



Practical Mine Closure Planning: A Novel and Integrated Approach

Mine Closure and Rehabilitation
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Ivernica

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Company Information

- Magellan Metals and Ivernia relationship.
- Magellan project location.
- Small, open cut lead carbonate mine and processing (concentrate) facility.
- Commissioned 2005.
- Export to customers in Asia.
- Product end uses.



Why plan closure?

- Regulatory
 - EPBC Act.
 - Mining Act.
 - Mine Closure Plan assessment.
 - Mining Proposal Approval.
 - Annual Environmental Review.
- Financial
 - Provision.
 - Audits.



Beginning the Process

What are we honestly trying to achieve?

- Rehabilitation and restoration.
- Prevent or minimise adverse long-term impacts.
- Creation of self-sustaining natural ecosystem or alternate land use.
- Relinquishment.

OR SIMPLY

An approval and
financial return



The First Step

- Identification of stakeholders.
- Approach, consult, understand and continue to communicate.

Do not stop!



How to Approach Planning?

- Proponent needs to decide what they want?
- Magellan sought a closure system which could:
 - Provide clarity in designating closure tasks.
 - Allow progressive updating and tracking of performance.
 - Allow allocation of resources to tasks.
 - Be accessed by anyone and be understood.
 - Be accessible remotely.
- What options are there?
- Static vs Dynamic.



A Dynamic Approach

- A Progressive Rehabilitation and Closure System – PRAC.
- GIS-based software to facilitate shift from hardcopy to electronic management.
- Documents managed spatially.
- Web-based – accessed securely from anywhere.



Key Features

- PRAC manages tasks (e.g., investigative, monitoring, rehabilitation etc.) for each 'project area' on a site.
- Once established, tasks scheduled logically through interactive Gantt chart.
- Progressive work on tasks can be tracked, and disseminated to others for action or review.
- Storage of relevant rehabilitation and closure documents, data and reports in project areas.



Structure

- Project areas and current knowledge base.
- Gap Identification.
- Progressive rehabilitation and closure strategy; including tasks.
- Closure costs estimates.



Benefits – Progressive

- Closure becomes a life-of-mine process.
- Unplanned closure is common.
- Reduction of liabilities.
- Tenement relinquishment slow.
- Improved relationships.
- Rehabilitation well underway.
- Resources available.



Benefits – Management

- Structure. Itemized closure tasks allow structured planning approach.
- Accountability. Ability to assign responsibility to tasks and track performance.
- Progress. Demonstration of progress possible to all stakeholders.
- Compliance. Able to exhibit work undertaken, and provide evidence.
- Records. Work undertaken (data, photos, files) are all linked according to task and project area.

Benefits - Financial

- Recognize potential liability.
- Targeted closure cost estimation.
- Ensure adequate financial provision.
- Allowed ongoing expenditure tracking by 'project area'.
- Demonstrate performance: internally and externally.



Questions?


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