Department of Primary Industry and Resources

Rum Jungle Rehabilitation – Stage 2A

Jackie Hartnett – Principal Project Manager

NORTHERN TERRITORY GOVERNMENT

Presentation

Acknowledgements: Kungarakan and Warai

1. History
2. Project Deep Dive – Acid Mine Drainage
3. Rehabilitation Objectives and Strategy
4. Close Out
5. Questions

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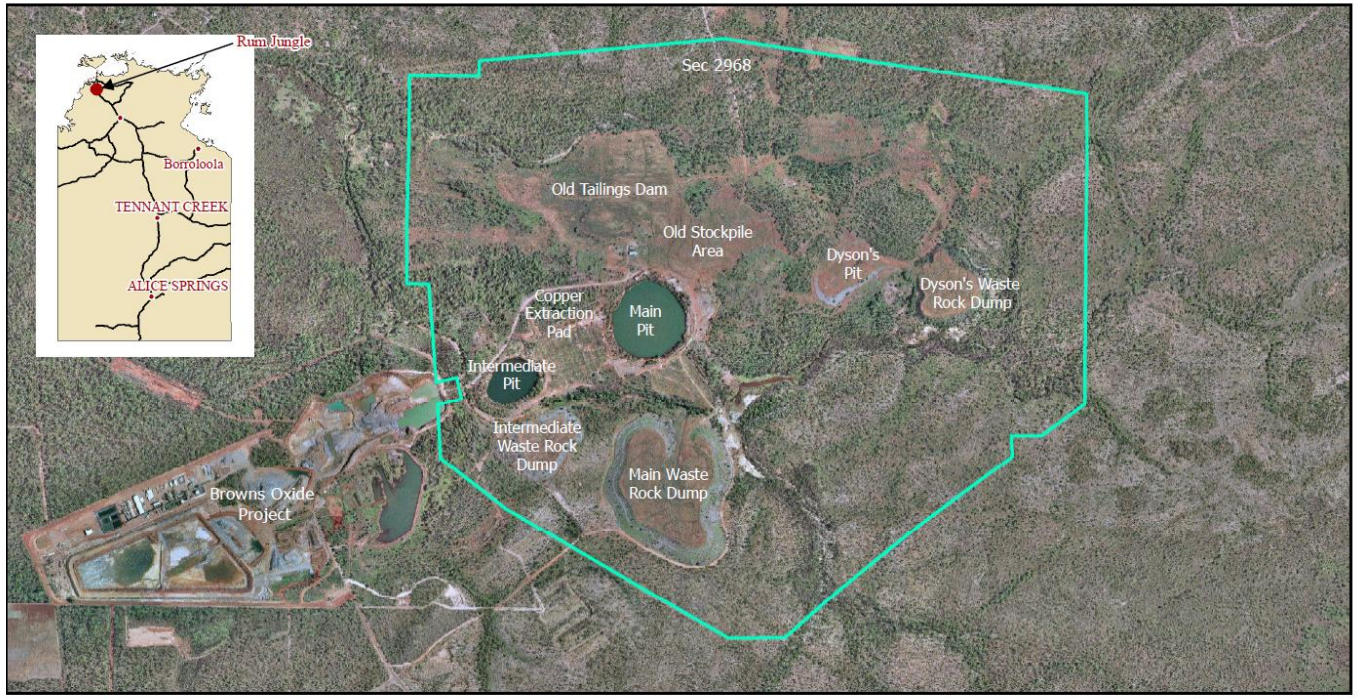
Rum Jungle – Former Uranium and Copper Mine located near Batchelor

- Mined during from the 50's to70's.
- Crown Land
- Land Under Claim (Finniss River Aboriginal Land Trust
- Mined prior to *Aboriginal Land Rights Act* and *Sacred Sites Act*



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Rum Jungle Legacy Mine

Oblique: Main and Intermediate Pits and WRDs

Dysons Backfilled Pit

Salt scalding Dysons WRD

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Project Introduction

- Remediation took place in the early 1980s
- World leading rehabilitation works at the time
- Aimed to reduce contaminant load to the East Branch Finniss River by 70%.
  - Achieved this goal and still does today.
  - River health recovery is being observed
- By modern standards the remediation work can be improved to:
  - Expedite river health recovery and improve long term safety, stability
    - Acid Mine Drainage causing downstream ecosystem health impacts
  - Incorporate cultural needs
  - Improve environmental performance

Drive for a New Remediation Plan

Commonwealth entered a Project Agreement with the NT to develop a remediation plan for the former Rum Jungle Mine.

- Objectives:
  - Reduce Acid Mine Drainage impact to East Branch Finniss River.
  - Progress resolve the Land Claim over the Rum Jungle site.
- Current Impacts:
  - East Branch Finniss River significantly impacted by Acid Mine Drainage
  - Culturally insensitive landforms that can not safely be restored fully to their original condition.

Project Stages

- Stage 1 – Research, Environmental Monitoring, Consultation
- Stage 2 – Concept Delivery, Refined Remediation Plans, Consultation
- **Stage 2A – Project 2020 Deliverables Due:**
  - **Environmental Impact Statement, Detailed Business Case and Detailed Engineering Design**
- Stage 3 – Construction, Stabilisation and Monitoring
- Stage 4 – Longer Term Monitoring

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Acid Mine Drainage

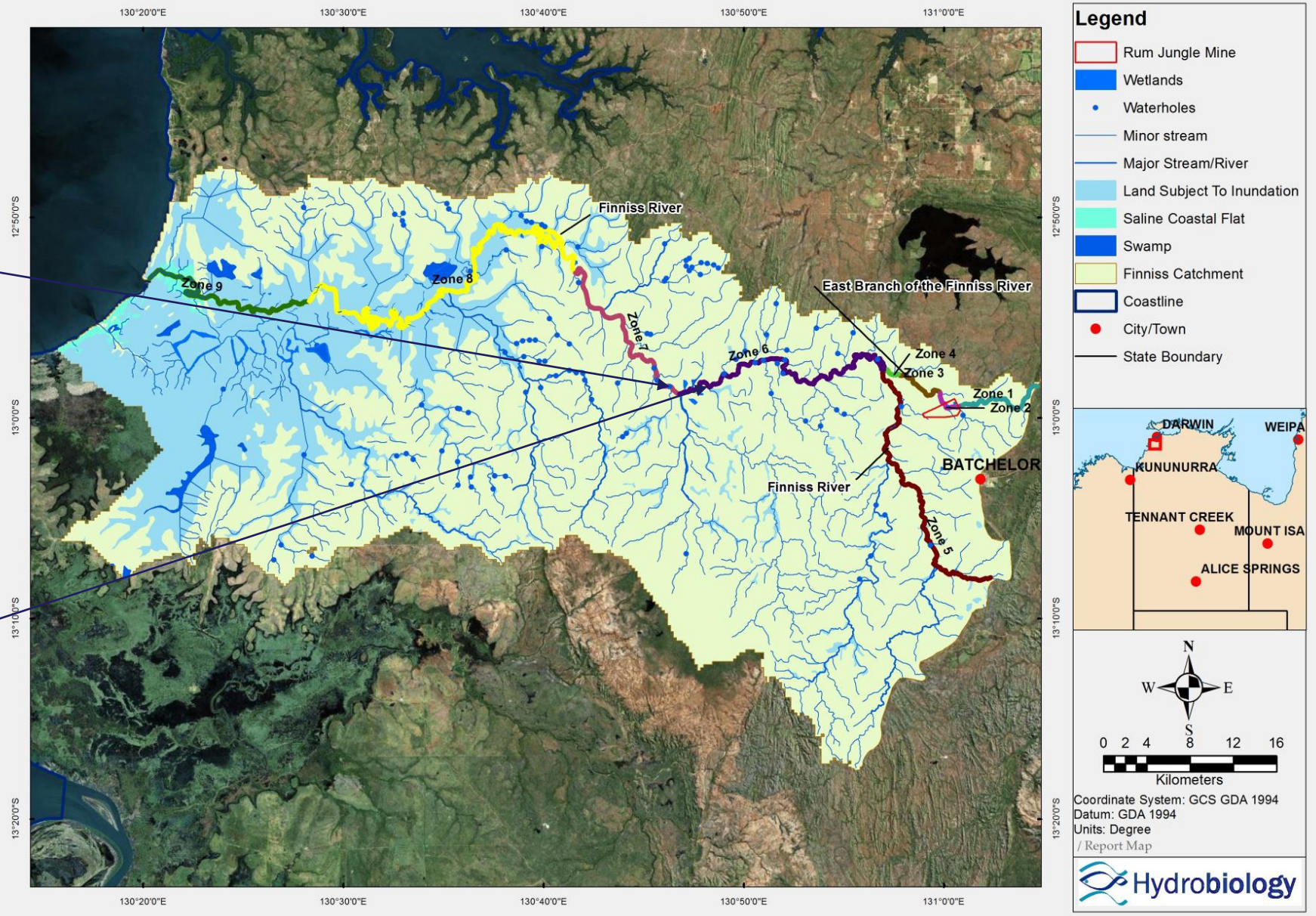
Primary contributions of pollution to water quality of the East Branch Finniss River (EBFR):

- AMD produced by Waste Rock
- AMD impacted groundwater, surface waters reporting to the EBFR

White sulphate salts precipitate throughout the dry season and provide a clear indication of where the surface expression of seepage occurs from all WRDs.

First Flush

- Elevated Cu Concentration first flush to here
- Elevated Co, Mn, Ni, Zn concentrations first flush to here



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Rehabilitation Objectives and Strategy

Improve the environmental condition on site and downstream of site within the EBFR.

- Address Acid Mine Drainage:
  - Waste rock re-stored in new facilities
  - New methodology: thin 0.5m lifts, lime dosing, compaction
  - Cover system reduces O_2 influx, water infiltration and provides for vegetation cover
  - Surface drainage system and erosion control features.
- Remediation of residual AMD impacted groundwater:
  - Pump and treat system on groundwater that's currently impacted

Rehabilitation Objectives

Improve site conditions to restore cultural values as far as possible and support future progress of the Finniss River Land Claim over the Rum Jungle site:

- Restore the flow of the EBFR to original course as far as possible.
- Return living systems including endemic species to the remaining landforms.
- Preserve Aboriginal cultural heritage artefacts and places.
- Isolate sources of radiological hazards.
- Maximise opportunities for Traditional Owners to work on site to aid reconnection to country.

Close Out

- Environmental Impact Statement being submitted to NT EPA very near future
- Opportunities for this project to be utilised as a case study for future operating and legacy sites
- Open to sharing lessons learned from the development of this project as we progress

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Thank you

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