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TO: Company Announcements Office
ASX Limited

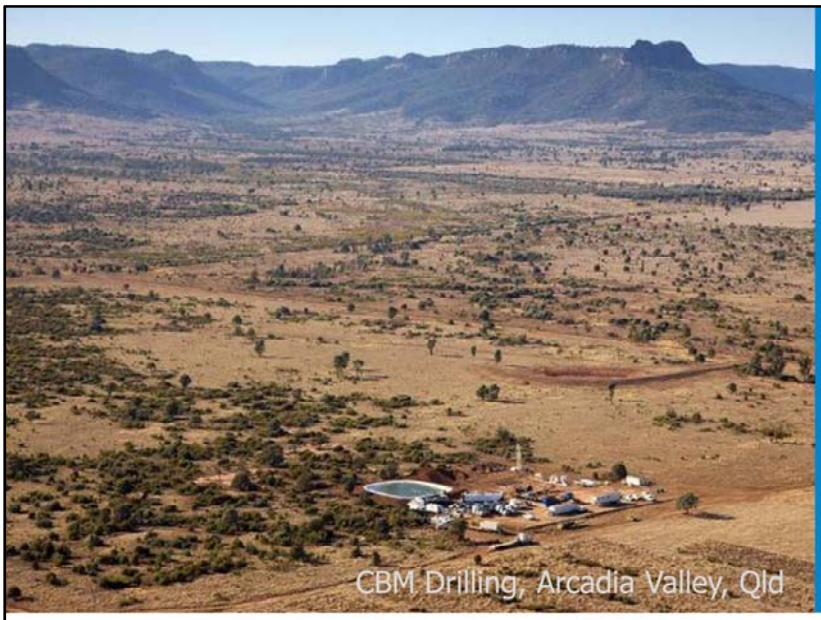
FROM: Company Secretary

DATE: 8 February 2012

SUBJECT: **Unconventional Resources Presentation**

Please find attached an address by Diana Hoff (Vice President Technical & Engineering) presented to the International Petroleum Technology Conference (IPTC) in Bangkok on Wednesday 8 February 2012.

David Lim
Company Secretary



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Unconventional Resources

Diana Hoff - Vice President Technical & Engineering

IPTC, Bangkok 8th February 2012

Thank you for the opportunity to take part in this panel discussion.

This photo shows a well site in Santos' area of coal bed methane or coal seam gas operations in the Arcadia Valley of Queensland, Australia.

It illustrates the types of terrain seen in Eastern Australia from flat, extensive plains to rugged highland areas.

My presentation reviews how the unconventional gas industry has developed, and in particular, how it compares the rapidly growing Australian CBM and North American shale gas industries.

My talk will draw on examples from Santos' extensive CBM interests in Eastern Australia and unconventional resource opportunities in the Cooper Basin.

Disclaimer and Important Notice

This presentation contains forward looking statements that are subject to risk factors associated with the oil and gas industry. It is believed that the expectations reflected in these statements are reasonable, but they may be affected by a range of variables which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, geotechnical factors, drilling and production results, gas commercialisation, development progress, operating results, engineering estimates, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial markets conditions in various countries, approvals and cost estimates.

All references to dollars, cents or $ in this document are to Australian currency, unless otherwise stated.

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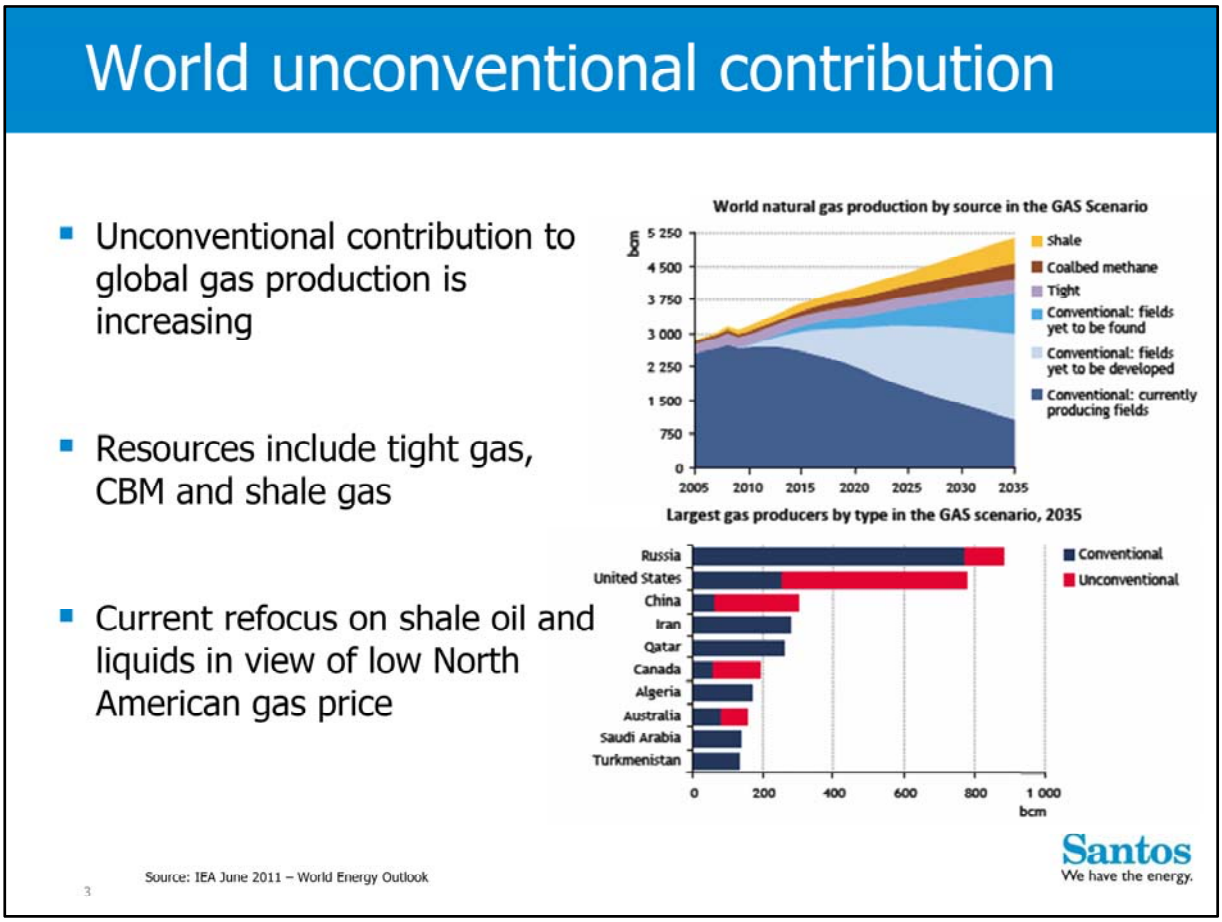


Unconventional hydrocarbons are increasingly contributing to the world's oil and gas production.

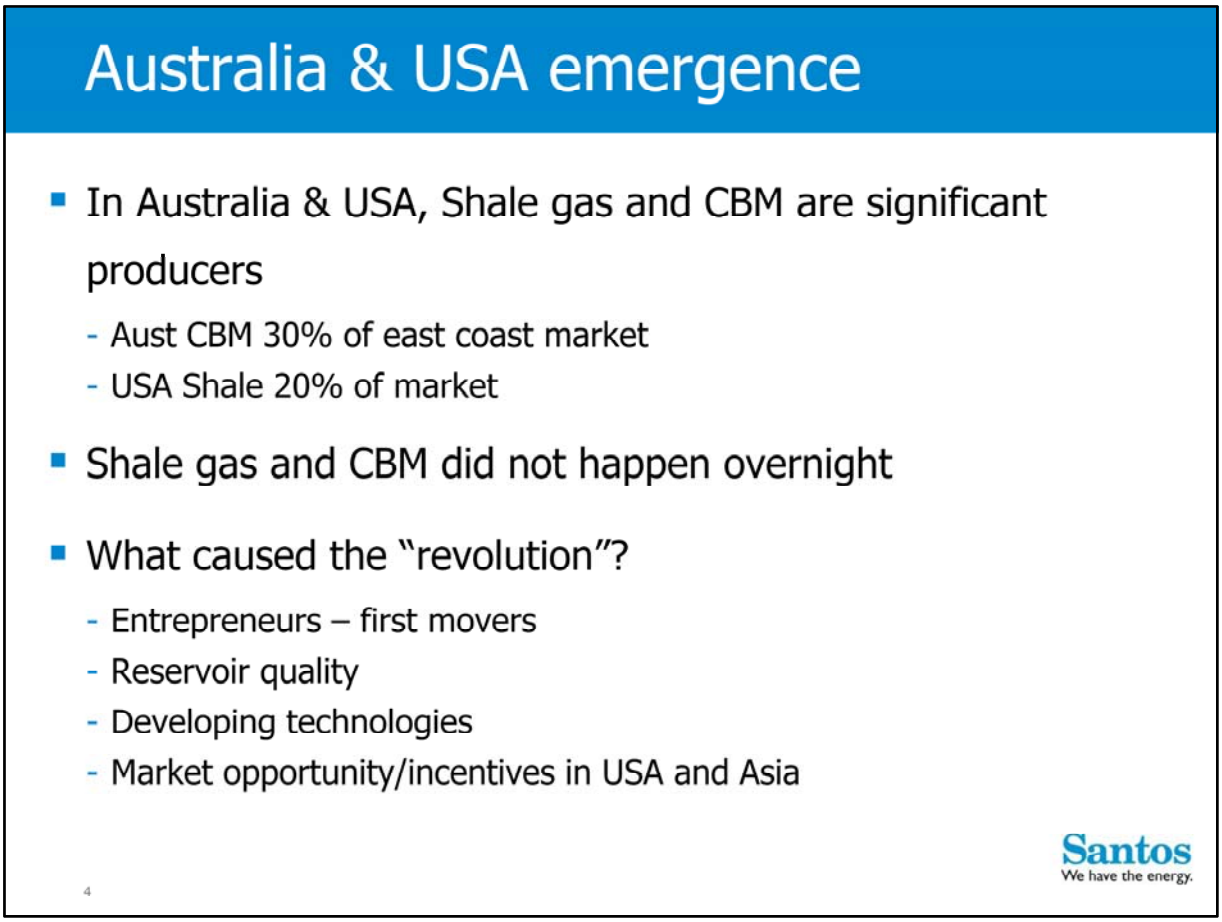
Three unconventional resource types contribute to global gas production:

- Tight gas in low permeability sandstones or carbonates
- Coal bed methane; and
- Shale gas.

Five years ago, these unconventional gas sources represented less than 10% of global gas production. The contribution to gas production of these resource types now exceeds 15% and is expected to increase to around 25% over the next 25 years.

Present unconventional gas production is dominated by North America. But Australian CBM production is ramping up dramatically to service both domestic markets and LNG exports.

We are now seeing in North America the use of shale gas technology to produce shale oil and liquids, in less thermally mature shales, as a result of the lower gas prices caused by the success of shale gas exploration.

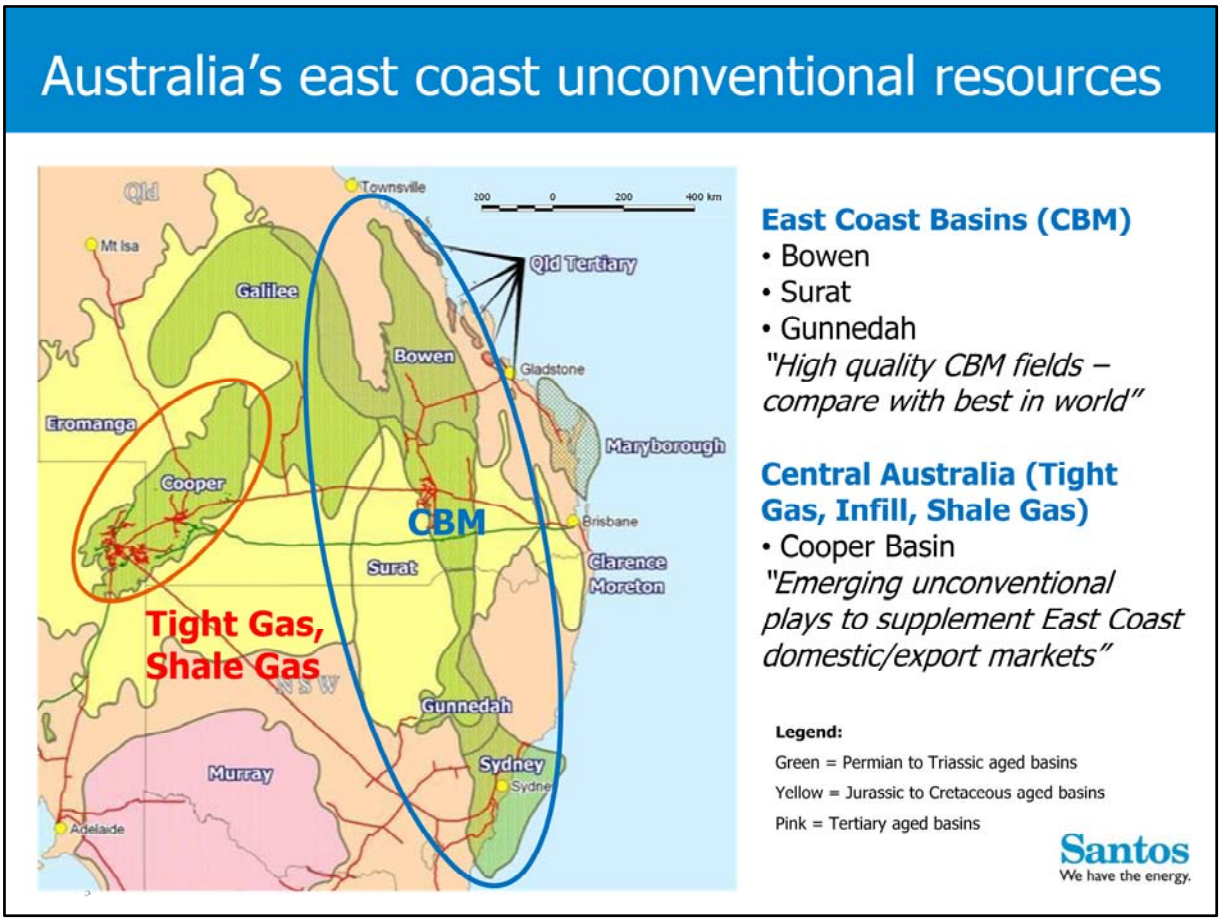


North American shale gas and Australian CBM represent the two most significant unconventional resources discovered to date. Australian CBM and US shale gas currently supply 20-30% of their domestic markets.

Both resources had long periods of trials before the production code was broken. The US has a long history of shale gas production but only became significant in recent times with the adoption of modern technology.

Similarly, Australian CBM production occurred within a coal mine during the Second World War, but efforts stalled until the early 1980's. Even then significant breakthroughs were required before the first commercial discoveries in the 1990's. During this period several majors attempted to establish production but failed and withdrew from Australia. The baton was then picked up by small Australian companies, that successfully trialled alternative technologies.

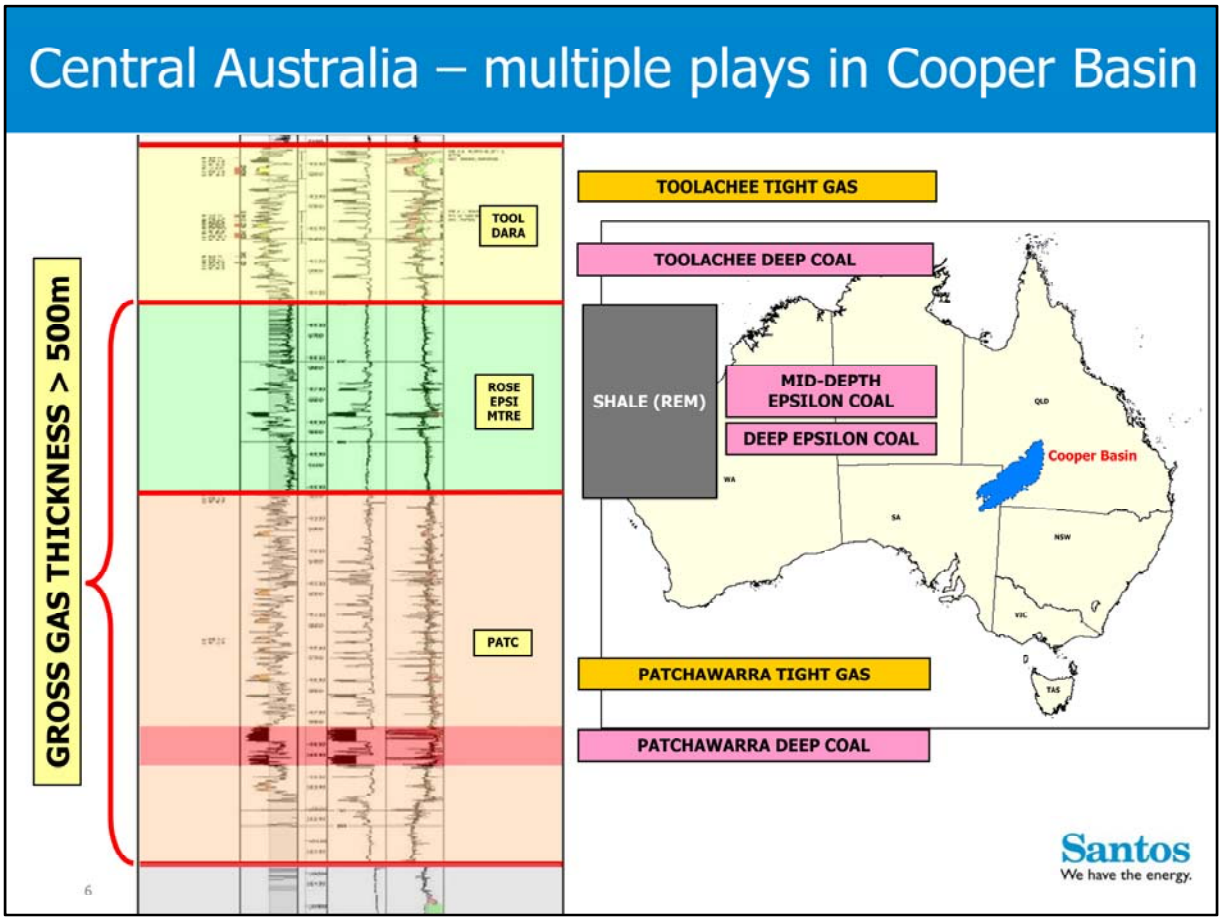
The keys to the "revolution" include this entrepreneurial aspect; the quality of the rocks; developing technologies that drive down cost and increase unit production; and market opportunities and incentives.



In Australia, the potential for CBM production is well established in a series of adjacent basins, 2,000 km in length, inland from the east coast.

The Permian Bowen and Gunnedah basins and the Jurassic Surat Basin all contain areas where flow rates exceed 1 mmcf/d, comparable with the widely acknowledged world's best – the San Juan Basin.

These basins will form the base supply for both future domestic and LNG supply. This production will be increasingly augmented by gas production from the Cooper Basin, that I will now focus on.

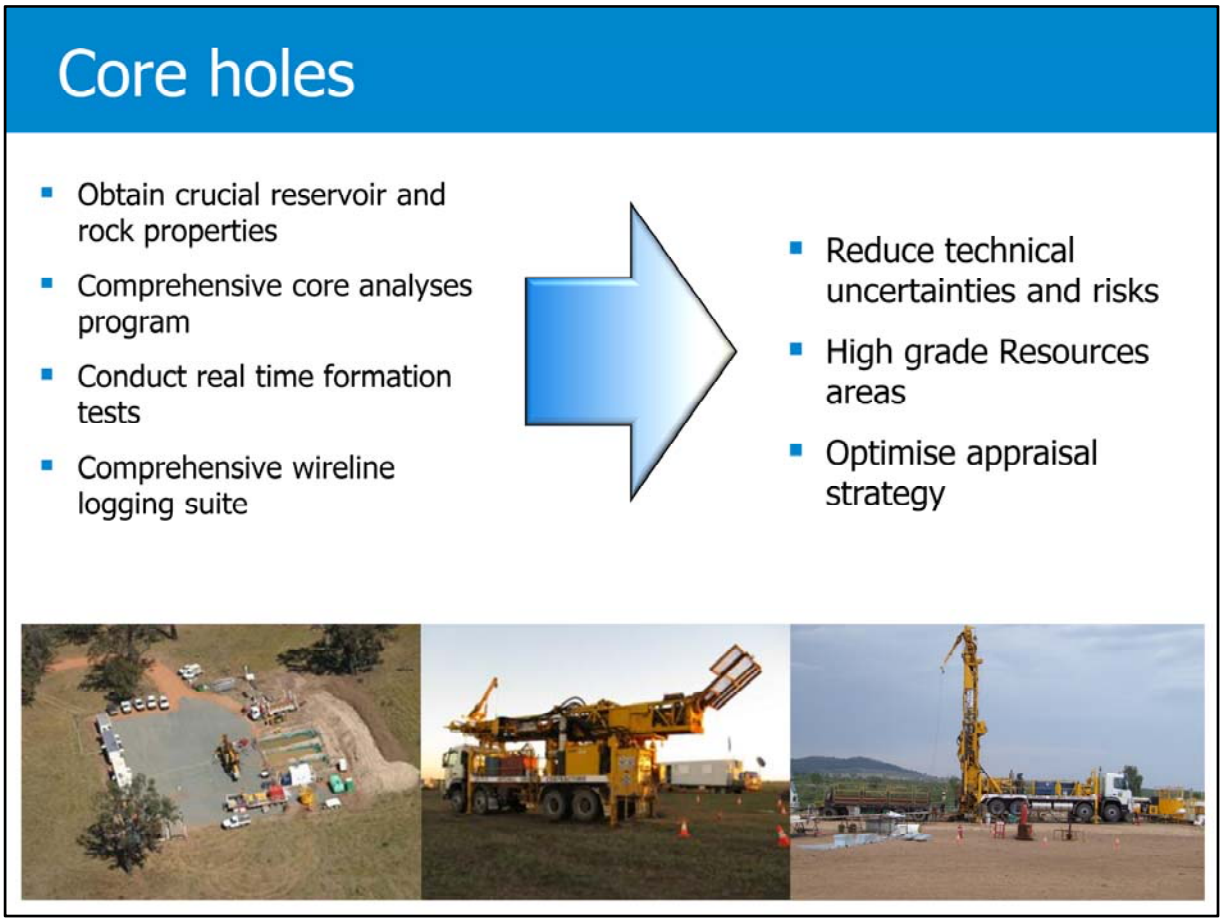


The outlook for the Cooper Basin is excellent thanks to infill drilling of conventional fields, tight gas and shale gas. Significant thicknesses of gas saturated rocks are present where these reservoirs can be exploited, and the existence of local gas production and Santos' Moomba processing infrastructure provides opportunities to put gas to market.

Shale gas is at initial stages of exploration. Cores have been collected, gas contents demonstrated and the first fracture stimulations undertaken. The key will be whether the non marine-deposited shales of the Cooper Basin respond to the multi-stage fracced horizontal well completions that have been successful in the predominantly marine-deposited, North America shales.

Elsewhere in northern and western Australia marine-deposited shales are present. Whilst having potential they are more remote from infrastructure. Without doubt, as with US shale gas and Australian CBM, there will be at least some refinements required before success is achieved.

I will now take you through technical steps in the exploration and drilling for unconventional gas.



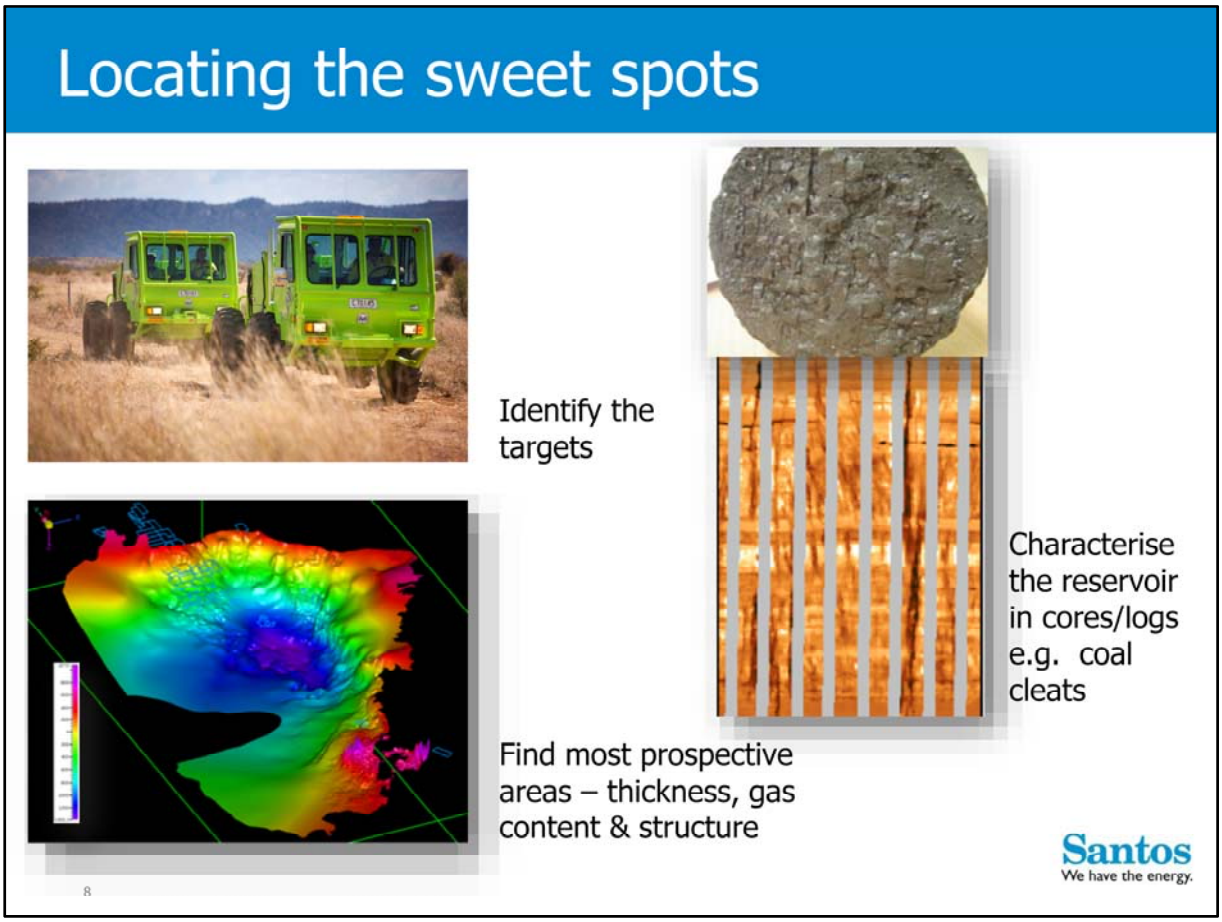
The initial exploration phase comprises drilling core holes to collect reservoir information for evaluation purposes. And unlike conventional plays, this often requires 10's of core holes.

Within a typical core hole anywhere up to 500+ m of continuous core is cut and retrieved using wireline retrieval system. This system is an effective and efficient method for time and cost reduction but more importantly ensures higher accuracy in hydrocarbon volume assessments.

The associated core analyses program is often comprehensive and extensive, ranging from the fundamental rock composition, organic richness and gas content analyses, to understanding the origin of the gas content. The importance of core data is highlighted by the emerging shale gas plays, where data obtained from shale cores not only hold the understanding of the resources in place but also the effectiveness of fraccing and ultimately the recoverable potential.

Indication of permeability is generally derived from well tests, which is applicable for CBM, however for shale this is reliant on core data. Core data is essential and plays a key role in all future field activities and decision making, from technical de-risking to optimising appraisal and development strategies.

The reliance on core data highlights that understanding the rocks is crucial to unlocking the unconventional resources play. It forms the fundamental basis for identification of high grading areas and locations for step out appraisal drilling.



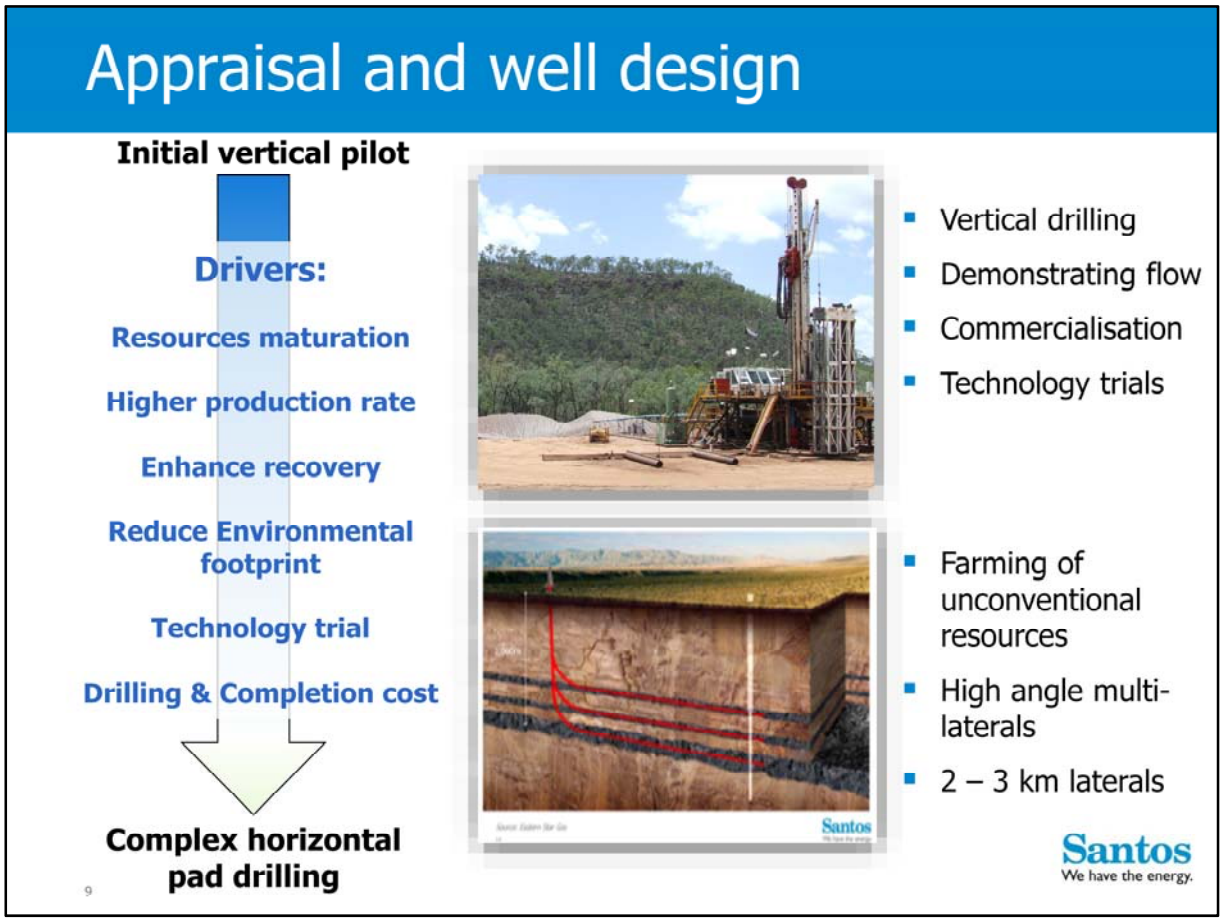
Sweet spots usually occur in unconventional plays. These are areas where the permeability and, possibly, gas content or reservoir thickness are enhanced relative to other areas in the play fairway.

The causes are typically:

- Geomechanical for permeability
- Hydrodynamic factors for gas content; and
- Depositional systems for thickness.

There may be an interplay between these factors – for example coal increased permeability may result in increased groundwater flow resulting in enhanced biogenic activity and higher gas content.

Sweet spots can be identified using regional geological and hydrodynamic models and then tested by drilling. Core, log and test data can then be used to characterise the reservoir and demonstrate the validity of the model.



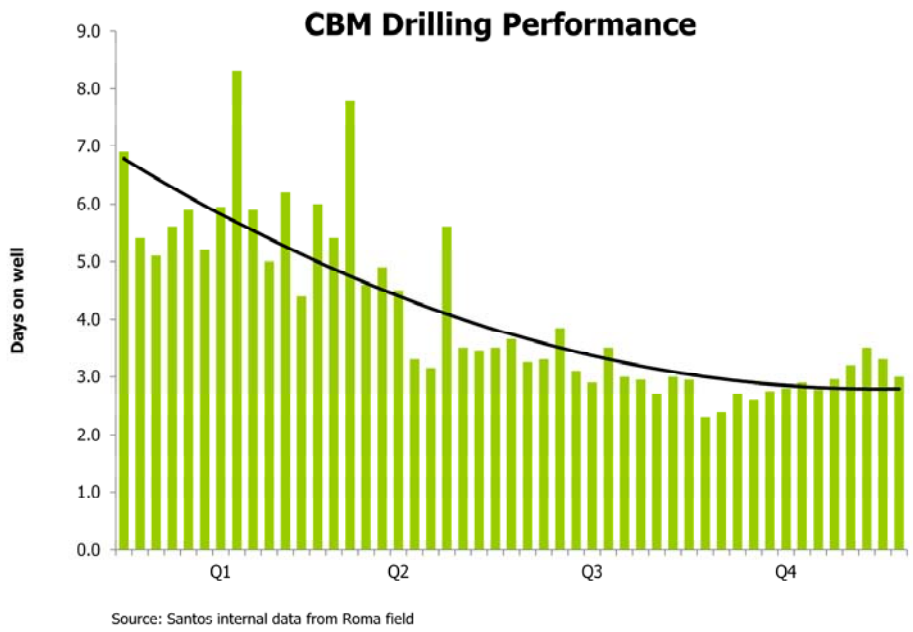
Once a high graded location has been identified, an initial pilot program will be drilled to demonstrate hydrocarbon flow and potential commercialisation. The pilot program is unique to the reservoir, ranging from a single multi stage fracc well in shale and tight sand to a 5 spot vertical pilot for CBM. Often the initial pilot program is based on play analogues, as an example the initial trial of Santos Walloon CBM play was based on the San Juan analogue.

In an effort to enhance well performance, drive down costs and more crucially reduce environmental impacts, many types of well designs and completion strategies will be trialed in order to establish optimal effectiveness. As technology trial progress, so the does the complexity of the well design, delineating from simple vertical drilling to complex high angle multi lateral horizontal pad drilling.

Once a commercial outcome is achieved, field development is undertaken. Repeated drilling trials bring down drilling time, and refinements of completion technologies increase unit production. This means higher well production performance and yield, leading to additional resources and reserves maturation and booking.

Continuous multi-rig operations also reduces capital. Innovative solutions bring down costs in the operational area, for example in disposal of frac fluids for shales or formation waters for CBM.

Driving down costs



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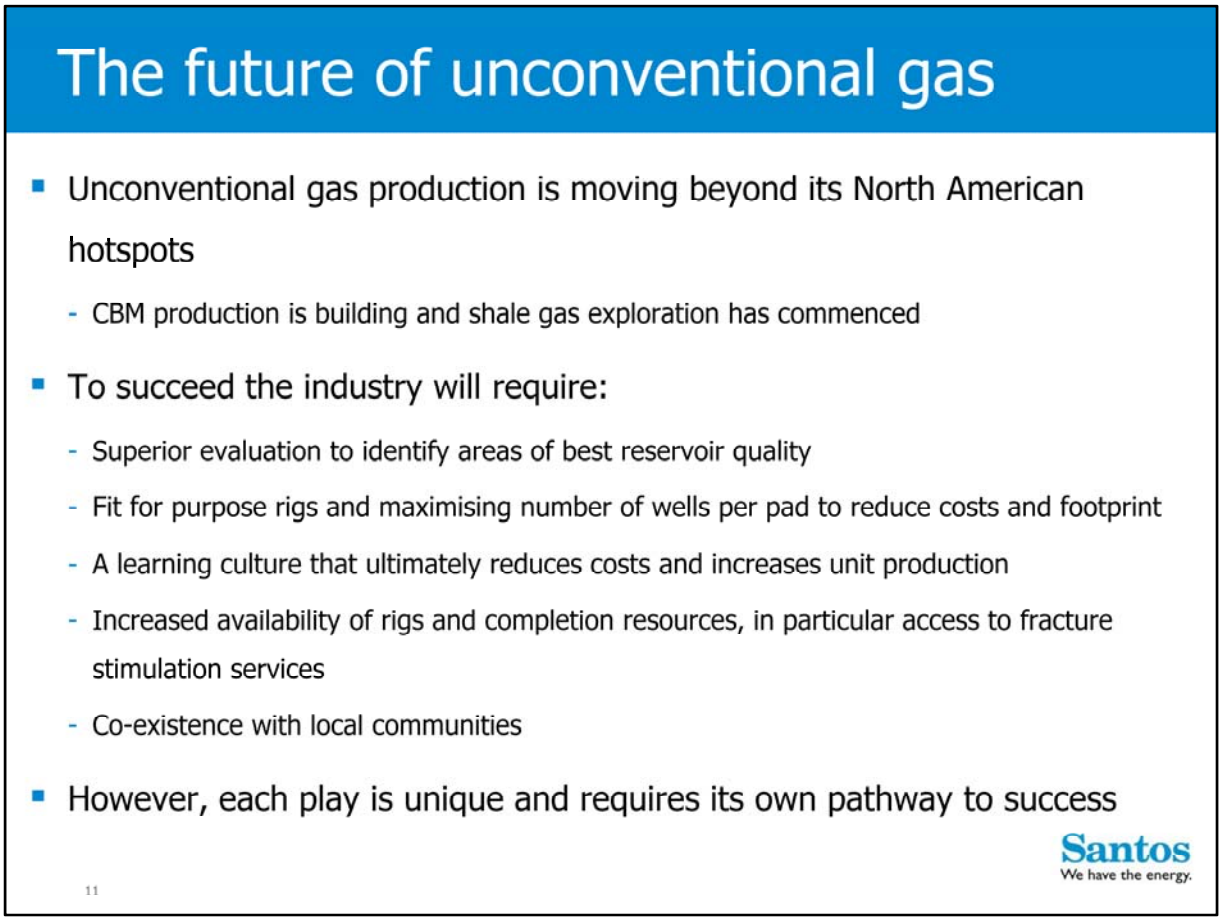
The next step in cost reduction comes from execution of repeated drilling trials. Experience and efficiencies bring down drilling time and refinement of completion types results in increases in unit production.

As an example, historical data for drilling of pilot wells in our Roma CBM field show a greater than 50% reduction in drilling days in a year.

In addition to the experience gained with conducting similar operations, capital and time is further reduced by conducting multi-rig operations from individual pads.



In summary, unconventionals will play an increasing role in both gas and oil production. Unconventional gas has a future outside North America - CBM production is building and shale gas exploration has commenced in at least three continents.

To succeed the industry will require:

- Superior evaluation to identify areas of best reservoir quality
- Fit for purpose rigs and maximising no of wells per pad to reduce costs and footprint
- A learning culture that ultimately reduces costs and increases unit production
- Increased availability of rigs and completion resources, in particular access to fracture stimulation services; and
- Co-existence with communities

However, history shows that each play is different and will require its own unique pathway before success can be achieved.

Thank you.