

# Groundwater monitoring in place

One of the commonly expressed concerns around coal seam gas (CSG) exploration and production is its potential impact on groundwater resources and beneficial aquifers. AGL has been monitoring water levels, water quality and dewatering volumes from gas wells for many years, and is now undertaking further studies.

AGL, together with Parsons Brinckerhoff (PB), a specialist environmental and engineering consultancy, have recently initiated a groundwater investigation and monitoring program at Camden.

"We want to help the community understand what impacts, if any, there might be on groundwater resources as a result of exploration for natural gas," said Adam Lollback, Land & Approvals Manager for the Camden Gas Project.

"While we are confident our project does not affect the upper aquifers, it is critical that we protect groundwater resources as part of the sustainable development of CSG."

In stages 1 & 2 of the Camden Gas project areas south of the Nepean River, groundwater in the shallow sandstone rocks (the Hawkesbury Sandstone) is a useful aquifer for stock, domestic and limited irrigation purposes.

AGL recognises that there are people in the local area who access the shallow aquifers for these purposes. In the northern Narellan-Campbelltown-Denham Court area, groundwater at all depths is rarely used for these purposes because it is low yield and brackish to saline in quality.

The results of a desktop study for the Camden North Area show that there are four different groundwater systems across the region.



Angus from Parsons Brinckerhoff taking water samples.

**'We want to help the community understand what impacts, if any, there might be on groundwater resources ...'**

Apart from shallow sediments near the Nepean River and some shallow sandstone areas, the deeper rocks are not considered useful aquifers as the water quality becomes saltier with depth.

The deeper groundwater (below the Hawkesbury Sandstone) in areas both north and south of the

Nepean River is not suitable for drinking, gardening or farming purposes, and is not connected to surface water or any local eco-systems.

AGL has committed to an expanded groundwater monitoring program. This is currently well underway and is being extended to the northern expansion area.

"Installation of dedicated monitoring bores is proposed across this area to establish baseline conditions. Ongoing monitoring in the northern area will provide essential information on water levels and water quality, and trend information to protect shallow aquifers as new CSG wells are constructed," Mr Lollback said.

## Soapy mist incident not acceptable, says AGL

AGL has apologised to the community of Camden for releasing soapy bubbles into the air during a well cleaning program.

The Office of Environment and Heritage has issued a formal warning to AGL in relation to the release of soapy mist at its Camden Gas Project in May.

AGL has acknowledged since the incident first happened that the incident was unacceptable to the community.

While the OEH concluded that "there was no significant harm to the surrounding environment from the emission of foamy liquid", the regulator "reminds AGL that all breaches of the Protection of the Environment Operations Act 1997 are taken very seriously".

"OEH has determined that an appropriate regulatory response to this incident is to issue a formal warning to AGL Upstream Investments. The purpose of this letter is to serve as a warning to your company and its employees that environmental performance and statutory compliance must be continually maintained," the OEH said.

AGL Group General Manager Upstream Gas Mike Moraza said AGL accepted the finding and deeply regretted the incident.

"As we have said from the outset, this should never have been allowed to happen," Mr Moraza said.

"AGL takes its commitment to safety and the environment very seriously and this incident was clearly a breach of our own very high standards. While we have always been confident that there was no harm to the environment and we welcome OEH's similar conclusion, we understand that incidents like these can cause concern in the community.

"We will heed the warning from the OEH and ensure our employees understand the seriousness of the situation. We have now taken steps to ensure the incident should not be repeated."

## CSG: Co-existing with other land uses

By Adam Lollback, AGL Land & Approvals Manager

I am regularly asked whether other land uses can take place in an area where a gas project has been established. Our long and successful history of "co-existence" in the Camden area makes the answer clear: yes, coal seam gas (CSG) projects can comfortably exist side by side with many other land uses and industries.

The CSG industry is safe and relatively low impact, especially when you compare it to major extractive industries which can have a major impact on the surface landscape. Many people cannot even identify a producing well head when they look at a paddock in Camden, because they are discrete and usually no bigger than 5m by 5m for a single well. This means we don't need much room for our wells and once they are fenced off, it's safe for other land uses to take place.

When establishing a well location, a compound area is constructed to enable works to take place in a safe, controlled way.



A well at Razorback horse training property.

Once completed, the area is rehabilitated and reduced to the production footprint. When producing gas, our well surface locations are typically less than 20 metres square. They will be designed and landscaped in consultation with the landowner to fit in with the surrounding community and environment, and will be as unobtrusive as possible.

Inspections are routinely undertaken, but major maintenance is usually needed less than once a year. When the gas has been drained the equipment is removed and the site is fully rehabilitated in consultation with the landowner, to a standard as good as, or better than its original state. As the wells have a life span of approxi-

mately 15 years, there are many examples of successful rehabilitation across the Camden project.

The Camden gas project has been a successful story of good relations with our neighbours and fellow land users. The Department of Primary Industry's Elizabeth Macarthur Institute, which is the department's centre for animal and plant health, features producing crops, grazing and agriculture research and development. To co-exist, wells had to be located so that the existing property use would not be affected, and we achieved that by working with the land owners through exploration and development.

We established plans for an exclusion zone around a local

raptor breeding area and built 4-5kms of fencing to exclude domestic and European animals from the breeding area. Our land officer joined the local land care group to establish the exclusion zone which is still in existence today. At one of the Razorback properties, where there is grazing and specialised training of problematic racing horses, AGL worked with the land owner to plan the location of wells, access roads and gas gathering lines. We were able to work within the horses' training timetables to minimise disruption.

Similarly, we worked around the timetable for racing and training days where hundreds of horses were coming and going for training every day. The location has been a suc-

cess at a site which is now regarded as a first class racing facility. In the wake of these successful developments in conjunction with our valued neighbours, we are now looking to implement what we call the "urban model" of co-locating wells in a single area to co-exist with residential subdivisions. This means we have a number of wells extending out from a single location, which means reduced surface impact for other land owners.

AGL understands that there will always be competing interests when it comes to land use. That's why we are committed to talking to the community about their expectations and to working with them to locate our projects sympathetically.

**Meet the Manager:** Adam Lollback is the Land & Approvals Manager for AGL's Camden Gas Project, and has been working on the project for the past three years. Adam is regularly in the Camden field monitoring the project and meeting with local landowners. Adam has previously worked in the commercial/residential property industry, the telecommunications industry and in various property and environmental planning related roles.

For further information:

Visit: [agl.com.au/camdengasproject](http://agl.com.au/camdengasproject)

Or contact: Adam Lollback, Land & Approvals Manager

Phone: 02 9921 2017

Email: [camdengasproject@agl.com.au](mailto:camdengasproject@agl.com.au)



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