



**CONCEPTUAL  
DECOMMISSIONING &  
CLOSURE PLAN**

Happy Valley Titanium Minerals  
Project

CD912

August 2008



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## 1. OVERVIEW

### 1.1 PURPOSE

The purpose of this conceptual Decommissioning and Closure Plan (DCP) is to describe the general objectives for the post mining land use at Happy Valley, and the planning processes leading to development of a final DCP.

### 1.2 SCOPE

This DCP applies to the Happy Valley mining project during the phases of mine planning, construction, commissioning, operation and rehabilitation.

### 1.3 CONTENT

This conceptual DCP includes the following management components:

- Removal of plant, infrastructure and other materials
- Retention of specific infrastructure if applicable
- Removal of contaminated material (if relevant)
- Care & maintenance
- Monitoring & reporting

### 1.4 RELATIONSHIP TO OTHER DOCUMENTS

Significant environmental factors are managed through specific site Environmental Management Plans (EMP's). These EMPs are:

- Happy Valley Environmental Management & Monitoring Plan CD913
- Happy Valley Integrated Mining and Rehabilitation Plan CD915
- Happy Valley Noise Management Plan CD914
- Happy Valley Water Resources Management Plan CD916
- Happy Valley Fauna and Habitat Management Plan CD911

Management of common procedures and mine activities are generally defined within Work Instructions and System Procedures that form part of the Company's Environmental Management

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System as described in Section 2 below. Relevant Procedures and Instructions are referenced in this Plan but not appended.

### 1.5 LEGAL STATUS

This management plan has been prepared as part of the Happy Valley Environmental Review and Management Program.

## 2. ENVIRONMENTAL MANAGEMENT SYSTEM

### 2.1 POLICY

Bemax operates a certified ISO 14001 Environmental Management System (EMS) as part of its Integrated Management System (IMS). The core of the EMS is the company’s Environmental Policy, which has been approved and signed by the Operations Manager.

The Environmental Policy requires that Bemax monitors its performance and aims to continually improve both environmental performance and management.

### 2.2 RESPONSIBILITIES

The EMS designates the following responsibilities to the various staff positions and/or levels.

Table 2-1 Responsibilities prescribed by the EMS

Party	Responsibility
Operations Manager	Responsibilities include ensuring that all Bemax’s activities conform to the Environmental Policy.
Environmental Manager	Responsibilities include taking immediate action where necessary on the receipt of communications and/or complaints regarding environmental issues.
Senior Environmental Officer – Operations & Compliance	Responsibilities include ensuring compliance with relevant environmental legislation and regulations. Managing the EMS, maintaining documents and records to demonstrate conformance, and identification of non-conformances with the EMS.
All employees	Responsibilities include ensuring that all operations are carried out in accordance with specified procedures and work practices.

### 2.3 HAZARD IDENTIFICATION

Environmental aspects, which are at risk of being impacted upon by the mining operations, are identified using the procedures set out in SP03 *Identification and Management of Environmental Risk*.

### 2.4 COMMUNICATION

The EMS contains procedures for managing internal and external communications of environmental matters. Environmental hazards and incidents are reported using an incident report (CD018).

All external complaints automatically generate an incident report that is forwarded to and dealt with by the Environment Department<sup>1</sup>.

<sup>1</sup> SP 13 Non-Conformance and Preventative Action.

### 3. DECOMMISSIONING

Decommissioning of the Happy Valley North and South mine sites will commence soon after completion of mining. In this context 'decommissioning' refers only to the removal (or appropriate retention) of infrastructure and assessment and notification of contaminated materials. The actual rehabilitation of the site is a discrete phase of the project and is covered in detail within the Integrated Mining and Rehabilitation Plan.

Consistent with Bemax's Environmental Policy, the specific objectives in managing the decommissioning process will be;

- To ensure that rehabilitation and decommissioning are carried out in a planned sequential manner, consistent with best practice,
- To ensure that agreed post-mining land-use outcomes are achieved, and
- To avoid ongoing liability

#### 3.1 PLANNING

This conceptual Decommissioning and Closure Plan has been developed and is included as an appendix to the ERMP. The final Decommissioning and Closure Plan will address such areas as

- Scheduling for removal of plant, infrastructure and other materials
- Retention of specific infrastructure if applicable
- Site access / fencing
- Environmental monitoring – groundwater, fauna, vegetation, soil profile reconstruction
- Removal of contaminated material (if relevant)
- Maintenance
- Reporting
- Site closure and signoff

Best Practice requires that planning of mine closure be undertaken progressively throughout the lifetime of an operation. As such the conceptual plan will be reviewed and detail added as it becomes available. The Decommissioning and Closure Plan will be finalised and submitted to the relevant authorities for approval at least six months prior to closure of the site.

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### 3.2 FINAL LAND USE

The revegetation objective will be to reinstate three native vegetation complexes across disturbed vegetated areas of the project area, and annual pasture within existing cleared farmland areas on privately owned land. Bemax will commit to returning self-sustaining vegetation complexes that maintain representative species composition and structure, based on existing vegetation types, in those areas where native vegetation currently exists. Detail of the final land use is covered within the Integrated Mining and Rehabilitation Plan.

### 3.3 INFRASTRUCTURE REMOVAL

A range of infrastructure will be established as part of the mine development – plant, roads, boundary fences, bores, water dams etc. In State Forest areas (M70/901 and M70/900) all infrastructure will be removed as soon as practicable following completion of mining to allow for the timely completion of rehabilitation. M70/479 and M70/899 are located on private property, some infrastructure installed via the mining operation such as roads, bores, fences, water dams etc may be left in place dependent upon agreements with the relevant landowners. Bemax's aim is to remove all infrastructure, except where it will provide ongoing benefit to the landowner or community, in a timely manner. Details on any infrastructure to remain on the mining lease beyond closure of the site will be outlined in this Plan as it develops.

### 3.4 SITE DECONTAMINATION

Whilst it is not anticipated that any contamination of the site will occur, there is always the possibility of contamination occurring via an incident or accident on site. Bemax's Integrated Management System is designed to minimise the risk of such an event occurring, and outlines the procedures for clean up and reporting of contamination. The primary risk of contamination is via a hydrocarbon spill, work instruction WI044 Hydrocarbon Management outlines Bemax's procedures for management of hydrocarbons, CD118 Emergency Preparedness and Response Plan outlines the actions to be taken in the event of a spill.

The other potential source of site contamination is via the return of MSP tailings to the site for disposal. The radioactive portion of the tailings is retained as a product stream at North Shore for sale, and it is anticipated that this will continue for the life of the mining operation. The MSP tailings which will be returned to Happy Valley for disposal in the mine pit typically contain less than 200ppm of radioactive elements and thus do not classify as radioactive. As per Bemax's Radiation Management Plan a post mining gamma survey is conducted upon the completion of rehabilitation to ensure that no radioactive contamination has occurred during the mining process.

### 3.5 CARE & MAINTENANCE

In the event that a care and maintenance phase is required, stores of potentially hazardous materials (eg fuels and oils) would be reduced to minimum levels or removed from site entirely. Security measures would be put in place to limit public access.

Monitoring required under any applicable Management Plan will be continued until no longer required, on advice from Decision Making Authorities.

## **4. MONITORING AND REVIEW**

### **4.1 PERFORMANCE MONITORING**

The performance monitoring programme is described in the Happy Valley EMMP, IMRP, NMP, WRMP and FHMP. The final DCP will identify those monitoring requirements continuing past the end of the operations phase, and any additional requirements for the decommissioning phase. All monitoring records will be collected as per any relevant standards or EMS procedures and will be stored at the Bemax North Shore Administration Centre.

### **4.2 PERFORMANCE REVIEW**

Monitoring results will be reviewed by Bemax environmental staff as they are recorded, to enable a response to be implemented if required. The results of the entire monitoring programme will be reviewed internally every 3 months as part of the EMS procedures.

### **4.3 COMPLIANCE AUDITING**

The auditing of conformance with this management plan and any conditions or commitments related to environmental management will be conducted on a 12-monthly basis throughout the project's life. The auditing will be conducted as per the Project Audit Schedule (CD490) and is the responsibility of the Senior Environmental Officer – Compliance/Operations.

### **4.4 NON-COMPLIANCES**

Non-compliances identified during the auditing process or through the EMS will be brought to the attention of the Operations Manager and an incident report will be completed. Non-compliances will be reported to the DEC, along with any measures that will be or have been taken to prevent recurrence of the conditions leading to the non-compliance.

### **4.5 REPORTING**

A report describing the performance of the final DCP in working towards its objectives, based on monitoring results, and the extent to which it has been complied with, will be submitted to the DEC each twelve months on the 31<sup>st</sup> March each year. The report will be provided to documented stakeholders and will otherwise be publicly available on request.



## 6. MANAGEMENT COMMITMENTS

Table 6-1 Summary of management commitments for the Decommissioning and Closure of Happy Valley

Environmental Objective	Management Commitment	Monitoring Objective	Record / Evidence	KPI
<p>To ensure that rehabilitation and decommissioning are carried out in a planned sequential manner, consistent with best practice,</p> <p>To ensure that agreed post-mining land-use outcomes are achieved, and</p> <p>To avoid ongoing liability</p>	<p>Prepare a Final Decommissioning and Closure Plan at least six months prior to closure of the site</p>	<p>To assess compliance</p>	<p>Decommissioning and Closure Plan</p>	<p>Non-compliances</p>