



History of the sand ponds

- Sand originated from cyclone separation of 'red sand' from the process
- Ceased separation 10 years ago (now goes to red mud dam)
- The sand was deposited with seawater approx 2 – 3m thick on top of the existing boiler ash deposits

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Revegetation to date

- Revegetation over last 10 – 15 years included mostly grass and some trees
- Predominantly Rhodes grass which is slashed, baled and spread over bare areas to prevent dusting
- This process has improved grass coverage however some small bare areas due to water pondage
- The aim was to get 75% coverage with grass
- Trees were planted in some areas particularly for screening purposes

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Bio-solids trial

- A commercial forestry trial was established on the sand dams in February 2001 using bio-solids placed in a trench, covered with topsoil and then planted into.
- The trial found that unless there was a large effort on maintaining the trees, grass quickly out-grew trees and killed seedlings. Those trees that did survive were much larger than the trees without bio-solids.
- However, subsequent general planting into an adjacent mulched site appears to have produced superior growth. At this point in time there are no plans to undertake broad-acre commercial forestry on QAL. ¹

¹ QAL closure plan rehabilitation strategy – Global soil systems

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Species list for sand ponds

- *Casuarina equisetifolia* * (most successful)
- *Casuarina glauca* *
- *Eucalyptus tereticornis* *
- *Eucalyptus camaldulensis* *
- *Eucalyptus robusta*
- *Eucalyptus citriodora*
- *Eucalyptus cloeziana*
- *Hibiscus tileaceous*
- *Melaleuca quinquinervia*

Those plants without an asterisk can only be used if mulch is available

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Critical factors to success

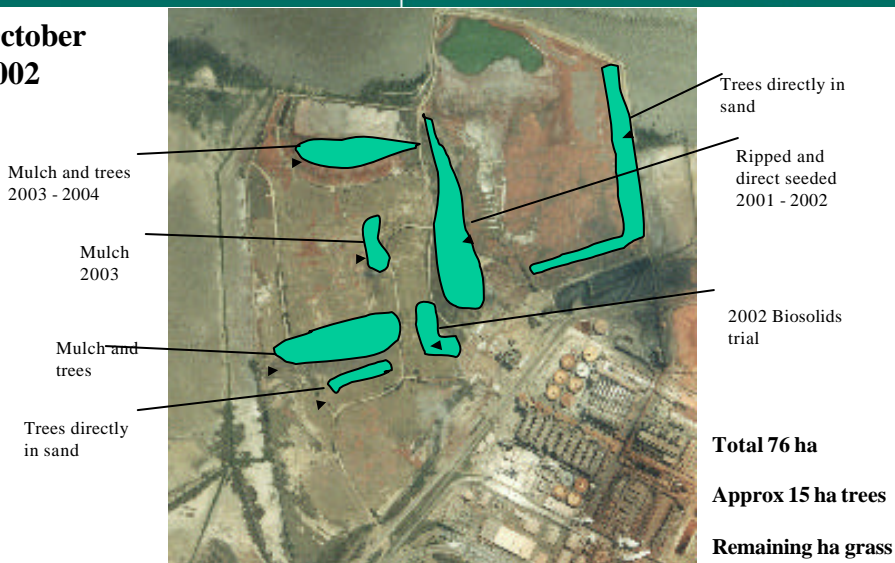
- Sand is too free draining – mimics drought like conditions for plants
- Ponding in heavy rainfall causes waterlogging in some parts
- High wind exposure
- Competition for tree growth from grass
- Animal browsing
- High salinity, sodicity² and low nutrients

² Sodcity is when the soil is saturated with sodium (salts) which is toxic to plants, and impacts the dispersive nature of the soil – preventing further water infiltration (and salt leaching)

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Future revegetation goals

- Use mulch where available – new areas and established trees
- Selectively use topsoil on problem areas
- Develop minimum maintenance and vegetation systems
- Continue research into better solutions
- Establish deep rooted trees to try and ameliorate substrate conditions over time
- Review drainage systems to prevent ponding
- Encourage rainwater leaching to reduce salt in top layers
- Establish acceptance criteria based on dust, water quality etc

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Tree planting committee

- Last year's goal was 2000 trees – we only achieved 1150 due to availability of trees.
- 2005 goal is 3000 to make up for last year
 - Up to four planting sessions to spread out the workload
 - First planting session date still to be decided

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