



Magnetic Minerals

MAGNETIC MINERALS PTY LTD

(ACN 092 111 610)

ENVIRONMENTAL MANAGEMENT PLAN

2005/06 Infill & Exploration Drilling Program

Dongara Project
E70/1592, E70/2263 & E70/2347

September 2005

ENVIRONMENT POLICY

Context

Magnetic Minerals is committed to the principle of sustainable development and recognises the benefits of integrating economic, social and environmental considerations in its business planning and practice wherever the business may be located.

All personnel employed by Magnetic Minerals either directly or as agents, consultants and contractors are required to comply with Magnetic Minerals' policies so as to maintain the company's reputation as a trusted and responsible corporate citizen. Magnetic Minerals' directors and management are required to play an active role in implementing these policies.

To achieve its objectives, Magnetic Minerals recognises the importance of developing a mutual understanding of stakeholders' concerns and expectations by actively engaging and consulting in an open and honest manner.

Magnetic Minerals **ENVIRONMENT POLICY** is to:

- Comply with all applicable environmental laws, regulations standards and company policies as a minimum and strive for the highest standard of environmental performance
- Continually improve our environmental performance through the implementation of effective systems and use of technology
- Ensure that each employee is accountable for his or her role in our environmental performance
- Provide appropriate training and resources to achieve environmental performance goals
- Integrate environmental management into the company's systems, planning, processes and decisions
- Regularly monitor and audit our environmental performance
- Implement programs to conserve natural resources, prevent pollution and minimise waste.

RISK ASSESSMENT MATRIX RISK DEFINITION AND CLASSIFICATION

Table 1: Qualitative measures of likelihood or exposure to a hazard

Level	Descriptor	Description	Interval
A	Certain	The event is expected to occur in most circumstances	Daily
B	Likely	The event will probably occur in most circumstances	Bi-monthly
C	Possible	The event should occur at some time	Yearly
D	Unlikely	The event may occur at some time	Plant life
E	Rare	The event may occur only in exceptional circumstances	Ever

Table 2: Qualitative measures of consequence or impact

Level	Descriptor	Example of detail description
1	Insignificant	No injuries, no financial loss
2	Minor	First aid treatment, on-site release immediately contained, medium financial loss
3	Moderate	Medical treatment required, on-site release, contained with outside assistance, high financial loss
4	Major	Extensive injuries, loss of production capability, off-site release with no detrimental effects, major financial loss
5	Catastrophic	Death, toxic release off-site with detrimental effect, huge financial loss

Table 3: Qualitative risk analysis matrix - hazard priority

Likelihood	Consequence				
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
A Certain	High	<i>High</i>	<i>Extreme</i>	<i>Extreme</i>	<i>Extreme</i>
B Likely	<i>Moderate</i>	<i>High</i>	<i>High</i>	<i>Extreme</i>	<i>Extreme</i>
C Possible	<i>Low</i>	Moderate	<i>High</i>	<i>Extreme</i>	<i>Extreme</i>
D Unlikely	<i>Low</i>	<i>Low</i>	<i>Moderate</i>	<i>High</i>	<i>Extreme</i>
E Rare	<i>Low</i>	<i>Low</i>	<i>Moderate</i>	<i>High</i>	<i>High</i>

Legend:

Risk Level	Priority	Example of action
Extreme	1	Detailed research and planning required, cease activity or task
High	2	Senior management attention, immediate corrective and preventative actions
Moderate	3	Corrective and preventative action plan, responsibility assigned
Low	4	Manage by routine procedures

DONGARA 2005/06 DRILLING PROGRAM ENVIRONMENTAL RISKS

Activity

Accessing drill holes

Environmental Risks

- Bushfire
- Introduction of Pc Dieback fungus
- Impact on Declared Rare Flora and Priority Flora
- Damage to Aboriginal and other significant sites
- Vegetation disturbance
- Introduction of weeds
- Creation of erosion risk
- Access for recreational 4WD and flower pickers
- Direct impact on fauna
- Gas pipeline rupture

Activity

Drilling

Environmental Risks

- Drill hole harvesting of fauna
- Hydrogeological contamination
- Hydrocarbon contamination
- Litter/Waste/Site cleaning

ENVIRONMENTAL RISK ASSESSMENT

Risk	Inherent Risk			Control measures	Residual Risk		
	L	C	Risk		L	C	Risk
Bushfire	B	4	Extreme	No operation under adverse conditions Water and firefighting equipment Communications	D	3	Moderate
Introduction of dieback fungus	C	4	Extreme	Dieback hygiene procedures Training	E	4	Moderate
Impact on Priority Flora	B	4	Extreme	Survey Planning Education	D	3	Moderate
Impact on Aboriginal site	C	4	Extreme	Survey Planning	E	4	Moderate
Vegetation disturbance	A	3	Extreme	Low impact exploration	D	2	Low
Introduction of weeds	C	3	High	Clean Vehicles	D	2	Low
Creation of new 4WD tracks	B	3	High	Planning and low impact procedures	D	2	Low
Erosion	B	3	High	Low impact procedures and controls	E	2	Low
Direct impact on fauna	C	2	Low	Procedures	D	2	Low
Drill hole harvesting	B	3	High	Backfilling and capping	E	2	Low

ENVIRONMENTAL RISK ASSESSMENT (cont'd)

Risk	Inherent Risk			Control measures	Residual Risk		
	L	C	Risk		L	C	Risk
Hydrogeological contamination	C	2	Low	Survey Procedures	D	2	Low
Rupture Gas Pipeline	D	4	High	Mapping Procedures with transmission company	E	2	Low
Hydrocarbon contamination	C	3	High	Procedures	D	2	Low
Neighbour/CALM conflict	C	3	High	Communication, procedures and training	D	2	Low
Littering/Waste/Site cleaning	A	2	High	Procedures and training	D	2	Low

RISK MANAGEMENT/MITIGATION FOR KEY ENVIRONMENTAL RISKS

Bushfires

Bushfires are a serious hazard in this area as the vegetation dries over the summer months. The following procedures are to be adopted to minimise the risk and spread of bushfires:

- The drill support vehicle will carry 1000 litres of water, hose and hand tools
- All vehicles are to be fitted with a fire extinguisher
- A satellite phone will be with the drill rig at all times and liaison will be maintained with the Irwin Shire and the local Dongara Bushfire Brigade for the field crew to be warned of an approaching bushfire or the crew request help in case of a local fire.
- In the case of a local fire, the field crew will immediately take all reasonable steps to extinguish the fire. If this fails, the crew will call the emergency numbers and evacuate to pre-arranged assembly points to Mt Adams Road. These emergency numbers, escape routes and assembly points will be clearly marked on an A4 sheet and be attached to the inside of each vehicle on site where it is clearly visible
- In the event of a fire or observance of a bushfire, CALM's office in Jurien is to be notified. The telephone number will be included on the emergency numbers list
- All employees and contractors will be made familiar with this procedure as part of their induction program before commencing work on site.

Dieback

Dieback is caused by an introduced tropical fungus which attacks and kills a large range of vegetation. The fungus requires moist warm conditions to survive and spread. It can be spread naturally by movement of surface water and soil and infected vegetable matter. Human activity can spread dieback by non-intentional movement of soil and vegetable matter on machines or vehicles. The following procedures are to be adhered to prevent the spread of dieback in all areas of native vegetation within the tenement area

- Ensure that there is no movement_of soil or vegetation within the tenement areas, no introduction of soil and vegetation from outside the tenement areas and no movement of the soil and vegetation from the tenement areas.
- Prior to entering the tenement areas, all vehicles will assemble at Magnetic's office in Dongara for inspection by the drill site manager and all soil and plant material removed from the vehicles. The vehicles shall then proceed to the drill sites via the Brand Highway and Mt Adams Road without detour.

- No vehicles will enter upon the tenements when soil movement is likely. Clearly wet conditions will make soil movements likely and will mean no vehicle movement.
- As a field test for wet conditions CALM has recommended a simple test whereby a handful of topsoil is clasped in the hand and if it is moist enough to form a ball then it is too wet for vehicular access.
- Prior to movement between drill holes the drill rig, sampling equipment and rods will be cleaned of all soil and vegetable matter.
- All drill water returns shall be trapped in a small sump and allowed to drain back into the ground rather than running over the top which may lead to the spread of dieback.
- All employees and contractors will be inducted in anti dieback procedures prior to entering the site.

Priority Flora

The licence areas contain both Declared Rare Flora and Priority Species. To prevent damage or destruction of Priority Flora Magnetic Minerals will:

- Undertake a database search of Priority Flora and plot site locations on tenement maps
- Survey all accessways and drill lines for Declared Rare Flora and Priority Species prior to undertaking any exploration activities
- Map the location of Declared Rare Flora *Stawellia dimorphantha* with no drilling or exploration activities are to be undertaken within 50 metres of these sites.
- Relocate accessways and drill lines where practicable to minimise impact to Priority Flora
- All employees, contractors and equipments are not to stray from the designated accessways and drill lines

Aboriginal Sites

To ensure that the exploration activities do not breach the Aboriginal Heritage Act 1972 or the Environmental Protection Act 1986

- Aboriginal Heritage surveys have been completed over the tenement areas
- A search has been completed from the Department of Indigenous Affairs for registered sites
- The above confirmed one registered site (5217) on E70/2263. However, the site a significant distance from the exploration activities
- The site has been entered into Magnetic Minerals' mapping database and appears on all maps within the tenement areas
- All employees and contractors are to be advised of the site location.

Vegetation Disturbance

The impact of the exploration program on the vegetation will be minimised by:

- Utilising existing roads and tracks where possible for both access and drill lines
- Driving around the vegetation where practical and locating drill holes sites that minimise the impact on the surrounding vegetation
- In areas where the vegetation is too dense to access the drill site, flat roll the vegetation using a front end loader with blade raised, thereby not disturbing the root stock or disturbing the topsoil. Trees and thick vegetation are to be avoided
- All vehicles are to remain on defined tracks and survey lines and avoid disturbance of trackside vegetation
- The number of vehicle passes to and from the drill sites is to be minimised
- Commercially valuable wildflowers such as *Banksia hookeriana* will be flagged and avoided where possible

Prevent Weed Introduction

- The measures employed to prevent Dieback introduction will also ensure that exotic weed seed is not introduced.

Creation of Accessways/Erosion Prevention

By not removing or clearing the vegetation to soil level, the above procedures:

- Precludes recreational 4WD and flower pickers utilising the accessways
- Prevents soil or other erosion

To prevent further soil erosion all vehicles will engage 4WD

Impact on Fauna

To understand and minimise the impact on the fauna:

- A fauna survey has been completed over the tenement area
- As part of the botanical survey an assessment will be made on the impact the accessways, drill holes and exploration activities may have on the fauna
- The drill holes are to be suitably plugged to prevent drill hole harvesting.
- No domestic animals, traps or firearms are to be brought into the area

Water

There is no permanent surface water at the drill sites. The ground water consists of a superficial aquifer (8 to 25 metres below surface) which is charged via the winter rains and the Yarragadee Formation which underlies the mineral deposits. Exploration drilling will not have an impact on either aquifer

During drilling, small sumps will be located directly below the drill cyclone to trap water to ensure any water drains back into the drill area and does not overflow into the surrounding areas. On completion of the drill hole the sump will be backfilled.

Gas Pipelines

A number of gas pipelines cross the tenements. These are defined by markers and cleared right of ways. To prevent accidental rupture of the pipelines:

- All gas pipeline transmission companies and Origin Energy are to be fully briefed on the program
- No drilling will be undertaken within 25 metres of any pipeline
- Vehicular crossing of the pipelines to access the drill sites including design will be agreed between Magnetic and the pipeline companies before construction. The pipeline companies will supervise the cross-over construction

Hydrocarbons

To prevent the spillage or contamination of hydrocarbons:

- All hydrocarbons are to be stored in containers designed for specific storage purpose.
- All vehicles are to be mechanically sound and inspected daily prior to entering the tenements for fuel, oil or other contaminating leaks
- Any hydrocarbon spillage at the tenements is to be immediately cleaned up and reported.

Rehabilitation/Close-out

To rehabilitate and monitor the impact of the exploration program on the environment:

- Accessways and drill sites will be photographed before and after completion of the program
- All drill cuttings are to be returned into the drill hole.
- The drill area will be cleared of litter and survey pegs and all flagging tape removed
- Bunding to be placed at the entrance to the drill lines to prevent access by other vehicles
- A post drilling audit is to be prepared on completion of the program
- Magnetic will be responsible for any rehabilitation and follow-up work that may be required
- A site visit by a CALM representative will be arranged to ensure all works have been completed satisfactorily

General

- The program will be under the control and responsibility of a designated qualified representative of the company. This person will be required to conduct audits prior to and following all activities and responsible for ensuring all conditions are met.
- The representative will also advise the adjacent landholders of the program. Access to the sites may be via freehold properties and the representative will be responsible to ensure gates are left as found
- The Environmental Management Plan is to be part of the induction program for all employees and contractors entering into the area.