



BEST PRACTICE ENVIRONMENTAL MANAGEMENT IN MINING MINE PLANNING FOR ENVIRONMENTAL PROTECTION

Mine Planning for Environmental Protection

Worksheet 1 Environmental Impacts

List possible environmental impacts associated with mining activities at your mine. Examples are given to help you get started.

Mining Activity	Environmental Impact
Use of haul roads	Air quality (dust)
Blasting	Noise and vibration



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Worksheet 2

Mine Planning

Case Study

A new gold mine in the Eastern Goldfields of Western Australia assigned the site works to a contractor. Woodland vegetation needed to be cleared to allow for the establishment of a heap leach pad, a crusher, process plant, offices and workshops. The clearing activity was not undertaken with close reference to the site plans and consequently a much larger area than necessary was cleared. This resulted in dust problems during the hot summer months and a need to rehabilitate substantial areas early in the life of the operation. Initial rehabilitation efforts were not successful and needed to be undertaken again. Failure to carefully plan clearing activities resulted in unnecessary environmental and occupational health issues and additional costs.

Questions

1. What other environmental, social or economic impacts may have occurred as a result of excessive land clearing in this case?

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2. How could this mining operation been better planned to avoid this situation?

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3. Identify the construction, operational, and future impacts at this mine.

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4. What pollution prevention control measures could be used to address the air quality problem at this mine?

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Worksheet 3

Mine Planning: Pollution control

Identify pollution control measures related to activities or environmental issues at your mine site – an example is give to help you get started.

If there are no pollution control measures in place make suggestions for how this may be addressed.

Activity	Pollution Prevention Control
On site ore concentration or smelting	<ul style="list-style-type: none">• recycle process liquids•••
Noise generation	<ul style="list-style-type: none">• limit night-time activities•••
Air quality	<ul style="list-style-type: none">• use water tankers for dust control•••
Water pollution	<ul style="list-style-type: none">• separate clean water from contaminated run-off•••



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Worksheet 4

Mine Planning

Case Study Questions

- What environmental or social impacts were identified in this case study?
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- Group these impacts into each of the phases of the mine life cycle.
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- What planning solutions were or could be found to address each of these impacts?
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- What pollution prevention controls were or could be implemented to address the impacts you have identified in this case study?
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- How did community consultation play a role in mine planning in this case study?
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OR

- Could community consultation have been better addressed in this case study, and how do you think the outcome would have changed?
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