



Rehabilitation – Can We Do Better?

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Panel Hearing Inspection



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Panel Hearing



Panel Hearing



Google-up Your Local Quarry

Residents check the status of surrounding quarries from their living room.



Rehabilitation Presentation to Panel

- Fine materials hard to stabilise
- Extreme hazard if eroded to creek life
- Impossible to re-vegetate until land form finalised
- Rehabilitation of quarries *very rarely attempted*
- Mostly *not feasible*

Our Industry's Future



- With no progressive rehabilitation or
- Substandard rehabilitation
- You're not looking after the future of our industry!!!

The Pitfalls

– Soils

- Regularly sold
- Used for short-term gains
- No soil budgets
- Insufficient subsoil



The Pitfalls

– Final Landforms

- Too steep
- Un-natural slopes
- Not conducive to retain water



The Pitfalls

– Water Management

- Inappropriate structures
- Final water levels – safety issues
- Changed catchment areas



The Pitfalls

– Revegetation

- Emphasis on greenery only (not genuine biodiversity)
- Trees planted and forgotten
- Weeds overlooked



The Pitfalls

– Ecological Values

- What habitat creation?
- Effective wildlife corridors
- Survey data to establish fauna re-appearance



The Pitfalls

– Visibility

- Geometric landforms created
- Revegetation in straight lines
- Rubbish left behind



The Pitfalls - Why?



1. Not enough emphasis by Company Management
2. Inappropriate rehabilitation planning – short term / long term
3. Insufficient funds

The Pitfalls - Why?



4. Quarry personnel not trained
5. Managers move on
6. Insufficient emphasis/follow up by regulators

The Rehabilitation Quiz



1. Do you fully understand your rehabilitation obligations in your quarry's approval and/or your lease with the landowner?
2. Do you have a comprehensive staged rehabilitation plan for your quarry?
3. Is your rehabilitation progress consistent with your approved plan?

The Rehabilitation Quiz



4. Are you rehabilitating your quarry with an end use in mind?
5. Do you have a rehabilitation budget for your quarry?
6. Are you setting aside a provision for rehabilitation of your quarry?
7. Do you maintain an inventory of materials required for site rehabilitation?

The Rehabilitation Quiz



8. Do you monitor and document the progress of your rehabilitation?
9. Are the plants being used for revegetation of your quarry endemic species?
10. Are your Company personnel trained to undertake rehabilitation activities?

Conclusions



- Our rehabilitation legacies will only provide ammunition for future opponents
- We need leadership from management – for best practice
- Rehabilitation is an integral quarry component – not an after-thought – please plan!
- Training is desperately needed

Conclusions



Quarry Rehabilitation

**Our industry will benefit
when we do better!**

Rehabilitation - Can We Do Better?



David Kitto

Director

Major Development Assessment



NSW GOVERNMENT
Department of Planning

Department of Planning's Role

- EP&A Act
- Primary responsibilities:
 - * Plan-making
 - * Development Assessment
- Growing role in the regulation of major quarries in NSW
 - * Penrith Lakes/Kurnell
 - * State Significant Development (> 200,000 tonnes/yr)
 - * Part 3A – Major projects



Current Trends

- Major Closures
 - Prospect, Penrith Lakes, Kurnell
- Increase in Scale of Quarry Operations
 - Lynwood, Marulan South, Bass Point
- Accumulation of Quarries in Certain Areas
 - Marulan, Albion Park/Dunmore,
 - Stockton, Somersby & Maroota
- Offsets
- Community Expectations



How should we respond?



NSW GOVERNMENT
Department of Planning

Guidance

- ANZMEC & Minerals Council:
 - Strategic Framework for Mine Closure
- Commonwealth Leading Practice Guidelines:
 - Mine Rehabilitation
 - Mine Closure & Completion
- International Council on Mining & Metals:
 - Planning for Integrated Mine Closure: Toolkit
 - Financial Assurance for Mine Closure & Reclamation



Action Plan

- Guidance
 - Stakeholder involvement
 - Planning
 - Financial provision
 - Implementation
 - Standards
 - Completion/Sign off
- Audits
- Final Assurance

