational pits	<p>The quantity and quantity of groundwater inflow removed from pits.</p> <p>The period of time during which pumps are operating to remove groundwater inflow.</p>	As necessary	

## 7. References

- ANZECC/ARMCANZ. 2000. Australian and New Zealand water quality guidelines for fresh and marine water quality. October. Australian and New Zealand Environment and Conservation Council and Agricultural and Resources Management Council of Australia and New Zealand.
- DEWHA. 1999. Best practice environmental management in mining - water management. Commonwealth of Australia. Canberra.
- GRM. 2009. Hydrogeological and water supply investigations: Wonarah phosphate project. October An report by Groundwater Resources Management for Minemaker Pty Ltd.
- MCA. 1997. Minesite water management handbook. Minerals Council of Australia. Australian Capital Territory.

# Attachment C6

**Cultural Heritage Management Plan**



<b>No:</b> EIS-CH	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Cultural Heritage Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b> <b>General Manager Projects</b> <b>Development</b>	

## 1. Issues

Land disturbance will be an inevitable consequence of the Wonarah Phosphate Project. Areas will be modified to accommodate the various components such as the crushing and screening plants, haul roads, pits, stockpiles and administration facilities. This activity has the potential to impact upon cultural heritage sites while ongoing disturbance to sites may also occur through unregulated vehicle access, or unauthorised interference with cultural materials.

Key cultural heritage issues include:

- Disturbance to sites of cultural heritage significance.
- Disturbance to sites of archaeological significance.
- Unauthorised access to cultural exclusion zones.

Minemakers will obtain a consent to destroy permit from Heritage Conservation Services under the *Heritage Conservation Act* for all archaeological material within the Mineral Lease area. Surveys indicate that material within the Mineral Lease area is generally of low archaeological significance, with only one site of moderate significance known, which lies outside of the Mineral Lease area. The consent to destroy permit will detail any conditions that must be followed.

Minemakers will obtain authority certificates from the Aboriginal Areas Protection Authority under the *Northern Territory Aboriginal Sacred Sites Act* prior to commencing construction and operation activities. This authority certificate will detail any conditions that must be followed, such as prohibiting entry into sacred site exclusion zones.

This management plan details general measures Minemakers will follow during construction and operation of the project to minimise potential impacts to matters of cultural heritage and/or archaeological significance.

## 2. Objectives

The objectives of cultural heritage management are to:

- Develop an awareness of the importance of cultural heritage within the workforce.
- Minimise disturbance and damage to sites of cultural heritage or archaeological significance.
- Prevent unauthorised access into cultural exclusion zones.
- Ensure the development and maintenance of a cultural heritage database.



### 3. Responsibilities

The Minemakers Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors are responsible for compliance with this document, and for ensuring others do likewise.

### 4. Definitions

**Disturbed ground** – an area of ground that has been disturbed by construction or operations activities for the project.

**Ground disturbance** – any activity that causes ground to be disturbed, i.e., excavating, trenching, traversing, or clearing ground to provide access for construction or operation of the project.

**Vegetation clearing** - the removal, destruction or lopping of vegetation.

### 5. Performance Standards

#### 5.1 Legislation, Guidelines and Codes

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

##### 5.1.1 Legislation

###### Commonwealth

- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984.*
- *Australian Heritage Council (Consequential and Transitional Provisions) Act 2003.*
- *Environment and Heritage Legislation Amendment Act (No. 1) 2003.*
- *Heritage Act 1975.*
- *Native Title Act 1993.*

###### Northern Territory

- *Aboriginal Land Act.*
- *Heritage Conservation Ac.*
- *Northern Territory Aboriginal Sacred Sites Act.*

##### 5.1.2 Associated Plans and Procedures

- Fire Management Plan.
- Mine Closure and Rehabilitation Plan.
- Stakeholder Consultation Plan.
- Surface Water Management Plan.

## **6. Procedures**

### **6.1 Cultural Exclusion Zones and Archaeological Sites**

Access to cultural exclusion zones and disturbance to archaeological sites without prior approval will not be permitted. To ensure no unauthorised access or disturbance to these sites Minemakers will:

- Maintain spatial data relating to all cultural heritage sites and cultural heritage survey coverage within the project area and surrounds as part of a cultural heritage database.
- Ensure that all personnel are familiar with the presence of the cultural exclusion zones and the restriction on access to these areas. This will be addressed in inductions for all staff.
- Prohibit off-road movements within the project area.

### **6.2 Planning and Preparation**

Prior to the clearing of land Minemakers will assess:

- Whether the ground disturbance is necessary.
- If existing disturbed ground can be used instead.
- How access and traffic to the location will be managed to minimise disturbance.
- The cultural heritage database.

The results of this assessment will be used by Minemakers to plan the ground disturbing activities, and any internal conditions of approval for this.

### **6.3 Salvage**

Site salvage may be necessary if disturbance to archaeological sites is an unavoidable consequence of the proposed ground disturbance. Where disturbance involves sites or objects of Aboriginal archaeological significance this will be completed under the conditions of approval under the Heritage Conservation Act.

### **6.4 Ground Disturbance**

Upon approval of ground disturbance, the following will be implemented:

- All works will only take place within the areas approved for ground disturbance.
- All personnel will observe access restrictions to sites of cultural heritage significance.
- Ground disturbance will not occur within any areas fenced for protection.
- Vehicles will stay on established tracks or designated right of ways.
- If previously unrecorded archaeological material not covered by the consent to destroy permit is discovered during ground disturbance, all works will cease and procedures in Section 6.5 will be followed.
- No items of cultural or archaeological material will be removed or interfered with by any unauthorised person.

- If Minemakers or its contractors disturb or interfere with a site of cultural heritage or archaeological significance without prior consent, an incident report form will be completed.

## **6.5 Discovery of Cultural Heritage or Archaeological Material**

Personnel who discover or believe they have discovered cultural heritage or archaeological material in areas not covered by consent to disturb permits will:

- Cease work immediately and establish a 50 m buffer around the site. No work will be carried out within this 50 m buffer until a cultural heritage or archaeological assessment has been undertaken and appropriate management measures have been implemented.
- Notify Minemakers of the discovery and its location.
- In no circumstances remove the material from the location or interfere with it in any way.
- If cultural heritage material is suspected to be Aboriginal origin, the Central Land Council (CLC) will be notified.
- If the material is discovered during ground disturbance, work will not recommence in the affected area until appropriate management strategies have been implemented. These strategies will be based on the nature of the material, requirements of the CLC and legislative obligations.
- Should skeletal material be discovered, an assessment as to whether the material is human will be required by a qualified archaeologist, physical anthropologist or forensic specialist. If the remains are human, the police need to be advised immediately. If the remains are of Aboriginal origin, contact will also be made with the CLC.
- After an adequate assessment has been undertaken and the relevant measures followed, work with machinery will recommence.

## **7. Monitoring Procedures**

Inspection of known cultural heritage or archaeological sites will occur quarterly during the first year of development and annually every year thereafter. Inspections will assess the preservation and integrity of structures and the effectiveness of current management techniques and will be carried out in the presence of a Traditional Owner and the CLC that can speak for the sites or objects.

# Attachment C7

**Flora Management Plan**



<b>No:</b> EIS-Flora	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Flora Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b>  <b>General Manager Projects Development</b>	

## 1. Issues

Flora issues associated with the construction and operation of the project include:

- Removal of a large area of vegetation.
- Changes to vegetation surrounding the proposed mine due to dust deposition.
- Changes to abundance of significant species by removal or other indirect impacts.
- Introduction and/or spread of weed species by project-related vehicles and equipment (especially earthmoving equipment).

## 2. Objectives

The objectives of flora management are to:

- Minimise impacts to flora during operation of the project.
- Promote and maintain stable vegetation cover during rehabilitation.
- Minimise and control weed invasion.

## 3. Responsibilities

The Minemakers Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors are responsible for compliance with this document, and for ensuring others do likewise.

## 4. Definitions

**Disturbed ground** – an area of ground that has been disturbed by construction or operations activities for the project.

**Environmental weed** – a plant, which, because of its characteristics and location, is causing economic, ecological, physical or aesthetic problems.

**Ground disturbance** – any activity that causes ground to be disturbed i.e., excavating, trenching, traversing, or clearing ground to provide access for construction or operation of the project.

**Noxious weed** – an environmental weed that has been nominated under relevant legislation to be a declared or noxious weed.

**Pathogen** – a disease-producing organism e.g., bacterium or fungus.

**Vegetation clearing** - the removal, destruction or lopping of vegetation.

## 5. Performance Standards

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

### 5.1 Legislation, Guidelines and Codes

#### Commonwealth

- *Environment Protection and Biodiversity Conservation Act.*

#### Northern Territory

- *Bushfires Act.*
- *Environmental Offences and Penalties Act.*
- *National Environment Protection Council (Northern Territory) Act.*
- *Territory Parks and Wildlife Conservation Act.*
- *Weed Management Act.*

### 5.2 Associated Plans and Procedures

- Fire Management Plan.
- Mine Closure and Rehabilitation Plan.
- Stakeholder Consultation Plan.
- Surface Water Management Plan.

## 6. Procedures

### 6.1 Vegetation Clearing

#### 6.1.1 Planning and Preparation

Minemakers will use the following planning and preparation measures:

- The project will be designed to minimise vegetation loss due to project infrastructure layout.
- The project will be designed to minimise and avoid unintended changes in the structure and condition of areas which contain flora of significance, including:
  - Minimising vegetation clearing in ephemeral land systems and areas subject to inundation.
  - Monitoring low lying area for the presence of *Sporobolu latzii* within the project area (excluding cultural exclusion zones, which cannot be entered and surveyed). If the presence of *S. latzii* is detected, then procedures outlined in Section 7 will be followed.

- Culturally significant trees include those having a diameter greater than 12.5 cm at breast height or taller than 1.5 m. Minemakers will avoid large stands of these trees where practicable in the first instance. The Central Land Council will be consulted on all vegetation clearance.
- Where practical a 50 m vegetation buffer will be maintained around drainage lines extending from the outer edge of the seepage zone.
- All relevant Minemakers and contractor personnel will be inducted in the vegetation clearing management procedures before commencing activities in the project area.
- Where possible, previously disturbed and modified areas will be used in preference to undisturbed areas.
- The Resident Manager (or delegate) will keep up to date maps detailing the location of:
  - Known populations of threatened flora species.
  - Known populations of weed species.
  - Cultural exclusion zones to be avoided during project construction and operation.

### **6.1.2 Vegetation Clearing Procedures**

Minemakers will follow specific procedures to minimise any impacts associated with the clearing of vegetation:

- Vegetation clearing will be undertaken progressively immediately prior to use to minimise the amount of disturbed ground at any one time.
- Where the layout of project infrastructure permits, vegetation will be retained as a first preference within the project area.

When clearing vegetation:

- All zones of avoidance will be clearly marked with flagging tape prior to commencing vegetation clearing. Vegetation in these zones must not be cleared under any circumstances.
- Culturally significant trees not to be cleared will be marked for retention with flagging tape.
- Construction equipment, material stockpiles and other infrastructure will be placed on cleared land rather than in areas of native vegetation where possible.
- Logs and other habitat features along road verges will be retained where possible.
- Preliminary rehabilitation activities will be commenced promptly and progressively as works are completed to stabilise soils and minimise periods of exposed disturbed ground.
- Cleared vegetation will be stockpiled within or placed on top of topsoil stockpiles to assist in the rehabilitation process, prevent erosion of stockpiles and to provide habitat for fauna.
- Cleared vegetation will not be burnt to reduce nutrient loss from the environment.



## **6.2 Weed Control**

### **6.2.1 Planning and Preparation**

Minemakers will use planning and preparation procedures to minimise the potential for the introduction or spread of weed species:

- All Minemakers and contractor personnel will be inducted in the weed control management procedures before commencing activities in the project area.
- All Minemakers and contractor personnel will be made aware of the location and extent of declared noxious and environmental weed species in areas to be disturbed during construction, specifically:
  - Buffel grass (*Cenchrus ciliaris*).
  - Kapok bush (*Aerva javanica*).
  - Mesquite (*Prosopis limensis*).
  - Olive hymanachne (*Hymenachne amplexicaulis*).
  - Parkinsonia (*Parkinsonia aculeate*).
- Where possible, activity will be planned to minimise the movement of plant and equipment between areas of known noxious weed infestations.

### **6.2.2 Precautionary Procedures**

Minemakers will follow precautionary procedures to minimise the potential for weed introduction or spread:

- Access to the project area will be restricted via the use of a security gate to prevent entry of unauthorised vehicles to the area.
- All non-construction vehicles will keep to designated access tracks and work areas at all times.
- A 'clean vehicles' policy will be maintained whereby vehicles will be washed down if they leave designated roads, access tracks or work areas.
- Vehicles, plant and equipment that work in areas off formed roads will be visually inspected for clumps of soil or vegetative material before leaving the project area. If present, material will be removed by using a high-pressure/low-volume water spray unit.
- Hard-stand and road base material will be sourced from borrow pits within the project area. Material sourced from outside the project area will be generally avoided but, if necessary, will be free of visual signs of weed infestation.

### **6.2.3 Washdown Procedures**

Washdown procedures will minimise the potential for the introduction of new weed species:

- Vehicles, plant and equipment (particularly tyres, wheel arches and undercarriages) will be washed down if there are signs of soil or mud on the vehicle when leaving an area of known weed infestation.
- The details of the washdown will be recorded in a Washdown Register, to be retained with the vehicle, item of plant, or equipment. The Washdown Register will be maintained by the party undertaking the works. Any contractor-maintained register will be available for inspection by Minemakers.

#### **6.2.4 Weed Control Procedures**

A suitably qualified weed control contractor will be engaged to treat weed infestations during the appropriate season:

- Weeds will be treated with target-specific, non-persistent (i.e., biodegradable) herbicides.
- Weeds manually removed from the project area will be stored in sealed plastic bags and disposed of to landfill with other general waste.

### **7. *Sporobolus latzii***

The only recorded specimen of *S. latzii* was collected in the ephemeral lake community to the north of the Arruwurra deposit. It is important that Minemakers construction or operational activities do not disturb the habitat or communities of *S. latzii*. There is potential for *S. latzii* to occur in other low lying areas of the project area and Minemakers will monitor these areas for plant presence. All field personnel will be made aware of the importance of *S. latzii* and will be:

- Briefed on the conservation significance of *Sporobolus latzii*.
- Provided with a description of the plant.
- Made familiar with any designated 'no-go' areas.
- Required to report any discovery of *S. latzii*.

## **8. Monitoring and Reporting**

### **8.1 General**

Minemakers will:

- Review and modify as required the monitoring program described herein after 6 months of data has been obtained, and at regular intervals thereafter.
- Report results (and interpretation thereof) in the annual MMP (other than for variations as described below).

### **8.2 Detailed**

Ongoing vegetation monitoring will be conducted to allow identification of any impacts of mine construction and operations on native flora. Monitoring will be conducted in vegetation communities identified during the baseline survey and any new areas as considered appropriate (e.g., along roadsides or wet areas).

#### ***Methods and Frequency***

Monitoring sites will be visually inspected and photographed to allow assessment of:

- Changes in the abundance, composition or condition of vegetation communities, particularly threatened vegetation communities.
- Ongoing impacts to flora as a result of project-related activities.
- Increases in the density and distribution of known weed infestations.
- Introduction of new weed species.
- Accumulation of litter.

Transects will be used to allow the comparison of quantitative data on shrub numbers in the different vegetation communities, and between near-mine and control sites.

Vegetation monitoring will be timed as follows:

- Biennially during construction and operations, during the wet and dry season.
- Post-closure as per mine closure and rehabilitation plan.

Monitoring will be conducted prior to, during and following disturbance. Vegetation monitoring will be designed to target the identification of the presence or absence of species of conservation significance and to monitor the health of vegetation communities in terms of vegetation structure (e.g., all strata intact), plant condition, level of disturbance (individual species or whole community), presence or absence of weeds and accumulation of litter.

### ***Weed Monitoring***

Minemakers will ensure that all vehicles and plant brought to the mine are visually inspected to check they are free of seeds and other plant material. Areas with a high potential for or susceptibility to invasion by weeds, such as along roadsides, recently cleared areas and permanently wet areas (such as sewage ponds and drains during the wet season), will be monitored annually or after disturbance events.

Monitoring for weeds will include:

- Inspecting for weed outbreaks during the wet season and recording the size of infestations and the control treatment applied.
- Inspecting for weeds after significant germination events and recording of level of weed invasion.

### ***Vegetation Clearance Monitoring***

All areas to be cleared for project purposes will be documented and a clearance permit will be obtained, recording the area and nature of the vegetation cleared. Each area cleared will be inspected to ensure that clearance is conducted in accordance with the conditions of the exploration agreement and mining planning agreement.

# Attachment C8

**Fauna Management Plan**



<b>No:</b> EIS-Fauna	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Fauna Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b>  <b>General Manager Projects Development</b>	

## 1. Issues

Fauna issues associated with the construction and operations of the project include:

- Increased fauna mortality due to increased traffic associated with the project.
- Changes to habitat surrounding the mine due to vegetation clearance and disturbance.
- Fire management practices having impacts on vegetation, flora and fauna biodiversity and habitats.
- Introduction and/or spread of feral animals in and around the project area.

## 2. Objectives

The objectives of fauna management are to:

- Minimise impacts to fauna during the construction and operation of the project.
- Minimise and control pest animal populations.

## 3. Responsibilities

The Minemakers Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors are responsible for compliance with this document, and for ensuring others do likewise.

## 4. Performance Standards

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

### 4.1 Legislation, Guidelines and Codes

#### Commonwealth

- *Environment Protection and Biodiversity Conservation Act 1999.*

## **Northern Territory**

- *Environmental Offences and Penalties Act.*
- *National Environment Protection Council (Northern Territory) Act.*
- *Territory Parks and Wildlife Conservation Act.*

## **4.2 Associated Plans and Procedures**

- Fire Management Plan.
- Flora Management Plan.

## **5. Procedures**

### **5.1 Habitat Clearing – Fauna Management**

#### **5.1.1 Planning and Preparation**

Minemakers will:

- Design the project to minimise habitat loss due to project infrastructure layout.
- Ensure all relevant Minemakers and contractor personnel are inducted in the vegetation clearing management procedures before commencing activities in the project area.
- Ensure all relevant Minemakers and contractor personnel are aware of the location and extent of habitat types to be avoided during construction.
- Where possible, use previously disturbed and modified areas in preference to undisturbed areas.
- Ensure the Environment Manager keeps up to date maps detailing the location of exclusion zones to be avoided during project construction and operation.

#### **5.1.2 Vegetation Clearing Procedures**

Vegetation clearing procedures are outlined in the flora management plan.

#### **5.1.3 Fauna Protection Procedures**

To protect fauna in the project area Minemakers will employ the following procedures:

- Undertake a pre-clearance survey to detect the presence of any fauna species of listed conservation significance in the immediate area to be cleared, specifically:
  - Bilby (*Macrotis lagotis*).
  - Mulgara (*Dasyurus cristicauda*).
  - Australian bustard (*Ardeotis australis*).
  - Northern nailtail wallaby (*Onychogalea unguifera*).
- In the event that these species are present, the potential for trapping and relocation of individuals prior to clearance will be discussed with NRETAS.
- All personnel will be forbidden from bringing pets into the project area.
- All personnel will be forbidden from feeding or harassing wildlife.

- All personnel will be forbidden from hunting (or taking equipment for that purpose) into the project area.
- With the exception of authorised feral animal control contractors, personnel will be forbidden from taking firearms into the project area.
- Animals found in the project area that are trapped or disoriented will be captured and released into nearby habitat. Animals considered dangerous or difficult to handle will be handled by an appropriately trained and experienced person.
- All surface water storage areas will be fenced to prevent access by fauna to minimise potential increase in current feral populations and attraction of native fauna.
- All water storage areas, including pipes and containers, will be monitored for leaks to prevent access to subsequent plant growth by grazing fauna.

## **5.2 Feral Animal Control**

### **5.2.1 Planning and Preparation**

Minemakers will employ the following as part of the feral animal control program:

- All Minemakers and contractor personnel will be inducted in the feral animal control management procedures before commencing activities in the project area.
- Specific attention will be given to the control of:
  - Fox (*Vulpes vulpes*).
  - Feral cat (*Felis catus*).
- The precautionary procedures outlined below will also minimise the likelihood of wild dogs moving into the project area and surrounds.
- Although the dingo is considered native within the Northern Territory there is the potential for local populations to increase as a consequence of the project, as such Minemakers will implement specific management procedures for the dingo.

### **5.2.2 Precautionary Procedures**

Minemakers will employ the following precautionary procedures:

- The project area, including administration, camp and ablution buildings, will be maintained in accordance with good industry housekeeping practices to discourage vermin.
- Refuse disposal areas and other infrastructure will be designed and operated in a manner that will minimise the attraction of feral animals as a result of an increased availability of food resources.
- Surface water storage areas will be fenced to prevent access by feral animals, e.g. foxes, cats, camels and donkeys.
- Water pipes and storage containers will be monitored for leaks to prevent vegetation growth attracting feral grazers to the area.
- Separating food from normal waste and burning in a separate location.



- The effectiveness of the feral population control techniques will be monitored and reviewed regularly. Where control measures are ineffective Minemakers will consult with NRETAS about new management techniques.

### **5.2.3 Control Procedures**

#### ***Fox (Vulpes vulpes) and Cat (Felis catus)***

For the control of fox and cat populations Minemakers will employ the following control procedures:

- Baiting, trapping and shooting will be investigated for the most appropriate means of controlling feral cat and fox populations in the project area.
- A suitably experienced and qualified contractor will be used for any feral cat and fox population control program.
- Management of foxes and cats will begin prior to project construction to minimise their presence in the project area prior to operations therefore minimising the likelihood of spread after operations begin.
- Minemakers will collaborate with the Wunara community to control foxes and feral cats within the community to reduce the likelihood of new individuals moving into the project area.
- Accommodations, office and other infrastructure will be kept tidy and free of debris to minimise the availability of den sites for foxes and cats.
- Use broad scale control measures, e.g. aerial baiting, in collaboration with the Traditional Owners, to reduce regional populations of foxes and cats and therefore reducing the likelihood of new individuals moving into the project area and benefiting biodiversity on a regional scale.

#### ***Dingo (Canis Lupus)***

The dingo is afforded the protection of a native species under Territory Parks and Wildlife Conservation Act, therefore killing of dingoes is prohibited without a permit. Dingo populations will be managed using preventative procedures, including:

- Undertaking inductions for all workers on site about not feeding or interacting with dingoes.
- Separating food from normal waste and burning in a separate location.
- Installing predator-proof fencing around all food waste (e.g., packaging) areas.
- Installing dingo proof bins.
- Maintaining clean work and camp sites.
- Minimising access to artificial water sources.
- Monitoring dingo movements and behaviour.

Dingo management techniques will also minimise the likelihood of domesticated dogs moving into the project area. Minemakers will collaborate with the Wunara community on the management of individual dogs that do move into the project area.

## **6. Monitoring and Reporting**

### **6.1 General**

Minemakers will:

- Review and modify as required the monitoring program described herein after 6 months of data has been obtained, and at regular intervals thereafter.
- Report results (and interpretation thereof) in the annual MMP, other than for variations as described below.

## **6.2 Detailed**

Fauna monitoring will be conducted to allow identification of potential impacts of mining operations to fauna. Fauna monitoring sites will be located in selected sites surveyed during the baseline characterisation of the project area.

### **Methods and Frequency**

Fauna monitoring will involve fauna surveys and targeted counts for threatened species at selected sites to allow assessment of:

- Changes in the abundance, composition or condition of fauna species, particularly threatened species.
- Ongoing impacts to fauna as a result of project-related activities.
- Success of rehabilitation and/or relocation activities for threatened species.
- Increases in the density and distribution of pest animals.
- Introduction of new pest animal species.
- Diversity and health of any waterbirds present in the project area.

Survey methods may include visual observations, spotlighting, bird census transects, trapping and active searching.

Fauna monitoring will include:

- Adding to the inventory developed as part of the baseline surveys of fauna species for each of the surveyed habitat types.
- Conducting a biannual survey each wet and dry season for the presence of species of conservation significance.
- Regularly inspecting potential 'fauna traps' such as temporary trenches and borrow pits required during construction.
- Inspecting water bodies located within the Mineral Lease weekly for wetland bird species.
- Recording animal deaths that occur as a direct result of project activities.
- Monitoring the success of control techniques in reducing environmental impacts due to pest animals in the project area.

Monitoring will be conducted prior to, during and following disturbance. The number of sites to be sampled during monitoring will be calculated to allow for valid statistical comparisons between control and impact sites.

# Attachment C9

## **Mosquito Management Plan**



<b>No:</b> EIS-BI	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Mosquito Management Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b> <b>General Manager Projects</b> <b>Development</b>	

## 1. Issues

The construction and operation of the Wonarah Phosphate Project may give rise to opportunities for an increase in the abundance of biting insects and related diseases, potentially impacting on the health of workers and residents of the nearby the Wunara community and pastoralists. Factors requiring management under this plan include areas of water storage or pooling including:

- Borrow pits.
- Water tanks.
- Sewage systems.
- Pit floors.
- Road drainage areas.

## 2. Objectives

The objective of biting insect management is to:

- Reduce the abundance of biting insects during the construction and operation phase of the project.
- Eliminate the potential for the introduction of new mosquito species and the reintroduction of eliminated mosquito species as a result of the project.
- Reduce the potential for the spread of mosquito borne diseases to mine workers and members of the Wunara community and surrounding pastoralists.

## 3. Responsibilities

The Minemakers Australia Pty Ltd (Minemakers) Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors, are responsible for compliance with this document, and for ensuring others do likewise.

## **4. Performance Standards**

### **4.1 Legislation, Guidelines and Codes**

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

#### **Legislation**

There is currently no legislation pertaining to the monitoring and control of biting insects. Minemakers will, however, adhere to the Northern Territory Government's guidelines, outlined below.

#### **Guidelines**

- Guidelines for preventing mosquito breeding sites associated with mining sites (Whelan and Warchot, 2005).
- The prevention of mosquito breeding in sewage treatment facilities (Whelan, 1997).

### **4.2 Associated Plans and Procedures**

- Surface Water Management Plan.

## **5 Planning and Preparation**

Minemakers will ensure:

- All personnel are inducted on the risks associated with biting insects, how to prevent bites and how to treat them. This will include insect repellent, appropriate clothing and other personal protective equipment being made readily available to all personnel.
- Appropriately qualified and experienced personnel survey the project area at least once in the wet season and once in the dry season to detect any mosquito breeding sites.
- Sewage treatment facilities, other wastewater storage facilities and artificial ponding are periodically checked for mosquito larvae.
- Accommodation for personnel is situated away from potential mosquito breeding sites and are insect screened.

### **5.1 Procedures**

Minemakers will ensure:

- Project areas are managed to minimise pooling of water so as to prevent the formation of mosquito breeding sites, including:
  - Rehabilitation of disturbed areas.
  - Engineering and installation of suitable stormwater drainage.

- Engineering of water impoundments likely to retain water for longer than seven days to minimise the potential growth of semi-aquatic reeds that can provide mosquito breeding sites.
- Management of surface water drainage, such as along the sides of access roads.
- The final surface of the waste rock storages is contoured to prevent water pooling.
- Storm water drainage within the project area is managed to minimise potential mosquito breeding sites, such as along access roads and in open unlined stormwater drains.
- Sewage treatment is managed in accordance with the guidelines outlined in Whelan (1997).
- Advice is sought from Northern Territory authorities if problematic mosquito breeding is detected within the project area or biting insects become pests.
- In the event that mosquito breeding sites are detected, mosquito larval control is used in consultation with relevant authorities.
- Any container capable of holding water, e.g., tyres, drums and tanks, is either stored under cover, provided with drainage holes, emptied on a weekly basis or disposed of in an appropriate landfill site to prevent the formation of mosquito breeding sites.
- All buildings are either be fitted with mosquito-proof insect screening or, if sealed, are air-conditioned.

## **6 Monitoring and Reporting**

The abundance of adult mosquitoes will be initially measured once a month for a period of 12 months. This initial monitoring period will provide baseline information on the seasonal distribution of the mosquito species present and the potential impact on of mosquito borne disease on mine site personnel and Wunara community and surrounding pastoralists. The monitoring and control of mosquito populations will continue as required for the life of the mine.

This plan will be reviewed and modified as required along with the monitoring program described herein after six months of data has been obtained, and at regular intervals thereafter.

Results of the monitoring will be reported in the annual Mining Management Plan (MMP).

## **7. References**

Whelan P. 1997. The prevention of mosquito breeding in sewage treatment facilities. A report for the Department of Health and Families, Northern Territory.

Whelan, P. and Warchot, A. 2005. Guidelines for preventing mosquito breeding sites associated with mining sites. A report for the Department of Health and Families, Northern Territory.

# Attachment C10

## **Erosion and Sediment Control Plan**





<b>No:</b> EIS-ESCP	<b>Issue:</b> v3	<b>Date:</b> June 2010
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <b>Draft Erosion and Sediment Control Plan<sup>1</sup></b>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b> <b>General Manager Projects</b> <b>Development</b>	

## 1. Issues

The erodibility of soils in the project area was assessed as having a low potential for erosion. Deep soils (mostly Rudosols with loose rock aggregations) on sloping terrains overlain by deep clayey sands, e.g., such as those found in the northeast corner of the project area (Figure 1), were assessed as being potentially susceptible to erosion. No dispersive soils and no acid sulfate soils have been identified in the project area. Given this, sediment and erosion issues associated with the site include:

- Movement of soils during the construction and operational periods of the project.
- Movement of soil from the project area.
- Reduction in soil quality due to erosion.
- Fugitive sediment in stormwater runoff impacting on downstream ecosystems.
- Altered drainage and flow regimes within the Barkly Surface Water Management Area impacting on downstream ecosystems.
- Surface water contamination impacting on downstream ecosystems and users of groundwater.

## 2. Objectives

The objectives for erosion and sediment control and management are to:

- Minimise topsoil loss, dust generation, soil inversion, soil subsidence, soil compaction, soil contamination, runoff sedimentation and contamination of waterways during construction.
- Maximise the likelihood of successful rehabilitation.
- Minimise changes to streamflow, alteration of habitat, or pollution of waterways.

---

<sup>1</sup> Pending approval from the Land Management Unit of Department of Natural Resources, Environment, the Arts and Sport (DNRETAS)

Figure

**1                      Soil classifications in the project area**

### 3. Responsibilities

The Minemakers Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors are responsible for compliance with this document, and for ensuring others do likewise. The contact details for the Resident Manager can be found in Table 3.1.

**Table 3.1 Contact details for the Wonarah Phosphate Project**

<b>Title</b>	Resident Manager – Wonarah Phosphate Project
<b>Organisation</b>	Minemakers Australia Pty Ltd
<b>Postal address</b>	PO Box 1704, West Perth WA 6872
<b>Telephone</b>	+61 8 9264 7000
<b>Email</b>	frontdesk@minemakers.com.au

### 4. Definitions

**ARI** – Average recurrence interval.

**Catchment** – the entire land area from which water (e.g., rainfall) drains to a specific water course or waterbody.

**Disturbed ground** – an area of ground that has been disturbed by construction or operations activities for the project.

**Erosion** – the wearing away of the land surface (whether natural or artificial).

**Freeboard** – the vertical distance between the top of the water container and the full supply level on the container.

**Ground disturbance** – any activity that causes ground to be disturbed, i.e., excavating, trenching, traversing, or clearing ground to provide access for construction or operation of the project.

**Monitoring** – systematic sampling and, if appropriate, sample analysis to record changes over time caused by impacts associated with development such as mining.

**Runoff** – that portion of precipitation (rain, hail and snow) that flows from a specific area as water.

**Surface Water** – all water flowing over, or contained on, a landscape (e.g., runoff, streams, lakes).

**Vegetation clearing** - the removal, destruction or lopping of vegetation.

## **5. Performance Standards**

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

### **5.1 Legislation, Guidelines and Codes**

#### **Northern Territory**

- *Soil Conservation and Land Utilisation Act.*
- *Environmental Offences and Penalties Act.*
- *National Environment Protection Council (Northern Territory) Act.*
- *Territory Parks and Wildlife Conservation Act.*
- *Waste Management and Pollution Control Act.*
- *Water Act.*

### **5.2 Associated Plans and Procedures**

- Fire Management Plan.
- Flora Management Plan.
- Mine Closure and Rehabilitation Plan.
- Waste Management Plan.

## **6. Drainage and Land Management**

Site surface water management will be based on the principle of diverting clean surface water runoff away from disturbed areas, and intercepting runoff from disturbed areas and directing it through sediment control structures prior to discharge to the downstream environment.

The various project facilities will be segregated as follows for the management of stormwater:

- Treatment facilities.
- Non processing facilities.
- Hazardous material storage areas.
- Disturbed areas.
- Undisturbed areas.

### **6.1 General Sediment and Erosion Control Measures**

#### **6.1.1 Initial Ground Disturbance**

To reduce the likelihood of erosion and sediment movement during initial ground clearing Minemakers will:

- Clearly identify and mark the designated work site, i.e., the area of proposed ground disturbance including the area of vegetation to be cleared and the area required for stripping of topsoil, excavation and stockpiling of topsoil, spoil and clearing residue. The area of land required for the designated work site will be determined by the requirements of the work to be completed.

- Topsoil (top 100 mm) and subsoil (up to 300 mm in depth) will be stripped and stockpiled separately for use in rehabilitation. Topsoil will be stored in stockpiles less than 2 m high and away from drainage areas.

### **6.1.2 Vegetation Clearing Procedures**

Measures to minimise any impacts associated with the clearing of vegetation include:

- Vegetation clearing will be undertaken progressively immediately prior to use to minimise the amount of disturbed ground at any one time.
- Where the layout of project infrastructure permits, vegetation will be retained as a first preference within the project area.
- When clearing vegetation:
  - All zones of avoidance will be clearly marked with flagging tape prior to commencing vegetation clearing.
  - Construction equipment, material stockpiles and other infrastructure will be placed on cleared land rather than in areas of native vegetation.
- Preliminary rehabilitation activities will be commenced promptly and progressively as works are completed to stabilise soils and minimise periods of exposed disturbed ground.
- Cleared vegetation will be stockpiled within or placed on top of topsoil stockpiles to assist in the rehabilitation process, prevent erosion of stockpiles and to provide habitat for fauna.
- Cleared vegetation will not be burnt to reduce nutrient loss from the environment.

### **6.1.3 Site Access**

The movement of vehicles on and off site has the potential to track soil off-site. To minimise soil movement off-site Minemakers will:

- Harden road areas at the site access point using such means bitumen for the first 200 m.
- Compact the soil along site access roads.
- Wash vehicle wheels leaving the site using drive through wheel washing bays to remove any soils from wheels.
- Regularly sweep tracked soil from the site entrance.

### **6.1.4 General Erosion Control Measures**

As general erosion control measures Minemakers will:

- Install diversion drains and/or berms and/or sediment barriers (e.g., geotextile silt fences) up-slope of disturbed areas to direct clean stormwater run-off away from the site.
- Strip and temporarily stockpile topsoil in areas that will be disturbed or compacted, or where excavation will take place in the future to minimise the area of disturbance.

- Locate stockpiles:
  - Within the designated work area.
  - Outside drainage lines.
  - Out of the way of traffic or maintenance activity.
- Install breaks in topsoil and subsoil stockpile windrows at least every 100 m or at strategic locations to allow runoff, vehicles or wildlife to pass through.
- Install erosion controls to protect topsoil and subsoil stockpiles from erosion.
- Discharge any trench or excavation water to land through energy dissipating structures and sediment ponds and minimise runoff to drainage lines and watercourses.

### **Sediment Runoff**

To minimise the risk of sediment runoff adversely affecting receiving water environments, the following measures will be implemented:

- Disturbed areas will be rehabilitated progressively when no longer required for mining.
- Rain falling within crushing and screening areas will be collected within bunded slabs and where practicable, returned to the process by means of drains, launders, sumps and pumps.
- Runoff from non process areas (e.g., roads, roofs, yards, run of mine (ROM) area) will be captured in open drains. The drains will report to a sedimentation pond, before either being reused or, if suitable, released off-site.
- Non process area drains reporting to a sedimentation pond will be sized for the peak of the 10 year ARI event as a minimum. Open drains will have a minimum freeboard of 500 mm and flow velocities along such drains will be limited to minimise erosion and the generation of sediment.
- Non process drains capturing runoff from areas likely to be impacted by hydrocarbons, e.g., fuel storage and dispensing areas, truck wash and workshops, will be captured in open drains that report to an oily water separator (OWS) located upstream of the sedimentation pond.
- To minimise runoff from pits, mining will occur from upper levels and/or stockpiled material will be processed following significant rainfall events. In-pit stage sumps will be used to settle out sediment from collected runoff prior to pumping to surface for re-use or discharge off-site.
- Runoff from the waste rock stockpiles is likely to generate sediment-laden stormwater. The stockpiles will be bunded to contain this water and to separate it from clean runoff from the surrounding catchment. The runoff from the stockpiles will be collected in diversion channels and directed through sediment traps prior to discharging to the natural environment.
- Sedimentation ponds will be constructed at the Arruwurra and Main Zone areas to allow separate treatment of potentially high sediment runoff from waste rock stockpile areas and potential oily water from the mine services areas.
- Sedimentation ponds will have emergency spillways/outlets in order to safely pass flow volumes greater than 10 year ARI magnitude around the ponds and off-site.
- Sediment accumulated in sedimentation traps will be removed periodically and disposed of in an active waste rock stockpile.

## Surface Flow and Flood

Flood diversion measures (including constructed berms, strategically placed waste rock storages, stockpiles and above-grade haul roads) will be used at the southeastern perimeter of the Arruwurra pit to minimise the risk of infiltration of this pit during stormwater runoff (and subsequent alteration of surface water flow in this vicinity) and will be designed to withstand a 100 year ARI event.

To avoid flooding of the Arruwurra pits and infrastructure (and subsequent alteration of surface flow regimes in these areas), two upstream catchment diversion ditches will be used at the following locations:

- Immediately upstream of the Arruwurra mine services area and non-direct shipping ore stockpile, which will discharge to the north of the flood protection berm alignment.
- Two sections along the northeast side of the proposed airstrip facility with both high points of the drains on either side of the airstrip terminal facility. The northern drain will divert runoff towards the north-western corner of the airstrip, while the southern drain will drain to the southeastern corner of the airstrip.

## Water Contamination

To prevent downstream contamination Minemakers will:

- Capture surface drainage from areas susceptible to hydrocarbon spillage (such as fuel storage and dispensing areas, truck wash areas and workshops) in open drains that report to an OWS upstream of a sedimentation pond.
- Bund all chemical, oil and other hazardous material storage areas in accordance with the relevant codes and standards (see Waste Management Plan). Water collected within the bunds will be assessed prior to release. If the quality of the collected water is suitable, then the area will be drained to the closest non-process drain that reports to a sedimentation pond. Water collected within the bunds that is assessed and is found to be impacted will be collected and disposed of to a waste water treatment plant.
- To minimise the potential for oil leaks into watercourses, install OWSs at four facilities as a minimum, including:
  - Arruwurra fuel storage and workshops.
  - Main Zone fuel storage and workshops.
  - Airstrip fuel storage.
  - Vehicle washdown and tyre wash areas.
- Place the OWSs upstream of sedimentation pond inlets that receive water from the above four sites given that they will receive runoff from workshops, fuel storage, and bowzers.

Minemakers will net the water storages or use passive deterrent devices if the water storages and sedimentation ponds are shown to contain toxic levels of contaminants (such as metals and hydrocarbons) and are attracting fauna.



## **6.2 Drainage Design**

### **6.2.1 Open Drain Construction**

Design aspects that will be considered when designing open drains include:

- Open drains will be constructed in a parabolic or trapezoid shape with batters less than 1(V):4(H).
- Consideration of low flow drainage and substrate. Given the sandy substrate lack of drainage for low flow events is not likely to be of concern. However, for other soils types concrete inverts will be considered during the design phase.
- Design of any concrete inverts to reduce the likelihood of erosion of material adjacent to the invert.
- Channel erosion control protection in the form of appropriate drop structures, rock check dams, rock-lined channels or concrete-lined channels.
- All open drains will have a minimum 500 mm freeboard.

### **6.2.2 Culvert Installation**

The minimum culvert diameter will be 450 mm. Culverts and underground stormwater pipes will be installed at slopes that will provide self-cleansing minimum velocities of 0.7 m/s for one-third depth of full-flow wherever possible.

### **6.2.3 Hardstand Area Drainage**

Hardstand area drainage will be designed with a minimum surface grade of 0.5% in open yard areas and a minimum grade of 2% for a distance of 25 m away from structures.

### **6.2.4 Diversion Ditches**

Two upstream catchment diversion ditches will be located at the following locations:

- Arruwurra upstream catchment diversion ditch – will be constructed immediately upstream of the proposed Arruwurra mine services area in order to divert runoff from a 3.94 km<sup>2</sup> undisturbed catchment. The diversion ditch will be 3.4 km long and will collect runoff along its length, with a 10 year ARI peak flow at its outlet of approximately 10 m<sup>3</sup>/s, which will be discharged to the north of the proposed flood protection berm alignment.
- Airstrip upstream catchment diversion ditch – two sections of diversion ditching will be constructed along the northeast side of the proposed airstrip facility to divert runoff from the 3.33 km<sup>2</sup> undisturbed upstream catchment that may otherwise report to the runway. The high point of both drains will be on either side of the airstrip terminal facility. The northern drain will divert runoff over about 2 km towards the northwestern corner of the airstrip, while the southern drain will extend about 1 km to the southeastern corner of the airstrip. The 10 year ARI peak flows at the northern and southern outlets will be approximately 4.5 and 2.5 m<sup>3</sup>/s respectively.

Table 8.1 summarises the design parameters for the diversion ditches discussed above.

**Table 8.1: Diversion ditch preliminary design parameters for 10 year ARI event**

Parameter	Arruwurra	Airstrip North	Airstrip South
Length (m)	3,420	2,000	1,000
Side Slopes (H:V)	2:1	2:1	2:1
Manning's Roughness "n"	0.035	0.035	0.035
Flow Depth (m)	1.4	0.9	0.7
Free-board (m)	0.5	0.5	0.5
Total Ditch Depth (m)	1.9	1.4	1.2
Average Channel Slope (%)	0.25	0.25	0.20
10 Year ARI Peak Flow (m <sup>3</sup> /s)	10	4.5	2.5
Base Width (m)	3.0	3.0	3.0
Maximum Earthworks Cut (m <sup>2</sup> /lin m)	12.40	7.95	6.00

### ***Completion of works***

In areas to be rehabilitated, backfilled trenches or excavations will be managed to match the original soil profile by:

- Initiating rehabilitation procedures in accordance with the requirements of the Mine Closure and Rehabilitation Plan.
- Treating weed infestations in soil and clearing residue stockpiles before resspreading these materials.
- Replacing and compacting subsoil to as near as possible (75 to 85%) to the in-situ density of surrounding soils to minimise the risk of subsidence.
- Spreading and shaping topsoil to match the surrounding contours to a depth of at least 5 to 10 cm.
- Installing and maintaining erosion control structures (e.g., silt fences) until areas are stable.

## **7. Monitoring**

### **7.1 Erosion Control**

The integrity of flow diversion and bunding techniques will be inspected on a regular basis; downstream environments (i.e., flora and fauna) will be monitored at regular intervals as per the flora management plan and fauna management plan.

The stability of the landform in the project area (e.g., pit walls, batters, and waste rock storages) will be routinely monitored as part of construction and operation activities. Landform changes will be monitored through the mine closure and rehabilitation plan to ensure that progressive rehabilitation is meeting closure criteria.

Photo monitoring points will be established adjacent to proposed pit locations and photographic data will be collected on an annual basis once mining of the pit commences. Once rehabilitation commences, photographic data will be collected on a six monthly basis to ensure seasonal variation is captured.

## **7.2 Surface Water Quality**

Ongoing surface water quality monitoring will be conducted to allow identification of any impacts of mine construction and operations on downstream ecosystems. Monitoring will be conducted in accordance with the relevant standards and guidelines.

Ongoing monitoring will include:

- Event-driven water quality sampling and monitoring of project water storages (i.e., sedimentation ponds) and downstream ephemeral streams, with a focus on locally-defined water quality objectives.
- Inspection of flow diversion and flood protection techniques, with particular attention given to those protecting the susceptible Arruwurra mine site.

Sites will be sampled at least once during or immediately after a heavy rain event. The parameters to be sampled during this high-flow event will be:

- In situ sampling – pH, temperature, conductivity, turbidity, dissolved oxygen.
- General: conductivity, major ions (F, Ca, Mg, K, Na, Cl, SO<sub>4</sub>), alkalinity and total suspended solids (TSS).
- Unfiltered metals.
- Filtered (<0.45 µm) metals.

# Attachment C11

## **Stakeholder Consultation Plan**



<b>No:</b> EIS-SEP	<b>Issue:</b> v2	<b>Date:</b> November 2009
<b>Key Process:</b> Construction, Commissioning and Operations		
<b>Title:</b>  <h1 style="text-align: center;">Stakeholder Consultation Plan</h1>		
<b>Authorised by:</b>	<b>Minemakers Australia Pty Ltd</b>  <b>General Manager Projects Development</b>	

## 1. Issues

Potential issues associated with the project in regards to stakeholder engagement, or lack thereof, are primarily that the project will not gain a 'social license to operate', i.e., that Minemakers may not establish a reputation as a responsible mining company and that the project may not have the broad acceptance of its stakeholders.

A stakeholder is defined as a group or individual that may have an interest in the project or may be affected in any way by the project.

## 2. Objectives

The principal objectives of stakeholder consultation are to:

- Identify relevant stakeholders.
- Provide appropriate opportunities for involving and communicating with relevant stakeholders.
- Provide a means for recording all initiatives in which consultation is undertaken, issues raised and responses to these issues provided to stakeholders.
- Reduce the potential for stakeholder disaffection, which can result from a misunderstanding of the project, and, particularly for local communities, either a real or perceived exclusion from involvement in the project.

## 3. Responsibilities

Minemakers' Resident Manager is responsible for this document and its implementation. All staff, including Minemakers' contractors, are responsible for compliance with this document, and for ensuring others do likewise.

## 4. Performance Standards

The legislation, guidelines and codes listed in this section may be subject to revision during the life of the Wonarah Phosphate Project. Where this occurs, the reference is relevant to the latest version of the document.

## **4.1 Legislation, Guidelines and Codes**

This stakeholder engagement plan considers the relevant aspects of the following guidelines and codes:

- Principle 10 of the Mineral Councils of Australia's Enduring Value: The Australian Mineral Industry Framework for Sustainable Development. That is to 'Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders' (MCA, 2005).
- Community Engagement and Development booklet of the Leading Practice Sustainable Development Program for the Mining Industry (DITR, 2006a).
- Working with Indigenous Communities booklet of the Leading Practice Sustainable Development Program for the Mining Industry (DITR, 2006b).
- Stakeholder Engagement: A good practice handbook for companies doing business in emerging markets (International Finance Corporation, 2007)

## **5. Consultation**

### **5.1 Stakeholders**

The following stakeholders have been identified for the project (this list is in no particular order):

- The Wunara community and the Traditional Owners.
- Central and Northern land councils.
- Northern Territory government departments, including:
  - Department of Chief Minister.
  - Department of Natural Resources, Environment, the Arts and Sport.
  - Department of Regional Development, Primary Industry, Fisheries and Resources.
  - Department of Planning and Infrastructure.
- Surrounding pastoralists.
- Tennant Creek community.
- Barkly Shire Council.
- Northern Territory Government Ministers and opposition.
- Darwin Port Corporation.
- Northern Territory branch of Minerals Council of Australia.
- Environmental non-government organisations (NGOs) (e.g., the Environment Centre Northern Territory (ECNT)).
- Special interest groups (e.g., Cattleman's Association).
- General public.
- Contractors and suppliers.
- Financiers.
- Shareholders.
- Customers.
- Australian Government; including Department of Environment, Water, Heritage and the Arts.
- Media (regional, state and national).
- Other communities (e.g., Mount Isa)

## **5.2 Strategy**

The strategy for stakeholder engagement is to:

- Manage the expectations of those who are likely to benefit from the project.
- Continue to develop the relationship with the Traditional Owners, the Central Land Council (CLC) and Northern Land Council (NLC).
- Acknowledge that often the best decision making comes when people who are 'expert' in the local area (i.e., local stakeholders) are involved; this often brings great benefits in design, construction and production of the project, for the company as well as the community.
- Provide an avenue for stakeholder input during operations that ensures stakeholders views, issues and complaints are given due care and attention.

## **5.3 Consultation Methods**

### **5.3.1 Project Briefings**

Key stakeholders including elected federal and territory representatives, government agencies, regulatory authorities and peak industry groups will receive regular briefings on the project to keep them informed about its progress.

Meetings will be held with these stakeholders to listen to, understand and address their concerns and issues. Minemakers will respond to requests in person.

### **5.3.2 One-on-One Meetings with Traditional Owners and CLC**

The CLC is the central point for negotiations between Minemakers and Traditional Owners. Direct communication with Traditional Owners will first be approved by the CLC.

Consultation will include both directly and indirectly affected Traditional Owners and the CLC, will be inclusive of both men and women of various ages, and those with an interest who feel they may be affected. This will include the executive of the CLC, the Tennant Creek regional representatives of the CLC, the local Traditional Owners (i.e., the Wunara community) and neighbouring Indigenous communities. 'On country' meetings will continue to be arranged through the CLC throughout the life of the mine, as required or requested; Traditional Owner representatives present at on country meeting will be able to speak for the country and if not present, their views will also be sought.

### **5.3.3 One-on-One Meetings with Surrounding Pastoralists**

Consultation with surrounding pastoralists will be undertaken initially on a one-on-one basis and then in a manner determined once their preferred method of consultation during the project is known. Landowners will also be included in broader community consultation programs.

Minemakers will be responsible for ensuring landowners and occupiers are kept informed and that their requests for information and meetings are followed up expediently.



#### **5.3.4 Website**

A dedicated page on the Minemakers website has been established for the project and project related information. The website will be updated as required and will include information relating to general project details, answers to frequently asked questions, project updates, contact details and advice on opportunities for stakeholders to become involved in the project. The website content will be reviewed and revised regularly to include current information, including upcoming consultation events and the outcomes of consultation.

### **5.4 Documentation**

#### **5.4.1 Consultation Database**

The consultation database established by Minemakers will continue to be updated throughout the life of the mine. The consultation database will record:

- When consultation occurred.
- The form of consultation (e.g., face to face, telephone, meeting and newsletter release).
- The stakeholder group or organisations involved in the consultation.
- Who participated or number of participants.
- The issues discussed.
- Commitments made by Minemakers.

#### **5.4.1 Documenting Consultation**

The information obtained from all forms of ongoing consultation will be documented, and minutes and responses referenced, in the consultation database.

### **5.5 Monitoring**

Monitoring for consultation will primarily consist of maintaining the consultation database and ensuring that no complaints, enquires or other contact from stakeholders goes unaddressed.

## **6. References**

- DITR. 2006a. Community Engagement and Development booklet. Leading Practice Sustainable Development Program for the Mining Industry Booklet Series. Department of Industry, Tourism and Resources. October 2006.
- DITR. 2006b. Working with Indigenous Communities booklet. Leading Practice Sustainable Development Program for the Mining Industry Booklet Series. Department of Industry, Tourism and Resources. October 2006.
- International Finance Corporation. 2007. Stakeholder Engagement: A good practice handbook for companies doing business in emerging markets. International Finance Corporation. USA.
- MCA. 2005. Enduring Value: The Australian Minerals Industry Framework for Sustainable Development; Guidance for Implementation. Minerals Council of Australia. Australian Capital Territory.