

# Frequently Asked Questions

## GUNNEDAH BASIN



### SANTOS' GUNNEDAH BASIN EXPLORATION PROJECT

#### How many acres are in a graticular block? If Santos applies for a Production Lease will they be joined together or spread across a wide area?

When mapped, a graticular block is bounded by lines (graticules) that mark five minutes longitude and five minutes latitude.<sup>1</sup> In the Gunnedah region, a graticular block is approximately 9km by 7km (63km<sup>2</sup>, 15 560 acres<sup>2</sup> or 6300ha<sup>3</sup>).

If the exploration and appraisal phases show that a Petroleum Exploration Licence (PEL) area has a viable resource, the owners of the PEL can apply to the DPI to license a maximum area of four graticular blocks (always joined together) to become a Production Lease.

The remaining Petroleum Exploration Licence area may be retained for further exploration by the current owner. They may choose to surrender it to the DPI to put out to tender for further exploration.

#### Is Santos willing to have Carroona Coal Action Group's water specialists and geologists act as independent testers?

Santos is willing to discuss with the community at large the possibility of having independent monitoring performed by qualified employees of accredited companies.

#### How is Santos guaranteeing the safety of endangered species in the exploration area?

Under the *Environmental Planning and Assessment Act (NSW) 1979*, the Department of Primary Industries (DPI) is required to consider whether or not Santos' proposed activities will affect threatened species, populations, ecological communities and

their habitats.<sup>4</sup> To help them do this, Santos must submit a Review of Environmental Factors (REF) identifying risks and explaining how they will be mitigated during work.

The REF for PEL 452 – which includes the Carroona and Blackville areas – shows the results of a search for records of threatened ecological communities, plants and animals. The NSW Department of Environment and Conservation Atlas of NSW Wildlife On-line database was searched for records of threatened ecological communities, plants and animals within the study area. Matters of conservation significance listed under the *Environmental Protection and Biodiversity Conservation Act 1999 (Cwth)* that are known or predicted to occur in the study area were determined using the EPBC Protected Matters search tool.<sup>5</sup>

These searches show that, in the areas proposed for corehole drilling, there are no World Heritage Properties, National Heritage Places or Wetlands of International Significance. The area contains one threatened ecological community, 16 threatened species and 7 migratory species. Work has been planned on previously cleared land and to ensure that no harm is caused to them.<sup>6</sup>

#### What environmental bond has Santos put up?

For each PEL, Santos is required to and has lodged substantial financial securities to ensure fulfillment of obligations under the petroleum legislation. The amounts required vary from permit to permit, are set at the Minister's discretion and are enough to cover the costs associated with rehabilitating and restoring sites. As activities in the PEL increase, the Government directs the titleholder to lodge additional securities as appropriate to cover operations.

<sup>4</sup> From REF 456 at [http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0019/260290/20081209-PEL456-REF-Santos-Core-Hole-Drilling-Gunnedah-Basin.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0019/260290/20081209-PEL456-REF-Santos-Core-Hole-Drilling-Gunnedah-Basin.pdf), pg 12-13

<sup>5</sup> REF – PEL 452, [http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0010/124201/20070227-PEL452-Gunnedah-Gas-Coalbed-Methane-Exploration---Liverpool-Plains.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/124201/20070227-PEL452-Gunnedah-Gas-Coalbed-Methane-Exploration---Liverpool-Plains.pdf), pg 39

<sup>6</sup> REF – PEL 452, [http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0010/124201/20070227-PEL452-Gunnedah-Gas-Coalbed-Methane-Exploration---Liverpool-Plains.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/124201/20070227-PEL452-Gunnedah-Gas-Coalbed-Methane-Exploration---Liverpool-Plains.pdf), pg 21

<sup>1</sup> [http://www.austlii.edu.au/au/legis/nsw/consol\\_act/pa1991224/s4.html](http://www.austlii.edu.au/au/legis/nsw/consol_act/pa1991224/s4.html)

<sup>2</sup> 1km<sup>2</sup> = 247 acres x 63 = 15 560 acres

<sup>3</sup> 1km<sup>2</sup> = 100ha x 63 = 6300 ha

### Have any environmental bonds been repaid?

The NSW Government retains financial securities until Santos completes relevant activities to the satisfaction of relevant government departments. None have been repaid because no activities have been completed.

### There has been talk of a social contract in Santos' dealings with the community. What does this mean?

The resources and minerals industries refer to a *social license to operate* in areas and communities. This is a direct acknowledgement that:

- Community and stakeholder consultation are essential.
- Environmental and social performance should be measured and the results made public in Santos' annual Sustainability Report.

Santos recognises that identifying the social effects of its operations and seeking to manage these effects is an essential part of doing business in a responsible manner.

### If the community is violently opposed to the project, will Santos abandon it?

Santos is committed to staying in dialogue with the community and answering questions about our work as they arise. We are confident that the community will agree that gas has an important role to play in the energy future of NSW, Australia and the Asia-Pacific region, and our work in the Gunnedah Basin is an important part of that.

### What if you find something toxic as you drill down?

Organic drilling products and water are the only products introduced to the subsurface during the drilling process. There is no reason to believe that any toxins would be intersected by the drilling program. Even if such contaminants were to be found, they would be isolated behind pressure cemented steel casing.

Drilling sump water is tested for pH; salinity; anions and cations; total petroleum hydrocarbons and metals (arsenic, beryllium, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, vanadium, zinc).

### What is the frequency and amplitude of seismic testing?

The surface waves spread outwards cylindrically with typical dominant frequencies and velocities of 5-10Hz and 500-700m/sec.

The subsurface compressional waves spread outwards spherically with typical dominant frequencies and velocities of 40-60Hz and 2000-3000m/s. Dominant frequencies are between 5 -10 Hz for surface waves and 40-60Hz for reflected waves. Maximum ground displacement is a fraction of a mm - approximately 0.1 mm close to the source, and down to 4 or 5 magnitudes less at the extent of the detector spread from deep targets.

### For more information

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