

AWE in the Perth Basin

Bruce Clement, Managing Director

**AWE Perth Basin Investor Site Tour
4 June 2015**

This presentation may contain forward looking statements that are subject to risk factors associated with the oil and gas businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

This presentation may also contain non-IFRS measures that are unaudited but are derived from and reconciled to the audited accounts. All references to dollars, cents or \$ in this presentation are to Australian currency, unless otherwise stated.

Reserves and Resources. The reserve and resource information contained in this report is based on information compiled by Neil Tupper (General Manager, Exploration & Geoscience). Mr Tupper is a Geologist with a Masters Degree in Sedimentology and has over 32 years' experience in petroleum exploration. He has consented in writing to the inclusion of this information in the format and context in which it appears.

Prospective Resources. AWE follows the Society of Petroleum Engineers – Petroleum Resources Management System (SPE-PRMS) guidelines with respect to the definition of different classes of reserves and resources. SPE-PRMS defines Prospective Resources as being the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) related to undiscovered accumulations. These estimates have a probability of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons and the probability of development.

Agenda

Operating in the Perth Basin

Oil & Gas in the Perth Basin

Regulatory processes

Stakeholder engagement

Supporting the local community

Recent exploration and appraisal success

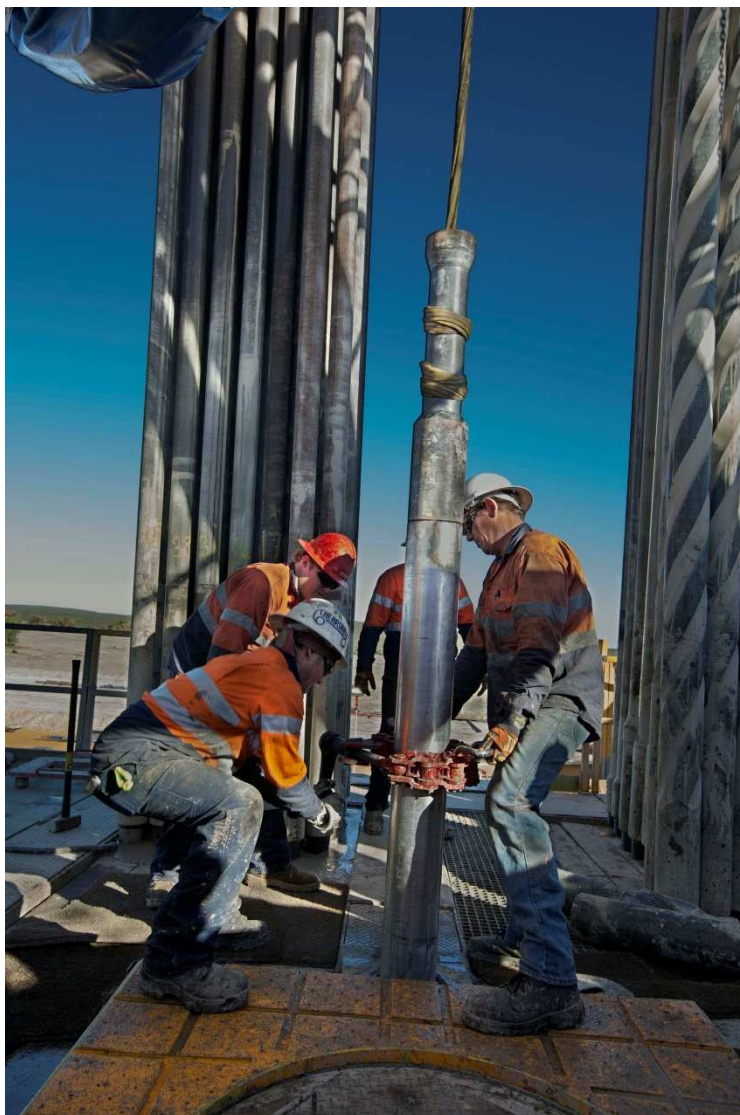
- Senecio-3 tight gas appraisal
- Irwin/Synaphea tight gas discovery
- Waitsia conventional gas discovery

Safety and environment

Appendix



Onshore Perth Basin experience

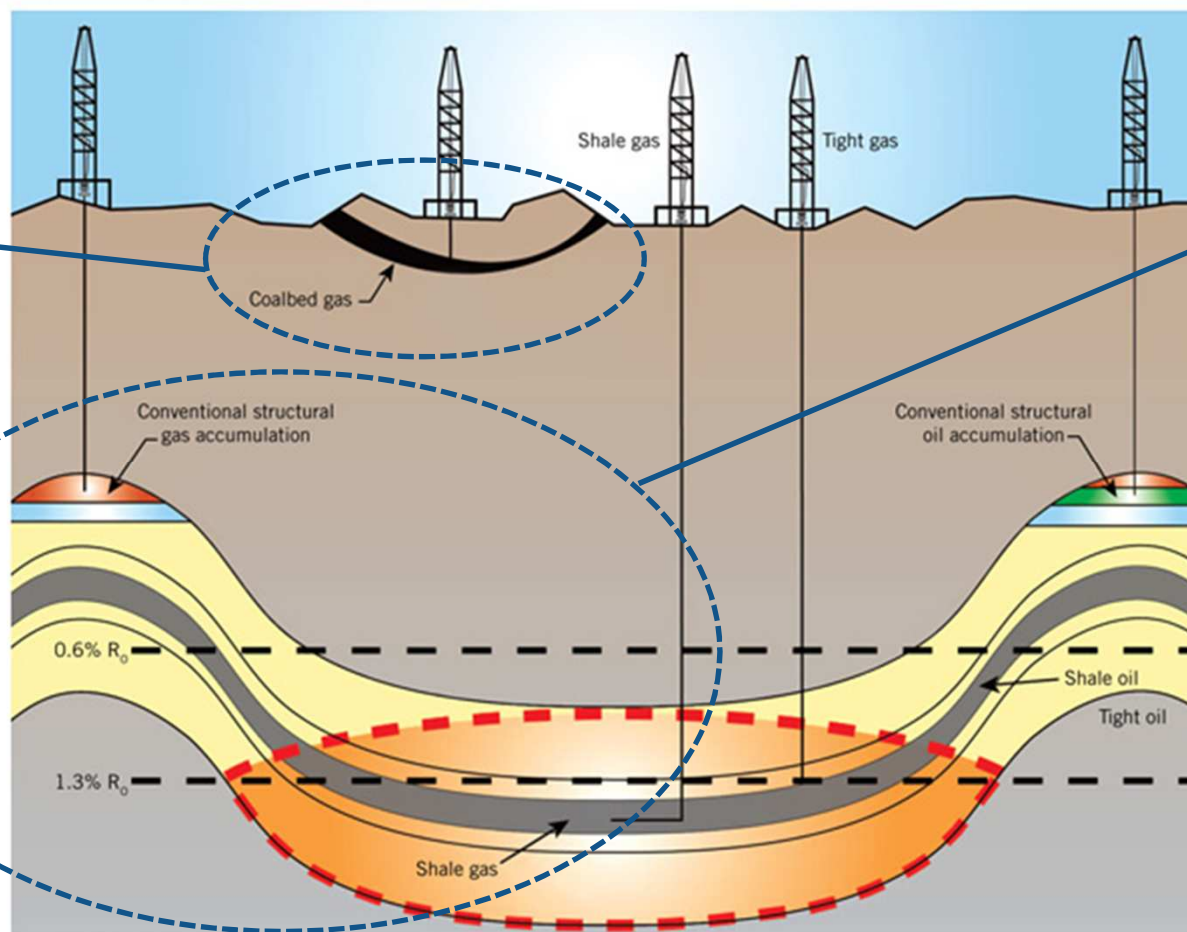


- Health, safety and environment are top priorities for AWE
- The oil and gas industry has operated in the Perth Basin for more than 50 years
- More than 200 wells have been successfully drilled in the region, with no significant environmental incidents
 - *More than 80 of these have been drilled by AWE and its predecessors*
- AWE is actively exploring, appraising and producing oil and gas in a number of locations
 - *Drilled seven wells in the last three years*
 - *Supplies gas to WA through Dongara Gas Plant*
- Exploration has been conducted under the regulatory oversight of the Department of Mines and Petroleum
- AWE works closely with local communities and businesses and genuinely engages with other stakeholders

AWE employs local staff and contractors and contributes to the local community

Oil and Gas in the Perth Basin

Coal Seam Gas is close to surface and extraction involves dewatering coal seams to release gas. AWE is not exploring for Coal Seam Gas.



North Perth Basin conventional gas, tight gas and shale gas is >2km below the surface – well below freshwater aquifers

AWE is exploring for conventional gas, tight gas and shale oil and gas

Overview of the regulatory process



In WA, the Department of Mines and Petroleum is the lead agency for administering state petroleum and geothermal legislation.

Key regulatory assessment processes:

Department of Mines and Petroleum

- Safety Case
- Environment Plan
- Chemical disclosure documentation
- Technical program

Department of Water

- Licences to construct water wells and extract superficial aquifer water

In addition, AWE engages with other regulators, who may be involved, including:

- Department of Aboriginal Affairs
- Department of Environmental Regulation
- Department of Parks and Wildlife
- Department of Health
- Environmental Protection Authority
- Office of the Environmental Protection Authority

Environment Plan Summaries for Irwin-1 and Waitsia-1 are available on AWE's website

Stakeholder engagement

- In addition to technical studies and demonstration of compliance with statutory requirements – AWE recognises “social licence” as an integral part of good business practice
- Social licence is maintained by demonstrating:
 - ✓ compliance within regulatory framework
 - ✓ best practice in HSE
 - ✓ disclosure and transparency
 - ✓ proactive community engagement
 - ✓ listening and responding to evolving community concerns
 - ✓ social investment
- AWE has a comprehensive stakeholder management plan in place which identifies stakeholders, their information needs and the timing of communications and engagement



AWE's approach to community and stakeholder engagement is open and transparent

Engaging early and often

Key community stakeholders:

- Landowners on whose land we operate
- Traditional owners
- Shire residents

Regulators and decision makers:

- Shire of Irwin and Shire of Coorow
- DMP, EPA and OEPA meetings at key stages of proposal
- DPaW and DoH briefings
- DoW – consulted on ground water study scope and recommendation for water monitoring activities
- Ministers for Mines and Petroleum and Environment

Recent activities:

- Project updates sent to range of stakeholders (including NGOs)
- Community Information Sessions (advertised in advance)
- WA Parliamentary Inquiry submissions and participation
- Site tours of Senecio-3 drilling operations for key stakeholder groups

A vital part of the local community

Long term relationship with the community

- AWE and its predecessors have been active in the Mid West since 1960s

Strong economic contribution

- AWE's employment and procurement policies directly benefit local communities
- AWE has created direct employment and local supply chain opportunities in the Mid West
- AWE contributes ~\$5m a year to the Mid West economy in wages, local contracts and community partnerships

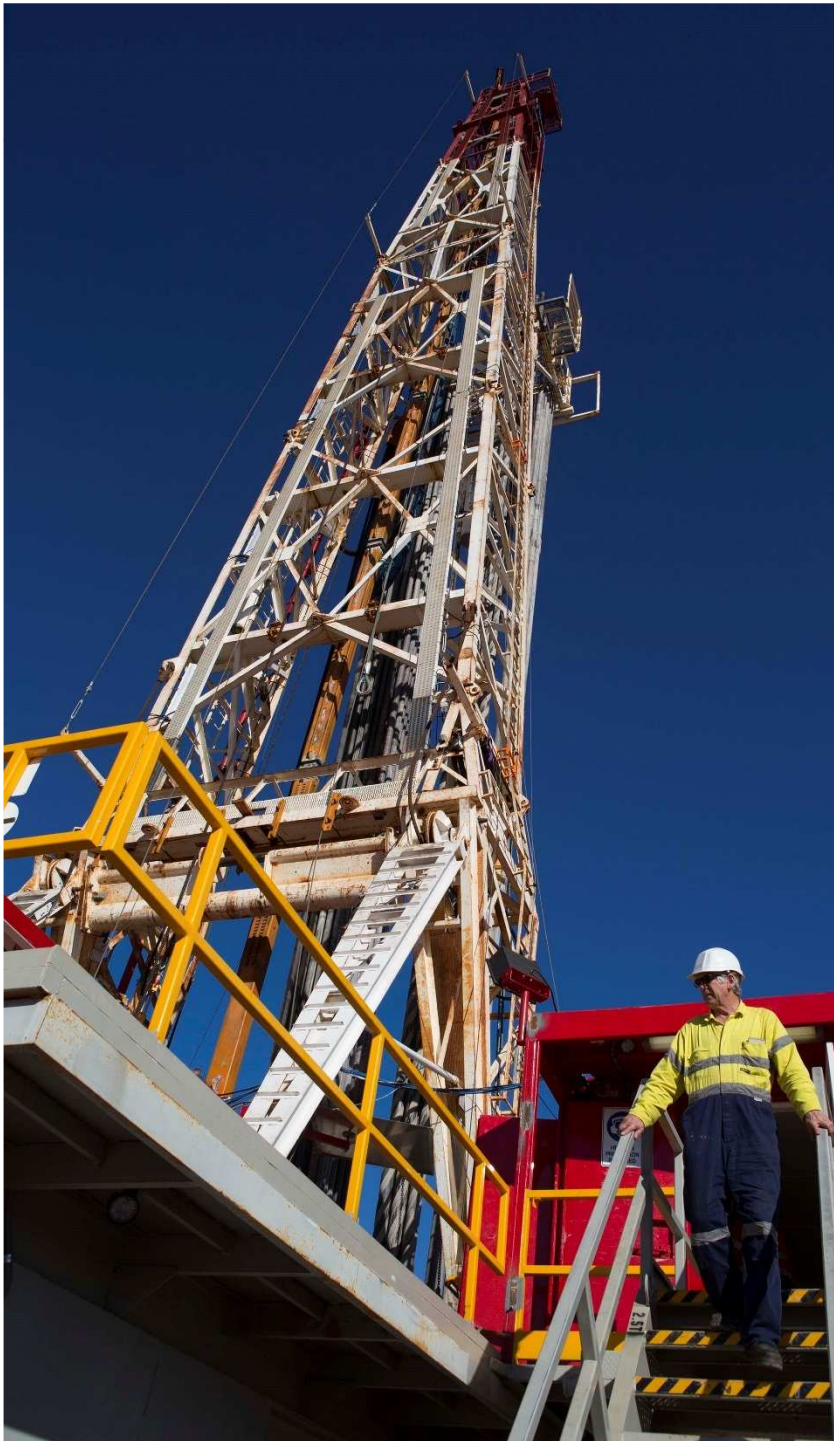
Investment in local communities

- For many years, AWE has provided financial support to essential services and community activities in the Mid West

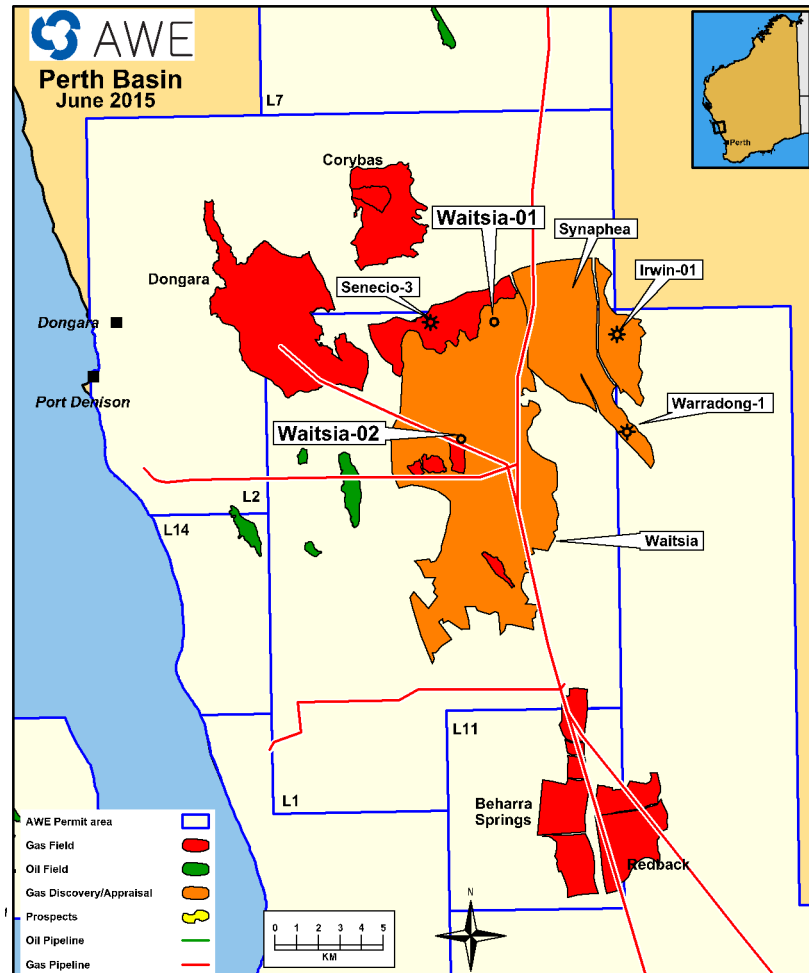


AWE is committed to being an active and responsible member of the community

Recent Exploration and Appraisal Success



Continuing Success in the Perth Basin



- Two significant confirmed commercial plays in AWE acreage:
 - Dongara/Wagina Tight Gas Play confirmed at Senecio-3 and Irwin-1.
 - Kingia/High Cliff Conventional Gas Play under appraisal at Waitsia-1 and Waitsia-2
- Early conventional gas development opportunity – close to existing gas plant and pipeline infrastructure
- Additional exploration upside in both plays

2015 drilling confirms potential of Dongara and Kingia reservoirs

Senecio Gas Field



Senecio-3 appraisal well:

Location: ~7km east of the Dongara gas plant

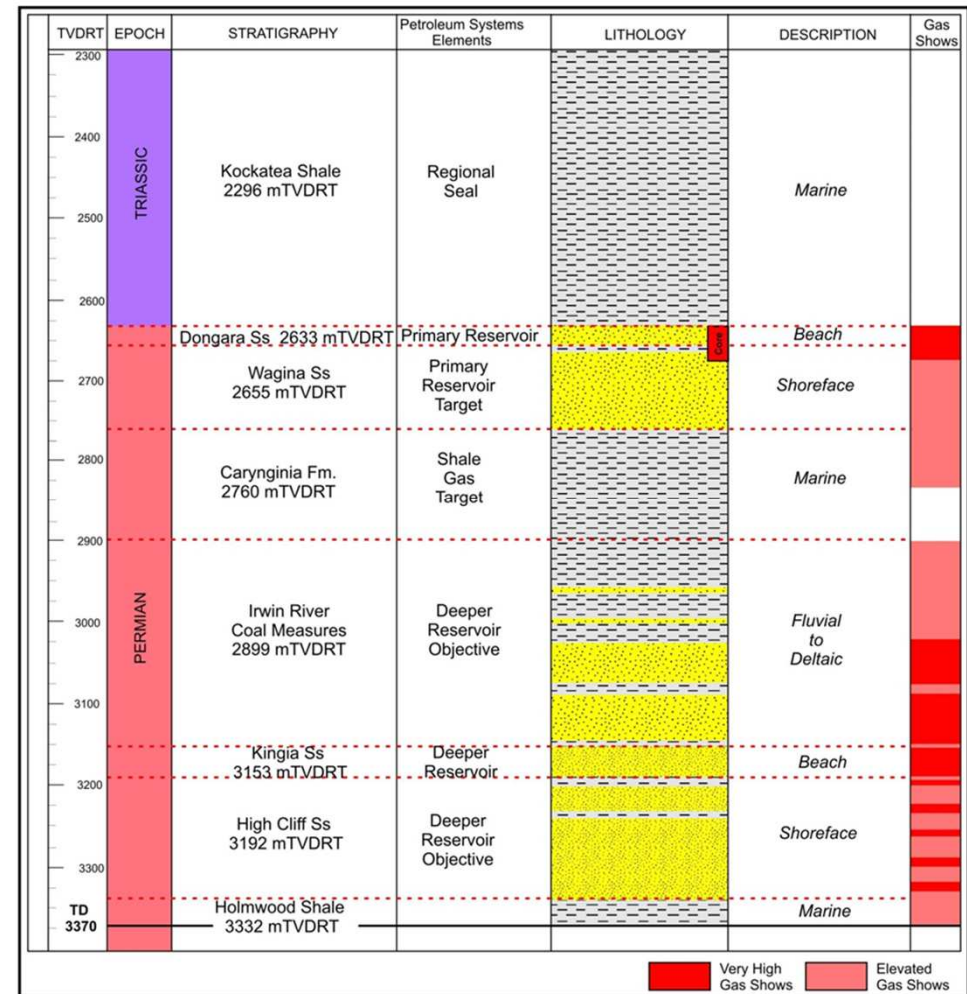
Drilled: August/September 2014

Target depth: 2,783 metres, extended to 3,370m

Target: natural gas from tight sandstone formations

Results:

- Successful appraisal of the tight Dongara/Wagina sandstone play
- Play opener for conventional Kingia Formation discovery (Waitsia Field)
- Confirmed future potential of shale gas play (Carynginia Formation) and additional tight gas play in Irwin River Coal Measures and High Cliff Sandstone



Senecio-3 Stratigraphy and gas shows

Senecio-3 is near the long-established Dongara Gas Field and Gas Plant

Gas Discovery at Irwin-1

Irwin-1 exploration well:

Location: 8km east of Senecio-3

Drilled: April/May 2015

Total depth: 4,049 metres

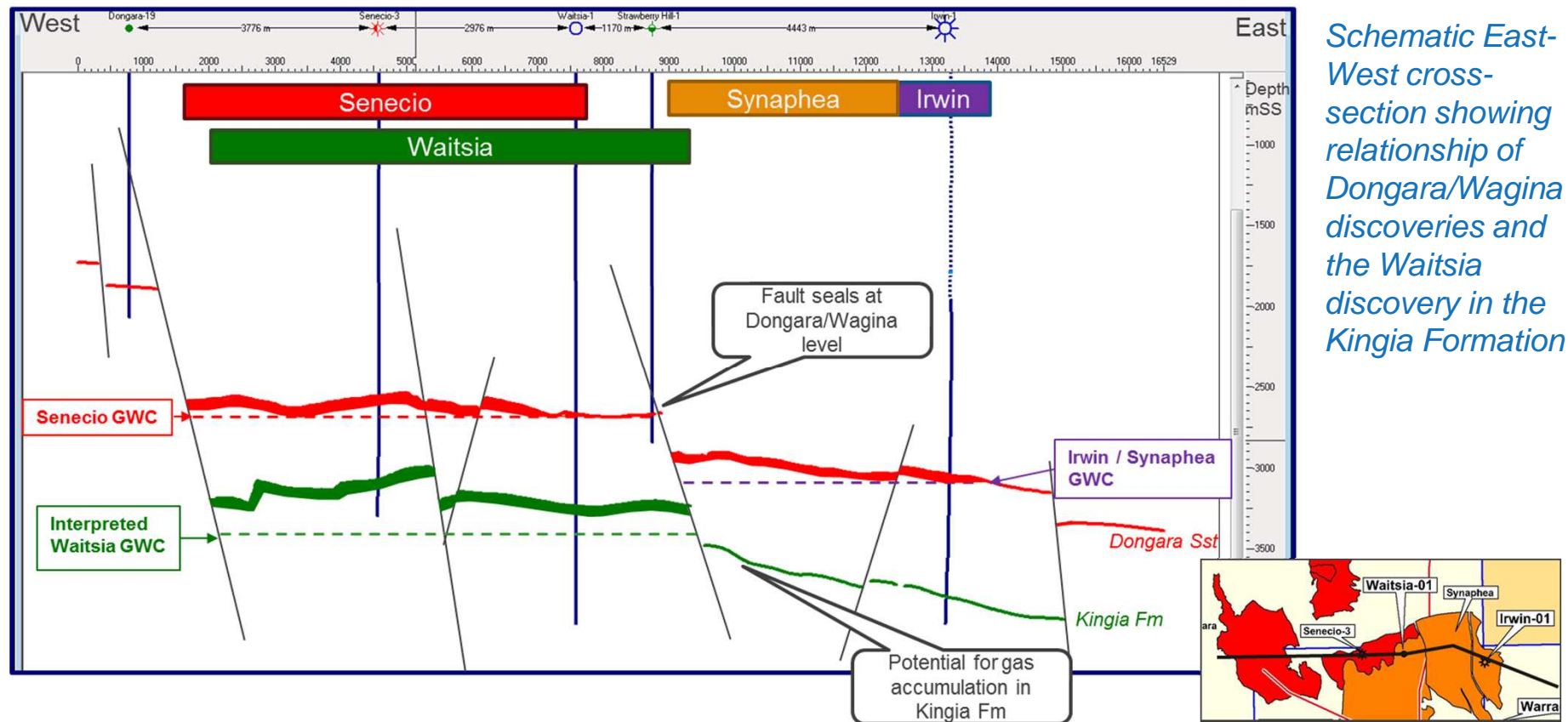


Results:

- 32m gas column in the Dongara/Wagina tight gas reservoir
- Gas/water contact interpreted at 3,085m TVDSS, (approx. 3,185 MDRT) same as at Warradong-1 drilled 4.5km to the south (drilled 1981)
- Gas-water contact indicates connection between Irwin and Synaphea structures
- Kingia interval at Irwin-1 was water bearing as expected but similar reservoir quality to Waitsia
- Confirms the Kingia reservoir is laterally extensive, as assumed in assessment of Waitsia 2C
- Irwin-1 cased and suspended for possible future flow testing

Gross 149 Bcf of gas 2C Contingent Resource in Irwin & Synaphea structures

Schematic Cross-Section



- Different gas-water-contacts in Dongara/Wagina at Senecio and Synaphea/Irwin result from sealing fault between structures
- Potential for undrilled gas accumulation at Synaphea in Kingia Formation if fault also seals at depth.

Senecio, Synaphea, Irwin – initial volumes



Table 1. Initial gross 2C Contingent Resource estimates for Dongara/Wagina discoveries

Field / Permit	Reservoir Interval	Original Gas in Place (Bcf)			Gross Contingent Resources (Bcf of gas)		
		P90	P50	P10	1C	2C	3C
Senecio (L1/L2)	Dongara/Wagina	86	148	246	40	70	130
Irwin (EP320, L1)	Dongara/Wagina	34	38	43	11	15	21
Synaphea (L1/L2, EP320)	Dongara/Wagina	282	330	387	101	134	178

Table 2. Initial net 2C Contingent Resource estimates for Dongara/Wagina discoveries

Field / Permit	Reservoir Interval	AWE Equity	AWE Share (Bcf of gas)		
			1C	2C	3C
Senecio (L1/L2)	Dongara/Wagina	50%	20	35	65
Irwin (EP320, L1)	Dongara/Wagina	33% - 50%	5	7	10
Synaphea (L1/L2, EP320)	Dongara/Wagina	33% - 50%	50	66	88
		Total net to AWE	75	108	163

Senecio, Synaphea & Irwin represent a combined net 108 Bcf 2C Contingent Resource to AWE

Significant discovery – Waitsia Gas Field

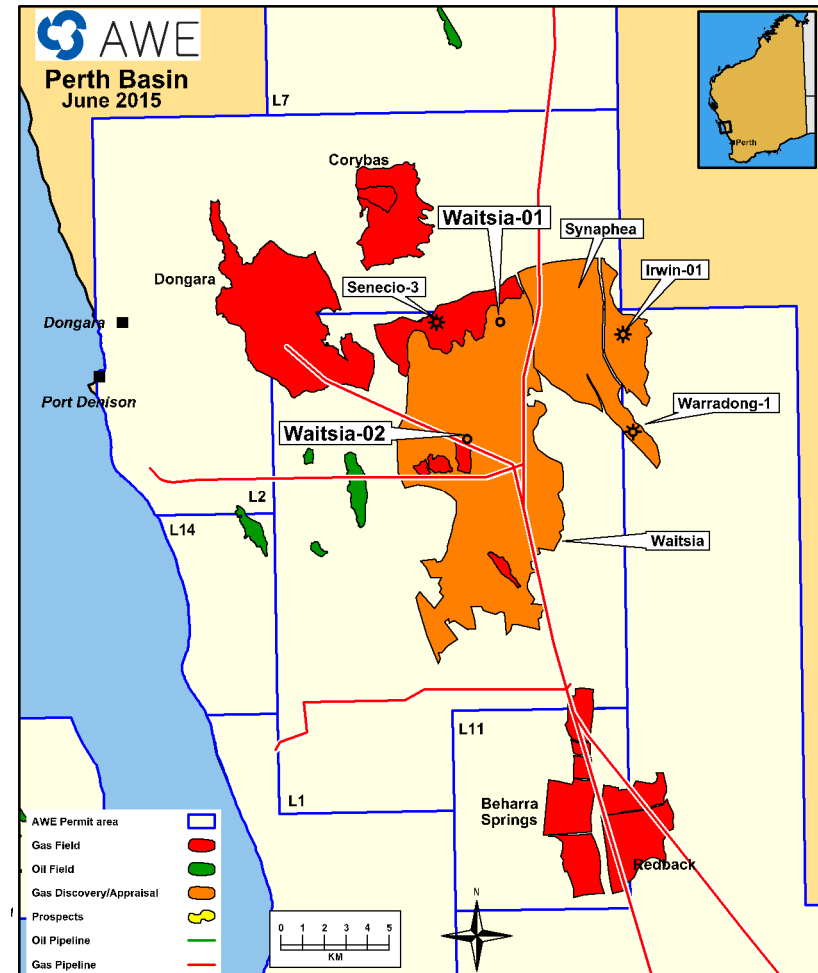


Significant new gas find at depth

- Senecio-3 well originally targeted Dongara and Wagina formations in the Senecio Field
- Waitsia Field discovered below original target - Kingia and High Cliff Sandstone formations
- Elevated and very high gas shows and moderate to good reservoir quality
- Potentially a large conventional gas play with significant unconventional upside

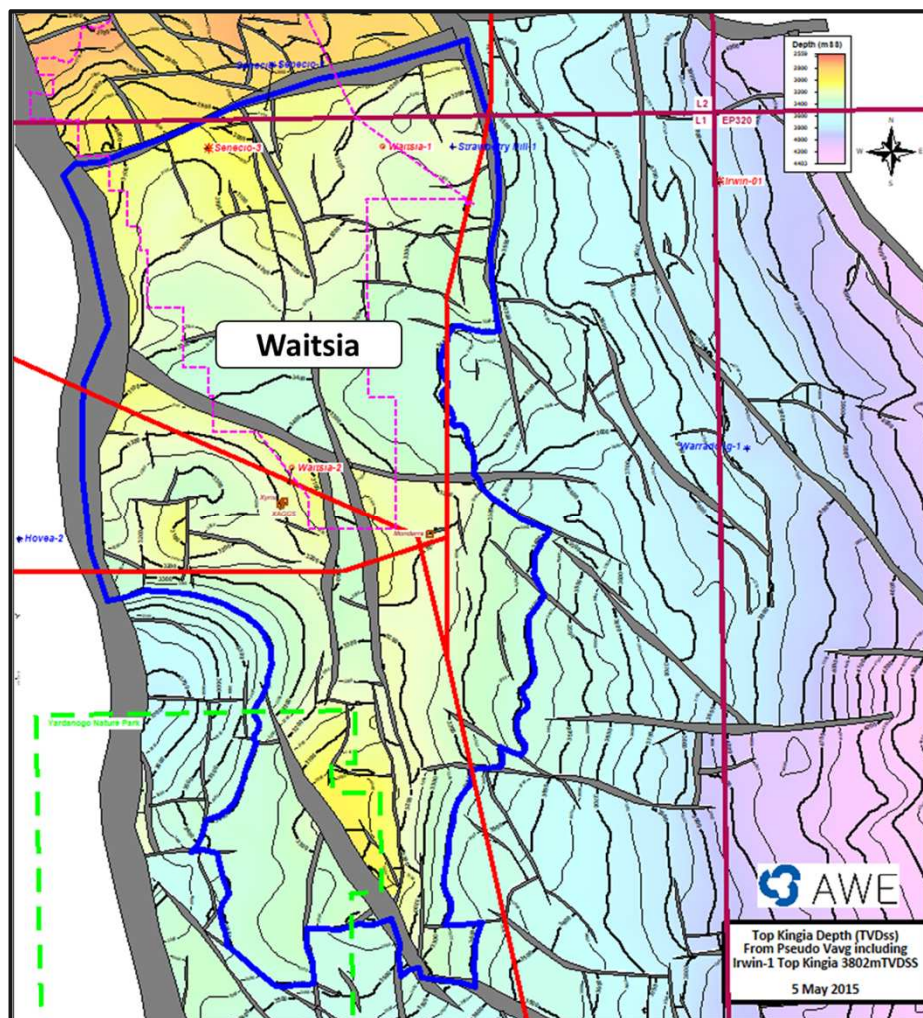
Best estimate (2C) Contingent Resources gross for Waitsia Field : 290 Bcf

- Rivals largest WA onshore gas discovery
- If commercial, will underpin continued gas production operations



New gas discovery could deliver substantial benefits for WA and the Mid West

Waitsia Gas Field



Senecio-3 appraisal well

- Discovery made by deepening Senecio-3
- Positive Senecio-3 flow test results from Kingia interval (Waitsia field):
 - *12.3 mmscf/d average gas flow rate over a 5 hour period*
 - *Well head pressure of 1,980 psig on a 36/64 inch choke*

Irwin-1 exploration well

- Kingia Formation is water-bearing as expected due to its location off-structure
- Kingia reservoir quality similar to Senecio-3, confirms laterally extensive reservoir system
- Reservoir thickens eastwards – potential for Kingia play on Synaphea structure

Senecio-3 and Irwin-1 confirm new play in what is considered a mature basin

Waitsia Appraisal Program



Waitsia-1 (vertical appraisal well)

Location: 3km east of Senecio-3

Spudded: 14th May 2015

Planned Total Depth: 4050 m MDRT

Primary Objective: Appraisal of Kingia-High Cliff Sst

Planned Geological Program: Extensive wireline logging suite, VSP survey, full core over Kingia Formation, MDT samples and sidewall core

Waitsia-2 (deviated appraisal well)

Location: 5.6km south of Senecio-3

Spud Date: 2H 2015 calendar year

Planned Total Depth: 3721m MDRT

Primary Objective: Appraisal of southern extension of Waitsia Field.



Two well program designed to confirm lateral extent of Waitsia Field

Waitsia – initial volumes



Table 1. Initial gross 2C Contingent Resource estimates for the Waitsia Field

Field / Permits	Reservoir Interval	Original Gas in Place (Bcf)			Gross Contingent Resources (Bcf of gas)		
		P90	P50	P10	1C	2C	3C
Waitsia (L1/L2)	Kingia/High Cliff Sandstone	115	489	1,961	65	290	1,170
AWE net share					33	145	585

Table 2. Initial gross Prospective Resource estimates for the Waitsia Field

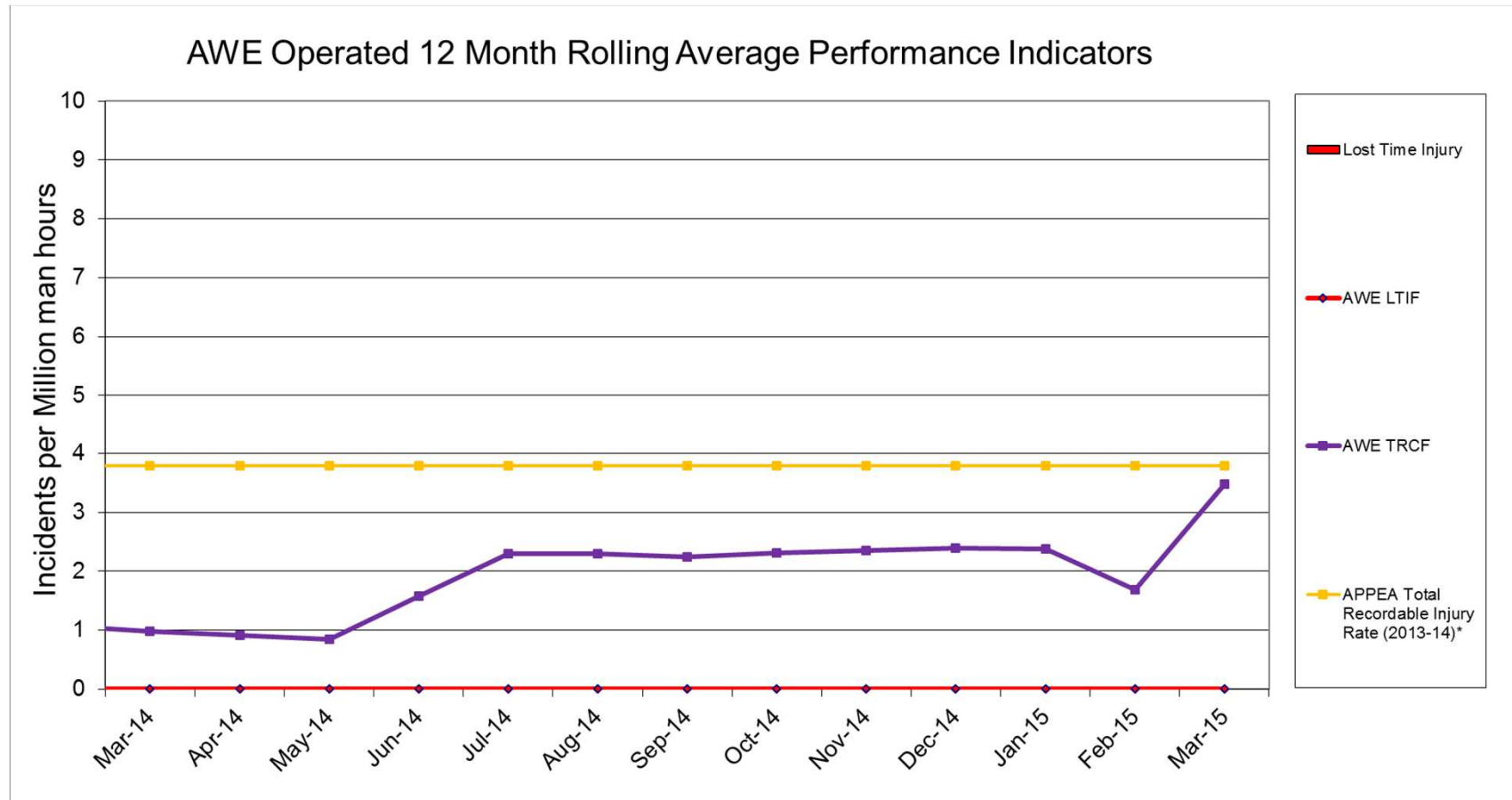
Prospects	Reservoir Interval	Original Gas in Place (Bcf)			Gross Recoverable (Bcf of gas)		
		P90	P50	P10	P90	P50	P10
Waitsia (L1/L2)	Irwin River Coal Measures	228	810	2,813	114	420	1,497
	Carynginia Shale	Not yet determined					

Waitsia represents net 145 Bcf 2C Contingent Resource to AWE

Safety and Environment



Good HSE performance



* APPEA Total Recordable Injury Rate (2013-2014) is 3.79 injuries per million hours worked, 23% lower than the previous reporting year (which was 4.9).

- No Lost Time Injuries and no reportable environmental incidents during 3Q FY2014-15

Safety and environment focused on reducing potential incidents

Active environmental risk management

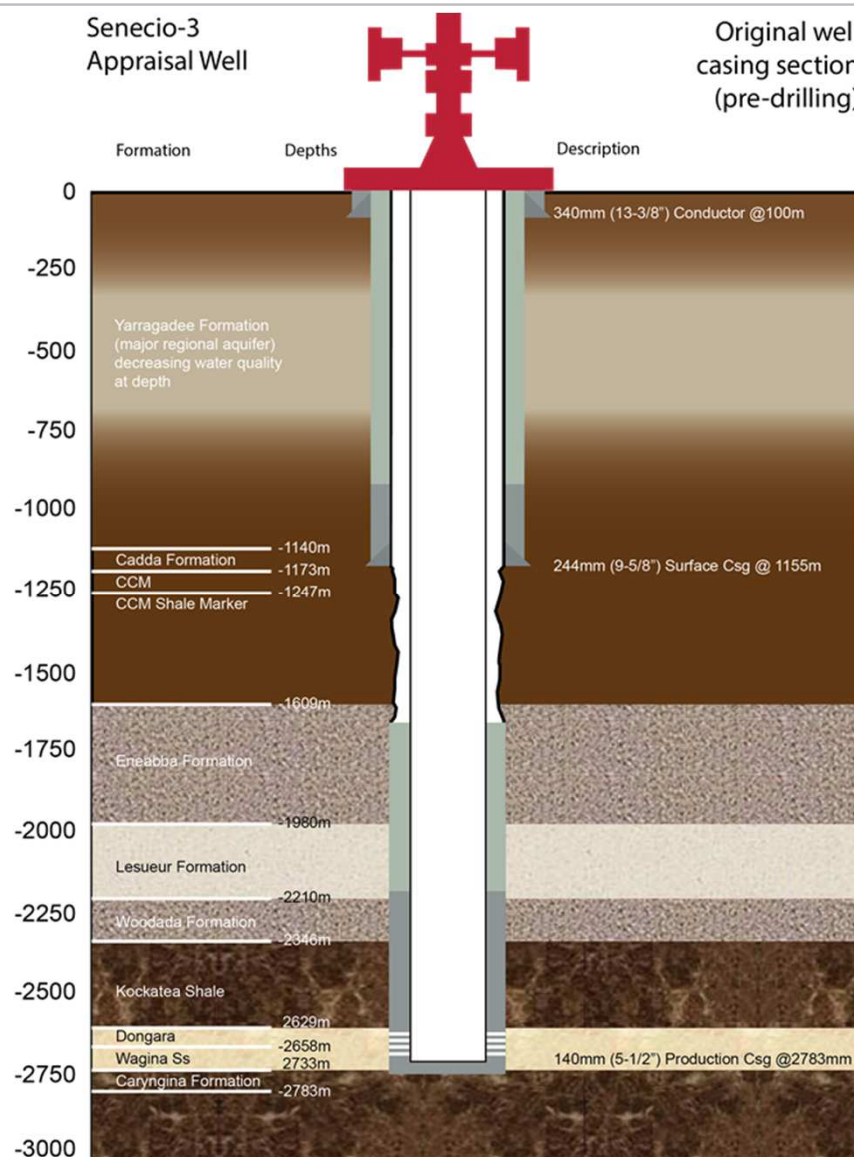


Hazard	Strategy/Control
Introduction of weeds/dieback	<ul style="list-style-type: none">• Machinery and vehicle inspection prior to mobilisation• Install and operate a hygiene wash down station at site entrance with traffic management & vehicle wash down validation, as required
Surface and Groundwater contamination (including chemical and waste management)	<ul style="list-style-type: none">• Double skinned fuel tanker for diesel fuel storage• Bunded storage of liquid chemical and hydrocarbon• Lined water storage pond and mud pit with fencing and escape mats• Dual lined flow back retention pond with fencing and escape mats• Multiple layers of pressure tested steel casing and cement• >1.5 km natural barrier between bottom of surface aquifer and target depth of the well bore• Surface casing cemented across usable aquifers• Full disclosure of down hole chemicals• Onsite waste segregation with off site disposal to licensed facilities
Uncontrolled fire	<ul style="list-style-type: none">• Fire fighting equipment on site• All equipment hazard zone rated for drilling operations• Gas detection on site

AWE has adopted environmental best practice and is committed to protecting the surrounding environment

Typical well design

- Well construction consists of multiple layers of steel casing plus cement to:
 - Reach formations of interest safely and ensure the containment of hydrocarbons if intersected
 - Maintain wellbore stability
 - Allow zonal isolation (protection of freshwater aquifers and isolation of hydrocarbon bearing formations)
- The section of the well bore that intersects the aquifer is near the surface and is safeguarded by layers of steel casing and cement



AWE understands that protection of freshwater aquifers is a key concern in the Mid West

Monitoring

- Baseline monitoring of soil and water is undertaken prior to commencement of any drilling activities
- Locate a water bore down hydraulic gradient from well location and monitor before, during and after drilling activities
 - *Actively monitor for a two year period after drilling*
- Monitoring results will be used to observe any changes in groundwater characteristics during the course of the activity as compared to baseline levels
- Monitoring results will be summarised within Annual Environmental Reporting to the DMP



AWE has a track record of success in managing safe drilling operations in the Perth Basin

Site rehabilitation

- Following drilling activities, AWE will restore a drill site to its original condition
- Site rehabilitation is a pre-planned and pre-approved activity, overseen and audited by DMP upon works completion
- Some infrastructure (e.g. access roads/water bores) may be left in situ to facilitate the project in the future or for use by the local landowner
- During site rehabilitation soil samples will be collected to characterise soil condition for comparison with baseline



Mountain Bridge-01 well site post rehabilitation work, wellhead location highlighted by the yellow box.

NB: Conventional drilling techniques used.

AWE goes beyond compliance. The regulations are tough, but the standards we hold ourselves to are even tougher.

A bright future for the Mid West



- Opportunity for industry and local Mid West communities to build on existing relationships
- Substantial additional economic benefit for WA from additional domestic gas supply
- Development and production activities would provide significant economic activity in area
- Direct local employment and contracting services opportunities
- Community investment by AWE
- State Royalties from onshore gas production estimated to be <10%



The new Waitsia gas field can make a substantial contribution to WA and the Mid West

Thank you



Appendix



Hydraulic stimulation in the Perth Basin

AWE has a track record of successful hydraulic fracture stimulation

- Fracture stimulation has been used since 1974 in the northern Perth Basin
- Seven fracture stimulation treatments in Dongara Gas Field from 1974 -1985
- Hydraulic fracture stimulation by AWE:
 - 2012 *Senecio-2*
 - 2012 *Woodada Deep-1*
 - 2012 *Arrowsmith-2* (operated by joint venture partner)
 - 2009 *Corybas-1*
- All fracture stimulations were confined to the target reservoirs and had no adverse environmental impacts



Code of Practice for Hydraulic Fracturing AWE

AWE helped develop and is a founding signatory to the **Western Australian Onshore Gas Code of Practice for Hydraulic Fracturing**. The Code of Practice commits its signatories to high standards of work and environmental practice.

The code provides a best practice framework for the safe, responsible and environmentally sound production of shale gas and tight gas in Western Australia. AWE is committed to comply with all guidelines when hydraulic fracturing is employed during the advanced exploration and production phases of our Perth Basin operations into the future.

The Code sets out guidelines for:

1. Community, landholder and stakeholder interaction
2. Protection of aquifers
3. Sourcing and use of water
4. Use of chemicals in hydraulic fracturing
5. Fluid flowback and produced fluids containment
6. Fugitive emissions
7. Continuous improvement

The code can be downloaded at:

http://www.awexplore.com/irm/content/project_unconventionalperthbasin.html

Additional useful information can be found at <http://wa-onshoregas.info>