



# Environmental studies

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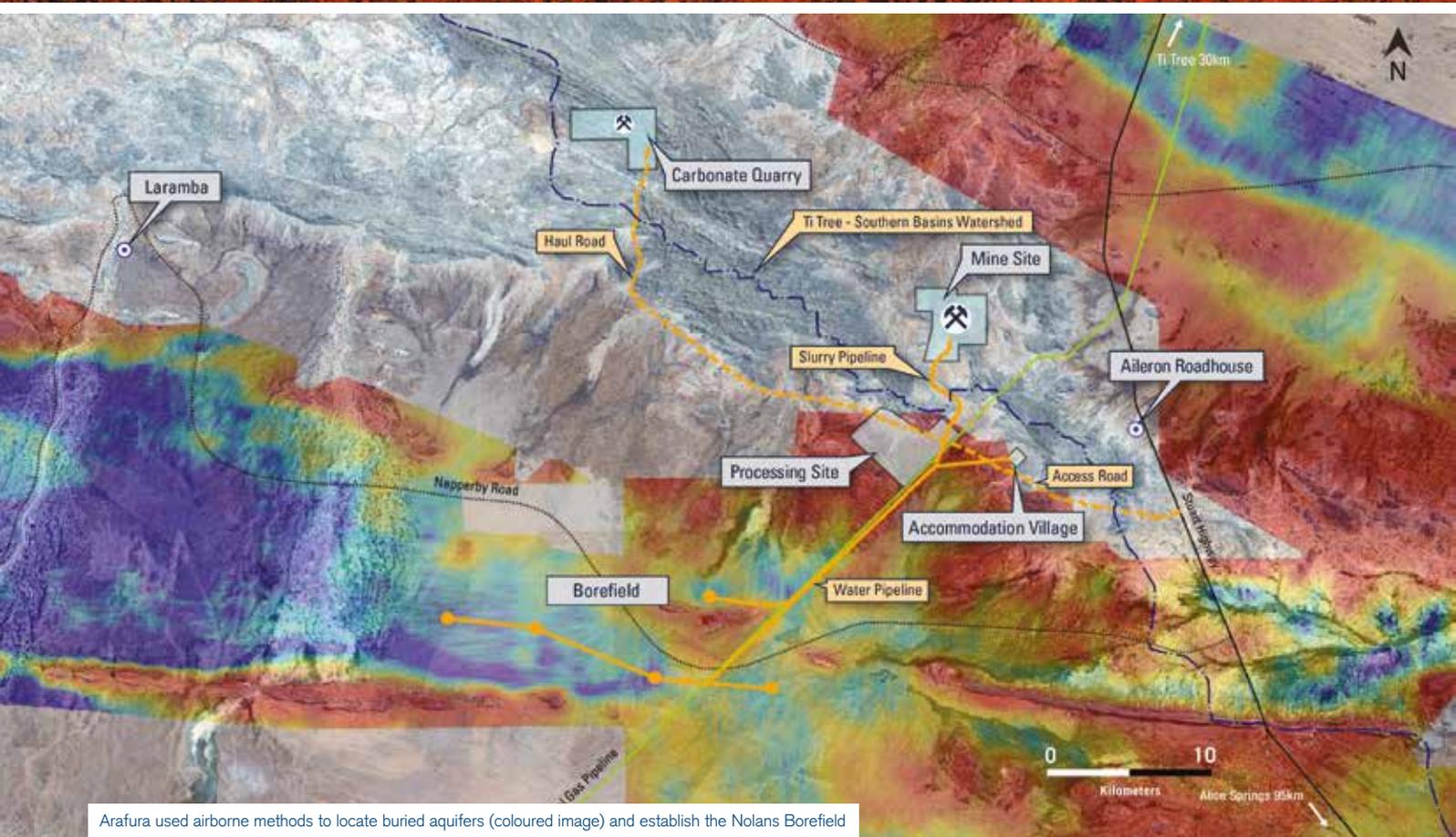
A key part of planning for the Nolans Project is getting the necessary environmental approvals.

June 2016



ARAFURA  
RESOURCES LIMITED

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## OVERVIEW

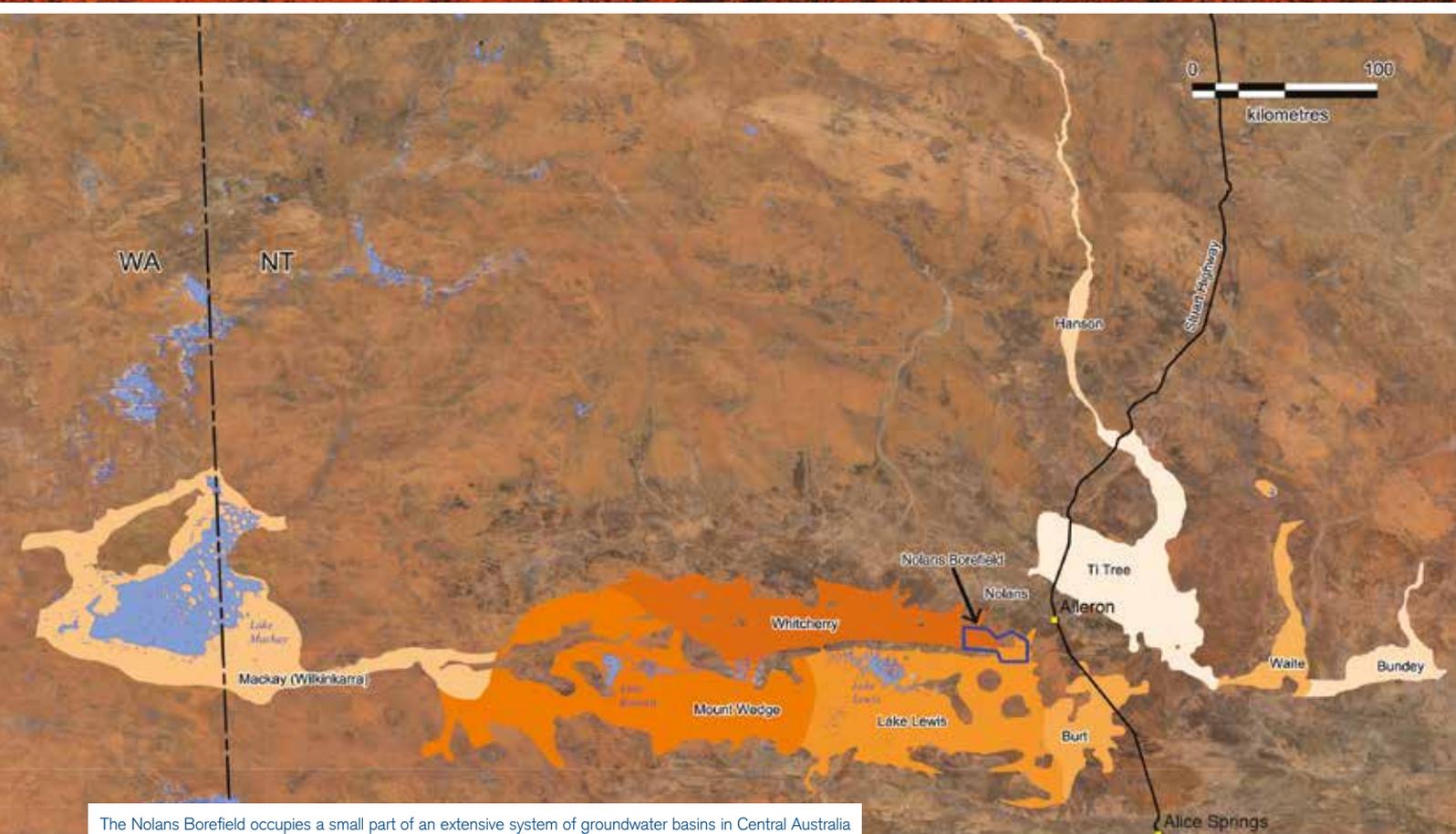
In May 2016 Arafura Resources lodged the Environmental Impact Statement (EIS) for the Nolans Project with the relevant Northern Territory and Australian government agencies. The EIS presents the results of a large number of detailed studies including:

- ▶ the plants and animals of the area, including vulnerable species such as the Black Footed Rock Wallaby and the Great Desert Skink, and how they will be affected by the operation
- ▶ social impacts, or what the project means for people, families and communities in the area: from getting work at the mine and processing operation to concerns about how their neighbourhood might change with higher levels of disposable income and an influx of workers
- ▶ traffic studies to outline what extra trucks and other traffic will be on the road, what this means for other road users and for the maintenance of existing roads
- ▶ culture and heritage studies to understand if there are sites that need to be protected and how the project might affect ties Aboriginal people have with the land, water and special sites
- ▶ radiation studies to show how risks to workers and the public will be managed, short and long-term
- ▶ studies of creeks and groundwater aquifers, including how much water will be needed, how this impacts on the environment and other users and making sure there are measures in place to minimise the risk of any pollution
- ▶ dust and noise
- ▶ rehabilitation studies to show what happens when the operation closes and how cleared land will be revegetated and looked after during and after mining.



Ti Tree Ranger Matthew Jungala assisting with biodiversity studies\*

\*Photos supplied by the Central Land Council



The Nolans Borefield occupies a small part of an extensive system of groundwater basins in Central Australia



Arafura consulted widely in preparing the EIS. It listened to what people had to say and has shown in its EIS report to the Northern Territory Government and stakeholders, how the community's views were taken into account.

The company wants to ensure the Nolans Project is sustainable. This means balancing community, corporate, environmental and economic aspects of the project.

## WATER

Aquifers are like large underground lakes, but instead of running like a river, the water is held in permeable sediments and rocks. When the water is pumped out at bores, water levels in the aquifers can drop. This water is replaced by rainfall and seepage, sometimes a long way from the borefield.

To look after these aquifers we need to know how much water is stored in them, who uses it (including the environment), how much is replaced by rain, how quickly it is replenished and how much salt or other naturally occurring elements the water contains.

Arafura had planned to draw water from the Ti Tree Basin Aquifer north-east of the project, which is also used by local communities and horticulture.

Following the discovery of large aquifers on Aileron and Napperby stations south-west of the processing site, the company is unlikely to need water from the Ti Tree Basin. This is good news for the local horticultural industry, pastoralists who need water for cattle as well as for communities who don't have enough good quality drinking water.

It also gives Arafura access to all the water it needs for the Nolans operation. Our studies suggest these aquifers are recharged by rainfall and seepage. They are a small part of an extensive interconnected groundwater basin system running hundreds of kilometres to the west, which means our water use should have little long-term impact.

All this has been explored in the EIS studies, along with studies of local creeks, which way the water flows, what happens if a creek is diverted, what would

happen in heavy rainfall events and how to manage everything at the operation to avoid offsite contamination.

## TRANSPORT

An important study describes the transport of an estimated 190,000 tonnes of raw materials, including chemicals, to the Nolans operation each year. They will arrive in Alice Springs by train, before being trucked 135 kilometres up the Stuart Highway to the site.

This means 2-3 road trains transporting freight into and out of the site on a daily basis. Arafura will develop a traffic management plan, safety plans and emergency response procedures to ensure that the transport activities of the project are well-managed and all associated risks mitigated.

Liquid chemicals will arrive at the Port of Darwin in bulk liquids containers and shipping containers. Sulphur will come in as a bulk product and be reloaded into shipping containers for rail transport to Alice Springs.

A logistics operation in Alice Springs will coordinate the inbound transfer of



Road transport is a key EIS study



Groundwater drilling south-west of the Nolans Processing Site



Weather station at the Nolans Mine Site



Ti Tree Rangers Nathaniel Dixon and Matthew Jungala assisting with biodiversity studies\*



Black Footed Rock Wallaby



Water monitoring station in Kerosene Camp Creek