

WATER MONITORING STRATEGY FOR COAL BASINS IN NSW

Gunnedah Basin update

February 2017

Background

NSW has built a network of over 4000 groundwater monitoring bores in over 3000 locations.

New bores in the Gunnedah Basin are additions to the existing network and are part of the NSW Government's \$22.8M Water Monitoring Strategy.

Monitoring bores are not used to measure and regulate nearby water use.

The Water Monitoring Strategy is explained in detail in the factsheet [Expanding the water monitoring network](#).

Groundwater drilling in the Pilliga



Gunnedah Basin - current activity

In February 2017, DPI Water began drilling a nested monitoring bore in the Pilliga. Three water monitoring bores will be constructed, each targeting a different water bearing formation:

- The Pilliga Sandstone (approx. 320m deep)
- The Deriah Sandstone (approx. 370m deep)
- The Digby Formation (approx. 630m deep).

The Pilliga site was chosen because it allows monitoring points near proposed industrial activities.

Gunnedah Basin – planned activity

DPI Water intends to build more water monitoring bores in the Gunnedah Basin, with the next bore (Bore 2) completed by the end of 2017.

Bore 2 will provide a point of comparison with the Pilliga bore.

It will be located in an area where there is no irrigation or industrial groundwater use.

Information about proposed industrial activities in the Gunnedah Basin will be included in the site selection process for Bore 2.

Bore 2 site selection and construction process

TASK	MONTH											
	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	
Basin Conceptualisation and Site Selection												
Due Diligence/ Preliminary investigation of potential sites												
Environmental and Development Approvals												
Procurement of Contractors for bore construction												
Construction of water monitoring bores												
Bore Development and telemetry												

Bore location and construction

The process for choosing the best location and constructing Bore 2 will be completed at the end of 2017.

There are six key phases in the process.

1. Basin conceptualisation and site selection

Existing information is used to conceptualise and characterise the basin. Basin characterisation is used to identify a number of possible locations for water monitoring bores.

Groundwater users and other stakeholders have suggested sites that they believe are suitable for Bore 2. Those sites will be considered during the site selection process.

Monitoring bores will be built in locations where existing studies and spatial data show that new monitoring would be of most scientific value.

Priority is given to sites that will:

- Fill data gaps in current basin characterisation, especially in areas where there is a possibility of increased water-impacting activities.
- Allow measurement of potential impacts on sensitive environments
- Improve understanding of the physical nature of the groundwater system and how it changes over time

This process has begun and is expected to be completed in May 2017.

2. Due diligence

The limitations of each site are identified. They include environmental and ecological constraints, the existence of culturally significant sites, proximity to neighbouring properties, heavy vehicle access and whether the site is suitable for construction. Crown Land sites are preferred.

This process will run in parallel with the site selection process and will also be completed in May 2017.

3. Approvals

The environmental approvals process will start when due diligence is complete. It is planned to start in April and conclude in July 2017.

4. Procurement

The services of drilling contractors and the provision of well head equipment are tendered separately.

Procurement must comply with the [NSW Government Procurement Guidelines](#). The process of calling, reviewing, assessing and awarding tenders takes about four months.

5. Construction of water monitoring bores

Construction of bores includes site preparation, mobilisation of drilling equipment, drilling and cementing, rig demobilisation and site rehabilitation.

It is estimated that it will take three months and be completed in November 2017.

6. Installation of telemetry

Monitoring equipment will be installed on the Pilliga and Bore 2 by the end of 2017. They will start providing real time information (water quality and quantity) on completion.

Information from Pilliga and Bore 2

Pilliga and Bore 2 are expected to start providing information about water quality, levels by the end of 2017.

More information

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