

Pilliga East Forest Mining Precinct

The NSW Status Report project is an initiative by the Land and Water Commissioner in response to community concerns about monitoring and impacts from coal mining and coal seam gas projects. The reports bring together data from multiple sources (both government and industry). The aim of the report is to help readers understand the long-term trends.

All enquiries about this report should be directed to the NSW Land and Water Commissioner:

commissioner@landandwater.nsw.gov.au or
(02) 6391 3429.

Only data reported as raw figures on company websites has been displayed. For more information on company data visit:

- **Narrabri Coal Mine**
www.whitehavencoal.com.au

For more information on licensing, project approvals and NSW Government data, see the following:

NSW Department of Planning and Environment
www.planning.nsw.gov.au

Division of Resources and Geoscience
www.resourcesandenergy.nsw.gov.au

NSW Environment Protection Authority
www.epa.nsw.gov.au

NSW DPI Water
www.dpi.nsw.gov.au

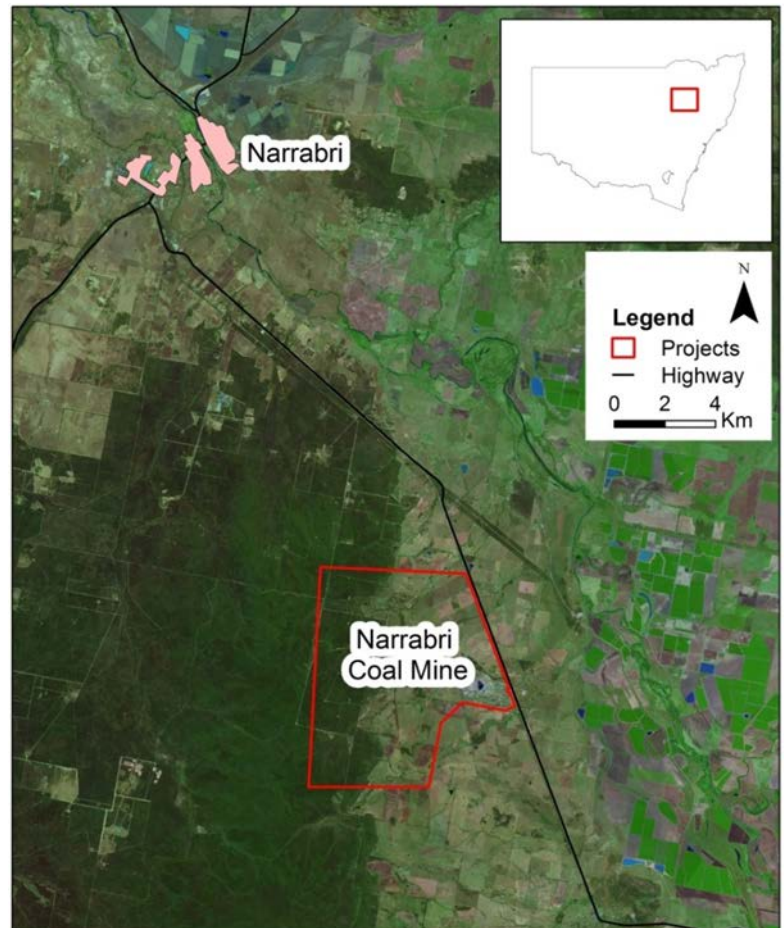


Figure 1. Map of Pilliga East Forest Mining Precinct

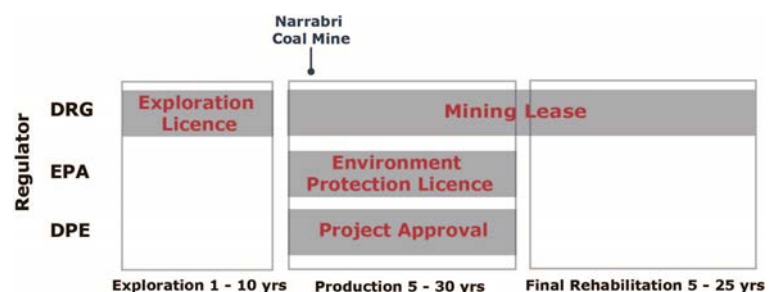


Figure 2. Indicative timeline for Pilliga East Forest Mining Precinct

Status Report—November 2017

Pilliga East Forest Mining Precinct

Projects

Table 1. General data on Narrabri Coal Mine

Item	Data
Type	Longwall underground coal mine
Rate of extraction limit	11 million tonnes of coal per year
Operator	Whitehaven Coal Limited
Commenced	2008
Local or state government approval	State
Project approvals	2007 (PA05_0102—surrendered) 2010–2031 (PA08_014—current), six modifications
Current applications for planning approvals	0
Rights to mine	ML1609
Environment Protection Licence	EPL125789 (from 2008 with nine licence variations), one current application for variation
Water licences	Licensed to take and monitor surface water and groundwater
Native vegetation approval	N/A
Other	20 longwall panels approved

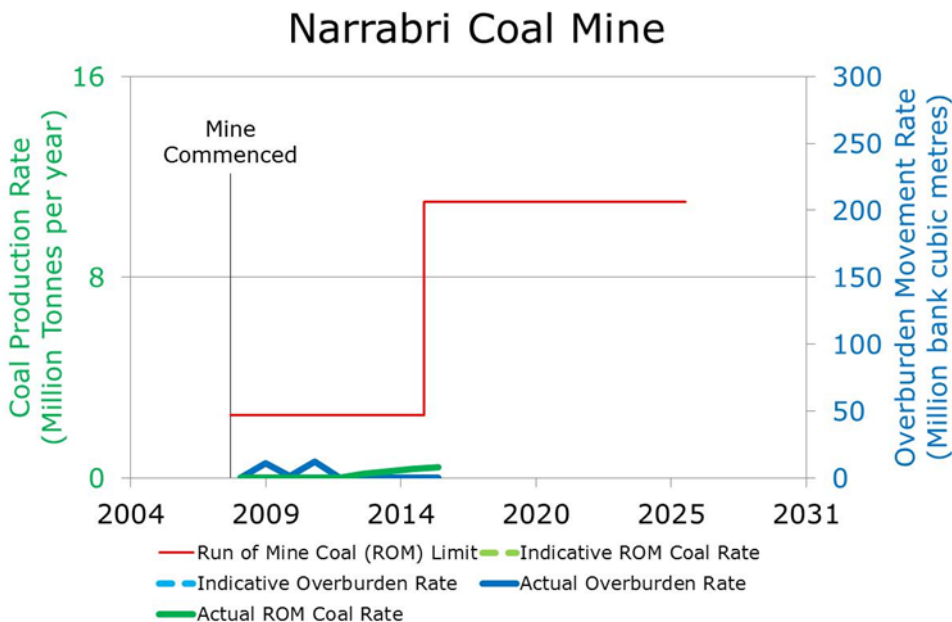


Figure 3. Timeline for Narrabri Coal Mine

Dust

Predicted dust impacts

- Project approvals are based on predicted dust impacts. Once operational, projects must monitor dust to demonstrate actual air quality levels. PM10 is dust in the air that is 10 micrometres or less in diameter.

Dust monitoring

- PM10 dust can be monitored using a high-volume air sampler (HVAS) or tapered element oscillating microbalance (TEOM).
- Monitoring results represent dust generation from all activities in the region including mining, agriculture, utilisation of unsealed roads and regional events such as dust storms and bushfires.

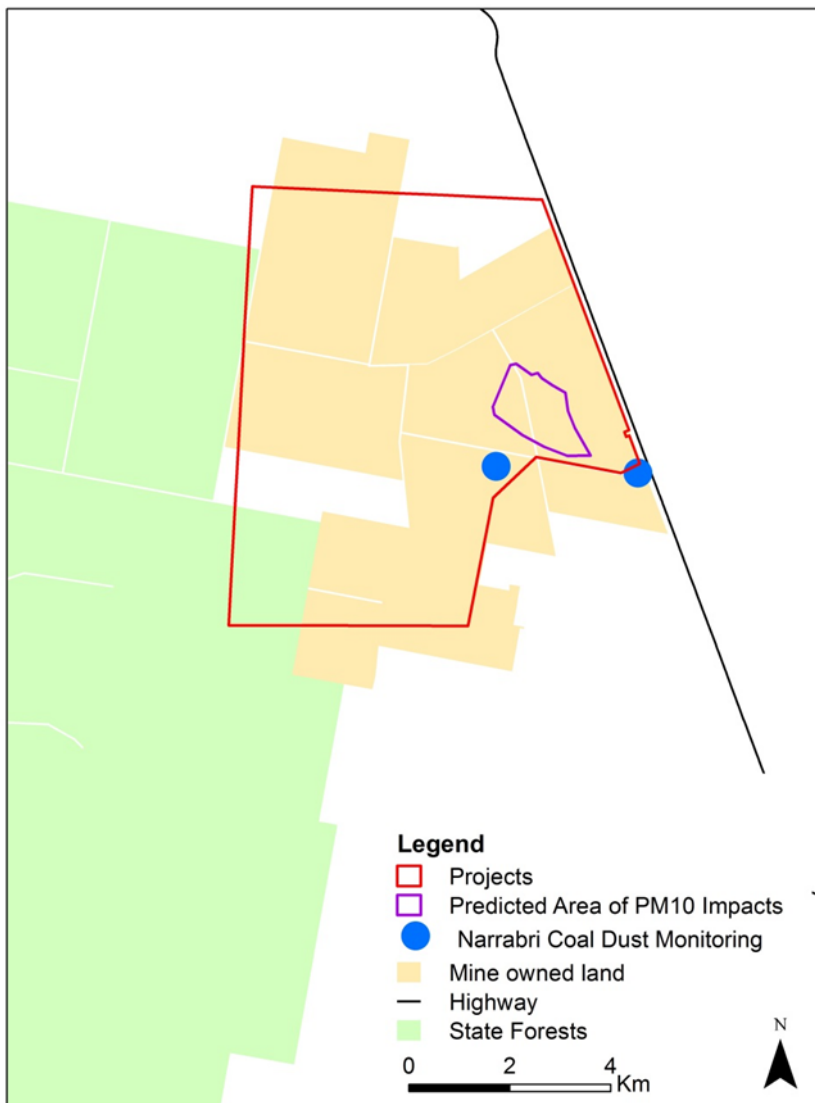


Figure 4. Dust monitoring locations

Dust levels

Australian air quality standards are detailed in the [National Environment Protection \(Ambient Air Quality\) Measure](#) (NEPM). The NEPM requires the NSW Government to monitor air quality and this helps to identify potential air quality problems.

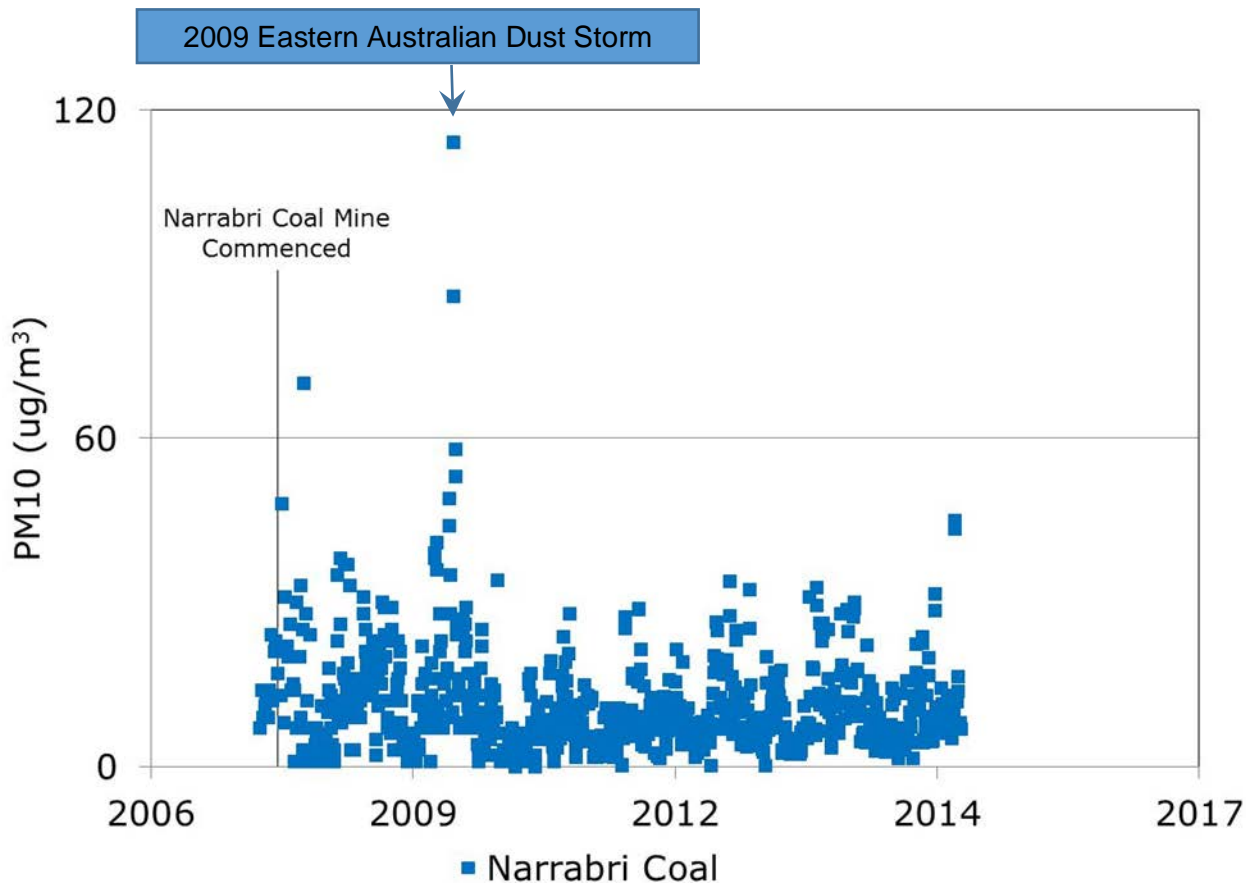


Figure 5. Dust levels from 2006 to 2017

Notes:

- Only raw data is used.
- Each dot is the total dust for that day at that site.

Noise

Predicted noise impacts

- Noise from operations may sometimes be audible at nearby residences.
- Project approvals and environment protection licences set noise limits and these apply at private residences.

Noise monitoring

- Some operations carry out both attended and unattended (continuous real-time) monitoring for noise.
- Attended monitoring results are used to determine compliance with limits as the contribution noise from the operation can be determined with the level of certainty necessary.
- Noise results often need to be analysed to establish the contribution the project has made to the total noise recorded at that site.
- Weather affects noise propagation and must be monitored in conjunction with noise.

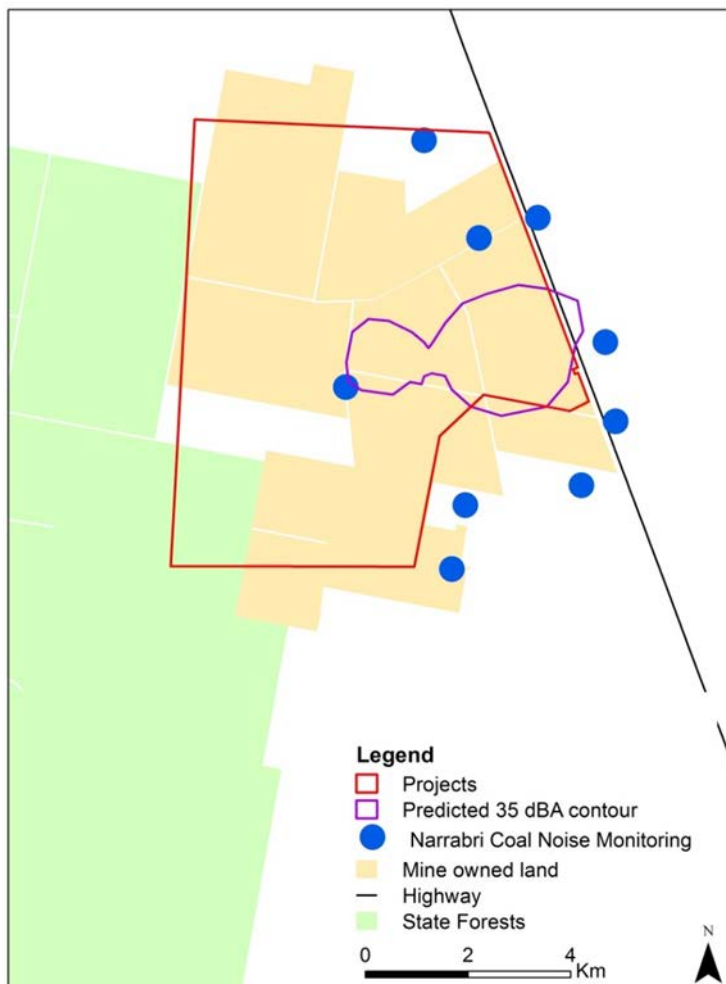


Figure 6. Noise monitoring locations

Noise levels from projects

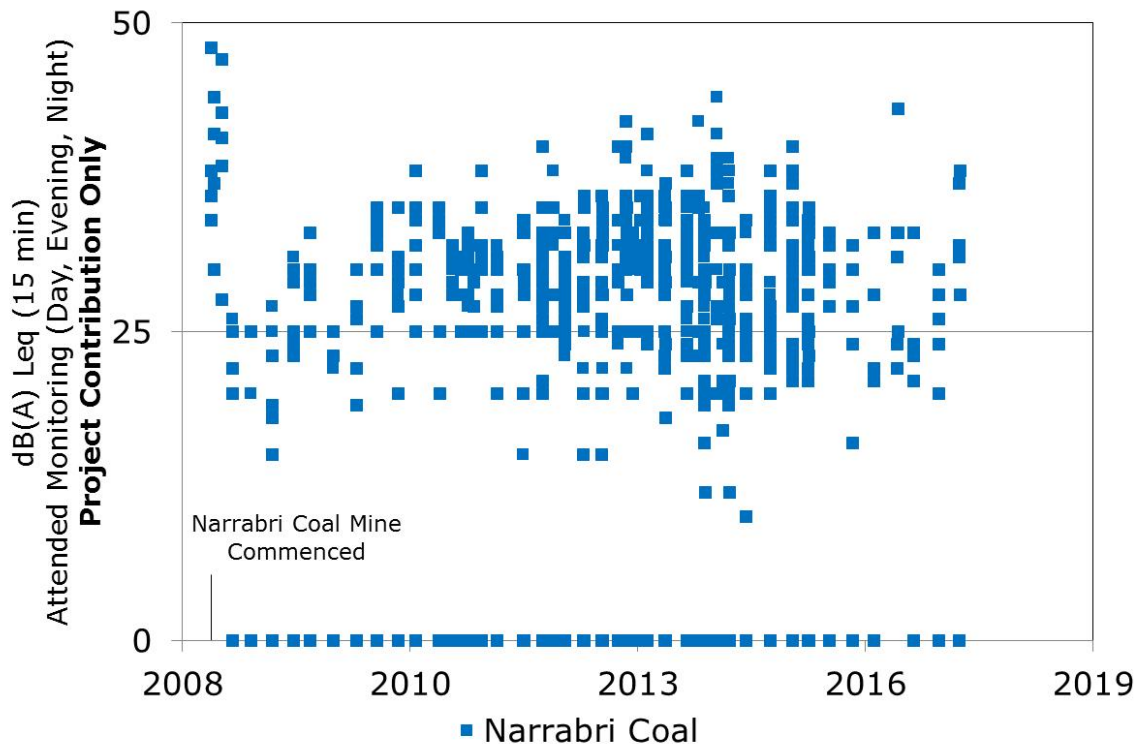


Figure 7. Noise levels from 2008 to 2016

Notes:

- The [NSW Industrial Noise Policy](#) is aimed at assessing noise from industrial noise sources. The NSW Government uses this policy when setting statutory limits.
- Each dot is a noise monitoring sampling event.

Water

Water licensing

- Water licences are required before water is taken from either off-site surface water sources (for example, active pumping from a river) or groundwater sources (for example, groundwater seeping into open-cut voids).
- Water management is undertaken in accordance with approved water management plans and the project approval.
- Water is used on-site for dust suppression, mining operations and construction.
- Environment Protection Licence conditions are required to be met prior to discharging any water from the site into the surrounding environment.

Water monitoring

- Projects are required to have a network of water bores to monitor impacts from projects.
- The NSW Government monitors surface water and groundwater in the North West Region of NSW.

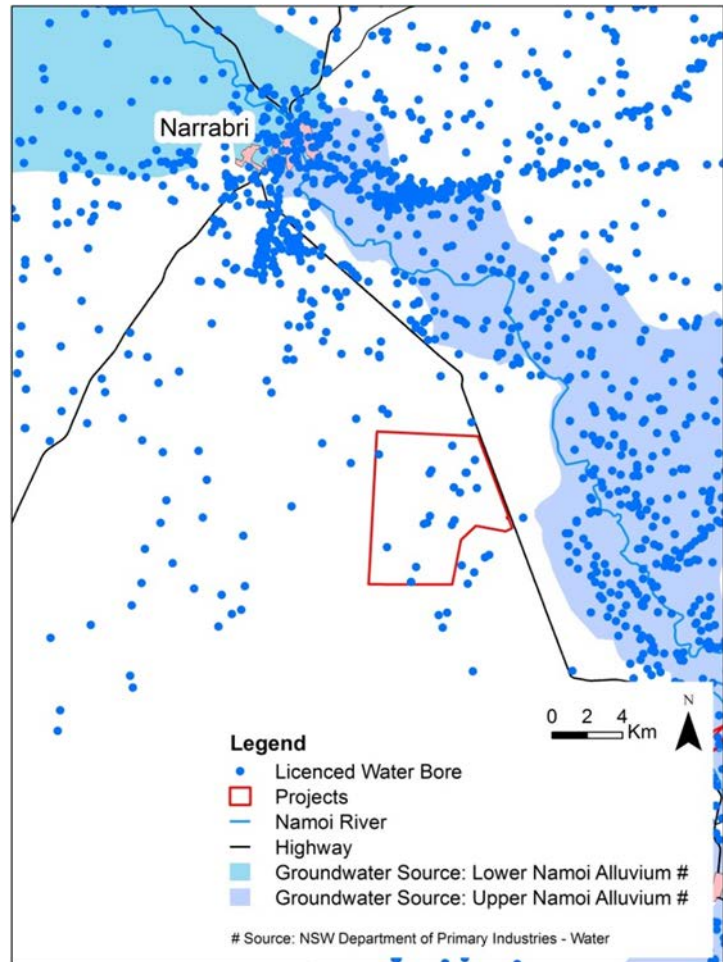


Figure 8. Licenced water bore locations

Groundwater (Aquifer)

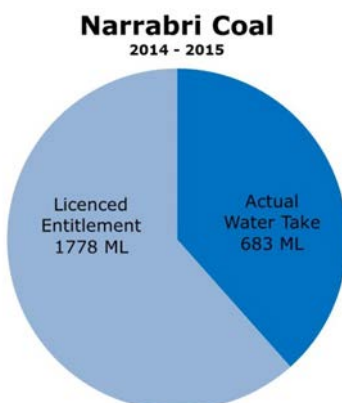


Figure 9. Licenced entitlement for the project

Regulated river water (high security)

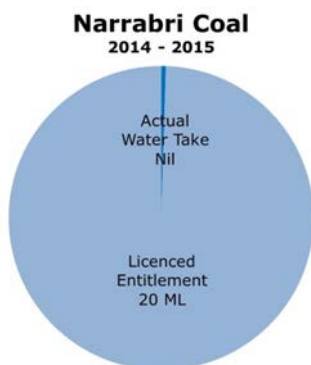


Figure 10. Licenced entitlement for the project

Regulated river water (general security)

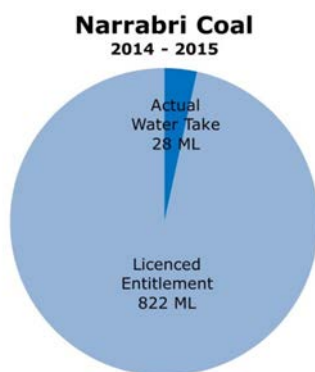


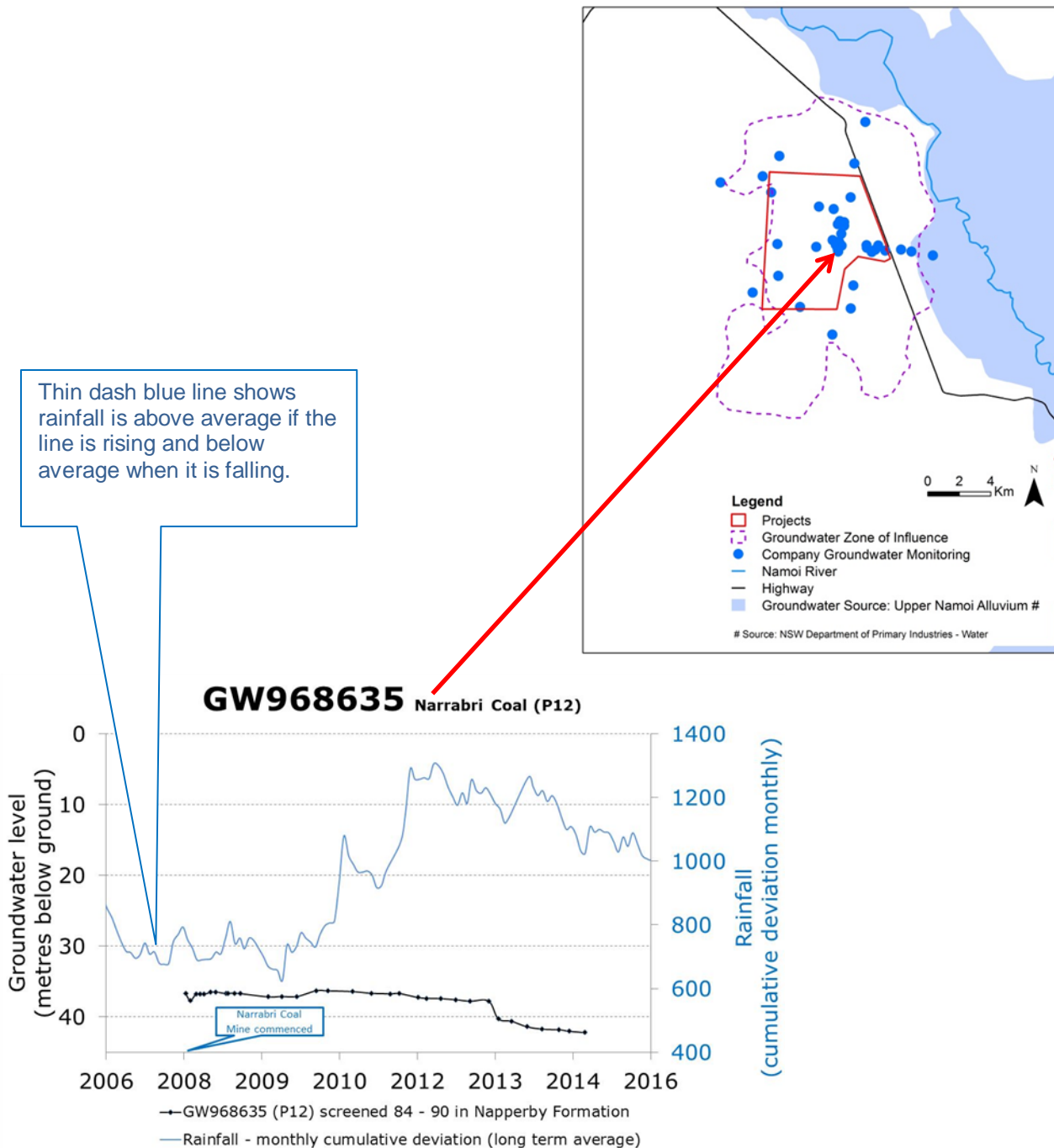
Figure 11. Licenced entitlement for the project

Regulated river water (supplementary water)



Figure 12. Licenced entitlement for the project

Company monitoring of groundwater levels



Rainfall from near Narrabri (station 553026) is calculated from monthly data, using the long term monthly averages (from 1926 to 2016)

Figure 13. An example of company groundwater monitoring

Notes:

- This document only includes a few examples for groundwater monitoring sites.
- Visit company websites for more information on groundwater monitoring.

NSW Government monitoring of groundwater levels

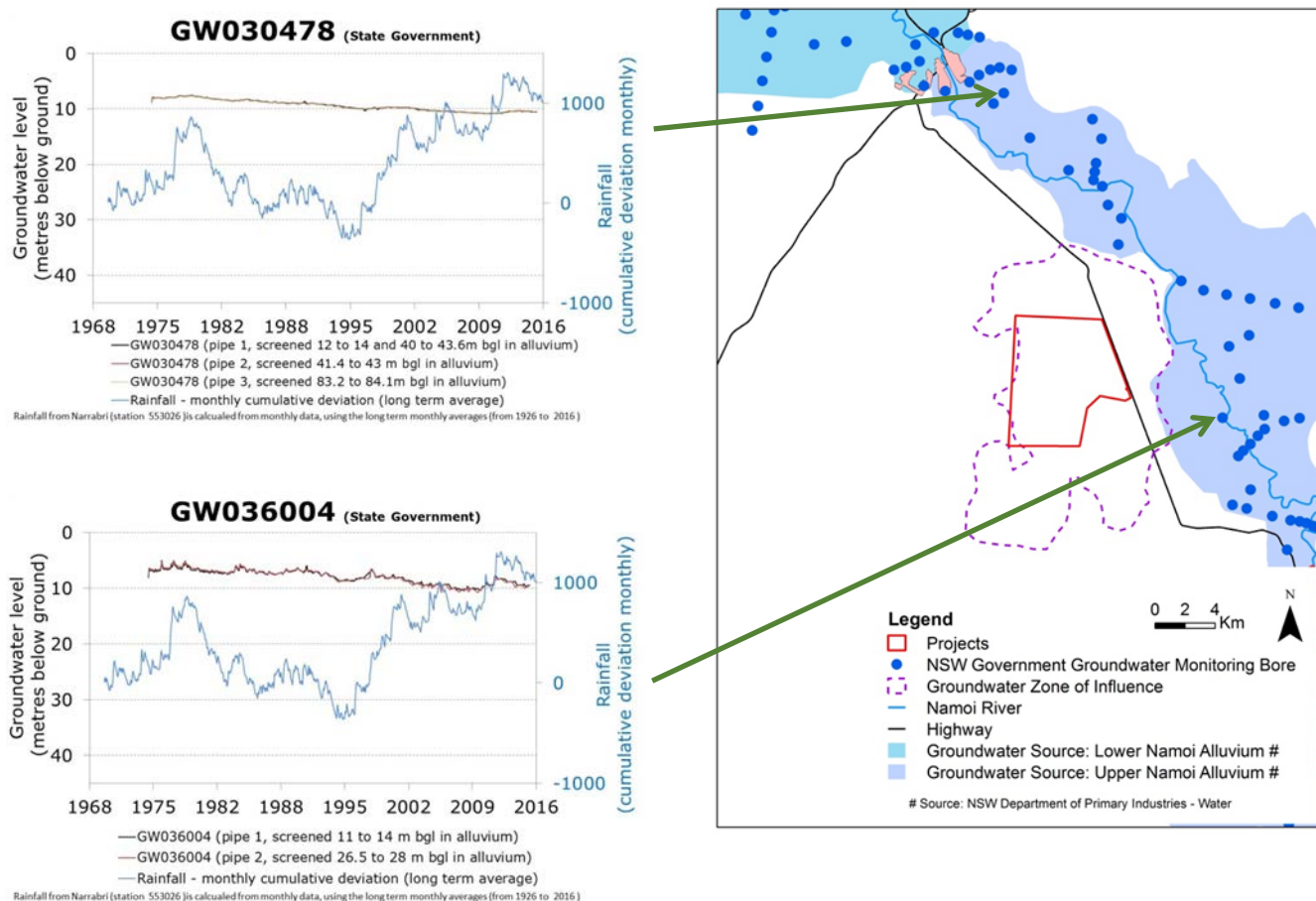


Figure 14. Two examples of NSW Government groundwater monitoring

NSW Groundwater Baseline Project

The Groundwater Baseline Project gathers data on water rights, licencing and use across the Gunnedah region. For more detailed information, visit www.industry.nsw.gov.au and search for 'Land and Water Commissioner'.

Rehabilitation

Rehabilitation requirement

- Project approvals are based on rehabilitation outcomes described within the project approval application.
- Rehabilitation activities are required to be progressively carried out during the life of a project.

Rehabilitation security

- A rehabilitation security is held against every project. The NSW Government can use the security to carry out rehabilitation activities if required. The security estimate is regularly reviewed.

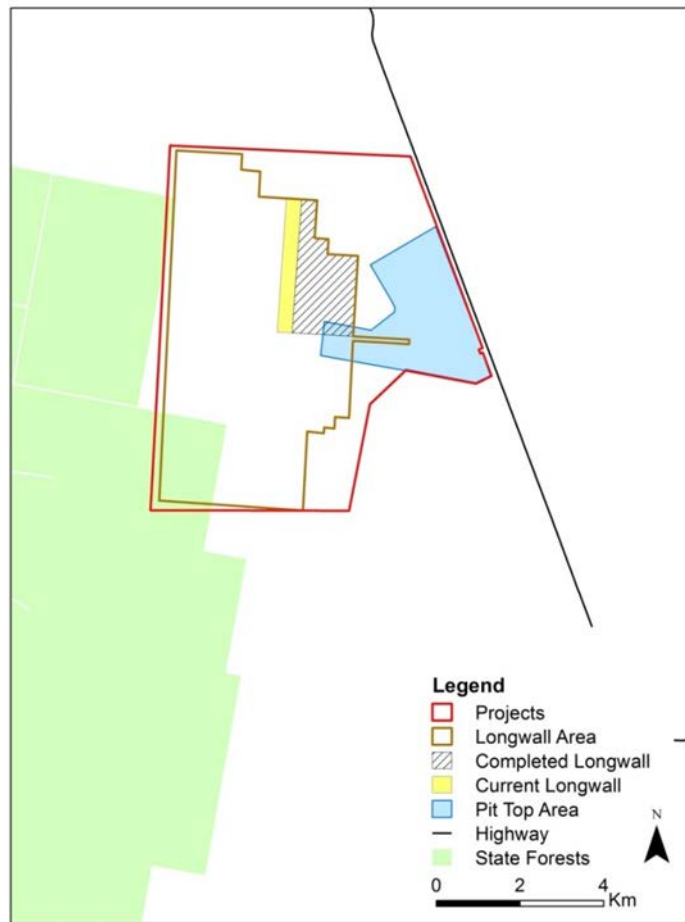


Figure 15. Rehabilitation areas of each project

Table 2. Rehabilitation details for each project

Rehabilitation	Narrabri Coal
Rehabilitation security held	\$10,338,000
Type of security (Cash or Bond)	Bank Guarantee Bond
Last reviewed	August 2016

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