

# MEETING MINUTES



MINUTES OF: Arrow Surat Community Reference Group  
 HELD AT: Graham Clapham's property at Norwin  
 DATE: 10 March 2016  
 COMMENCEMENT TIME: 9.25am

<b>Present:</b>	<p><b>Leisa Elder</b> – Vice President External Relations and Tenure Management  <b>Carey Bradford</b> – ATP Compliance Manager  <b>Simon Gossmann</b> - Groundwater Manager  <b>Peta Tucker</b> – Community Relations Manager  <b>Tania Marshall</b> – A/Senior Community Officer, Dalby</p> <p><b>John Hughes</b>- Project Officer CSG Compliance Unit; DNRM  <b>Graham Clapham</b> – Central Downs Irrigators Ltd  <b>Cr Nancy Somerfield</b> - Councillor, Toowoomba Regional Council  <b>Trudi Bartlett</b> – Member Services Manager, Dalby Chamber of Commerce  <b>Cr Charlene Hall</b> - Councillor, Western Downs Regional Council  <b>Cr Ray Jamieson</b> – Councillor, Western Downs Regional Council  <b>Lee McNicholl</b> – Chair, Basin Sustainability Alliance</p> <p><b>Presenters:</b>  <b>Darren Marshall</b> – Pest Management Contractor  <b>St.John Herbert</b> – Principal Groundwater Modeller, Strategic Water Management &amp; Planning (Arrow Energy)  <b>Alexandra Wolhuter</b> – Research Assistant at Centre for Coal Seam Gas</p>
<b>Apologies:</b>	<p><b>MINUTES: Tania Marshall</b> - Secretariat</p> <p><b>Jordan Peach</b> – Australian Lot Feeders Association, Mort &amp; Co – proxy provided, however unable to attend  <b>Matt Paull</b> – Policy Director, APPEA  <b>Mary O'Brien</b> – Regional Manager, Cotton Australia</p> <p><b>Pat Weir MP</b> – Member for Condamine  <b>Ian Hayllor</b> – Landholder  <b>Sarah Due</b> – Regional Manager, Agforce</p>
<b>CHAIR:</b>	<b>Leisa Elder</b> , Vice President External Relations and Tenure Management
<b>DISCLOSURES</b>	None recorded

	<b>Joint Meeting - ASCRG &amp; AIFL Committee</b>	<b>ACTION/ SUGGESTIONS</b>
<b>ITEM 1</b>	<p><b>Welcome – Leisa Elder</b></p> <ul style="list-style-type: none"> <li>Leisa Elder welcomed attendees and thanked Graham Clapham for inviting the meetings to be held at his farm.</li> </ul>	
<b>ITEM 2</b>	<p><b>Acknowledgment of Traditional Owners</b>  <b>Safety moment – Mental Health &amp; Sleep – Peta Tucker</b></p>	
<b>ITEM 3</b>	<p><b>Arrow Update – Leisa Elder</b></p> <ul style="list-style-type: none"> <li>Under the shareholder agreement there are some senior management changes at five years between CNPC and Shell.</li> <li>Arrow Energy has a new CEO, Mr Qian Mingyang. (CNPC).</li> <li>The role of Arrow's Chief Financial Officer which is currently held by Mr Xuyang Guo (CNPC) will transfer to Mr Edwin Kunkels (Shell) on 1 April.</li> <li>Mr Mike Grieve (Shell - former Arrow CEO) will stay on as Chief Operating Officer.</li> <li>There may be further changes of staff in senior positions.</li> <li>The BG Group buy out by Shell has no direct or immediate effect on Arrow Energy. Arrow Energy is the operator with CNPC and Shell as the owners of Arrow Energy.</li> <li>Media has stated that Arrow has the largest reserve of uncontracted gas – Arrow will consider a range of options to commercialise it's gas.</li> <li>Lee McNicholl asked who Arrow's shareholders were.</li> <li>Leisa Elder advised that a 50/50 joint venture between CNPC and Royal Dutch Shell owned Arrow.</li> <li>Lee McNicholl asked who controls CNPC. Leisa Elder replied CNPC was approximately 80% Government owned.</li> <li>Ray Jamieson asked when a decision would be made on Arrow's</li> </ul>	<b>Leisa Elder to provide information on CNPC (action closed out following meeting)</b>

	<p>uncontracted gas.</p> <ul style="list-style-type: none"> <li>• Leisa Elder advised there would be ongoing commercial-in-confidence discussions around the commercialisation of Arrow's gas.</li> <li>• Shell has now formally acquired BG, including QGC, and has stated publicly they may make some decisions by mid-April on restructure.</li> <li>• Lee McNicholl made reference to the ACCC Inquiry on East Coast Gas Supply.</li> <li>• Carey Bradford advised that environment costs in contracts now compared to several years ago are substantially different. Arrow believes the only way to reduce costs is to increase supply, and reduce the company's production costs.</li> <li>• Lee McNicholl stated gas was cheaper years ago.</li> <li>• Leisa Elder advised there are still some gas supply contracts in the market that are up to 20 years old which never contemplated significant changes in regulatory costs or declining market positions.</li> <li>• Neville Wirth (AIFL Committee) asked if a landholder has both QGC and Arrow tenement over their land, how long would it be before they were dealing with just one company.</li> <li>• Leisa Elder advised that it may never change.</li> <li>• Graham Clapham stated that the media commented on how difficult it is in the resources sector at present. Where does a landholder sit if the resource company has financial difficulty? Leisa Elder advised that in the current climate, a resource company's social licence to operate has a high priority. Landholders CCAs are a very high priority, but she would take on notice the question of obligations in any resource company insolvency event.</li> <li>• Graham Clapham advised landholders had been left high and dry in another jurisdiction where the company went broke and the landholder in that case had to sue the regulator.</li> </ul>	<p><b>Leisa Elder to provide information on legal standing of CCAs if a resource company experiences financial difficulty.</b></p>
<p><b>ITEM 4</b></p>	<p><b>Project Update – Dave Munro</b>  <b>Daandine Expansion Project:</b></p> <ul style="list-style-type: none"> <li>• Provides a 60% increase in Daandine CGPF production capacity.</li> <li>• This includes works on facilities, field infrastructure and facility shutdowns for safety upgrades and to enable the connection and commissioning of new compressors.</li> <li>• The expansion project is now in the commissioning and optimisation phase.</li> </ul> <p><b>Flaring:</b></p> <ul style="list-style-type: none"> <li>• Flare at Daandine CGPF – the size of the flare will vary up to 30m high, depending upon the amount of gas requiring to be flared at any time.</li> <li>• Flaring is regulated by Queensland Department of Environment and Heritage Protection through the <i>Queensland Environmental Protection Act</i>.</li> <li>• What is flared is mostly NO<sub>2</sub> and CO. Gas from a coal seam is almost all methane. Modelling shows NO<sub>2</sub> and CO levels from Daandine flare are well below those stipulated for protection of human health and the ecosystem in <i>Queensland Environmental Protection (Air) Policy</i>.</li> <li>• Flaring is necessary for safety and to allow works to be undertaken on the facility.</li> <li>• Neville Wirth (AIFL Committee) advised he can see a glow from his property.</li> <li>• Lee McNicholl stated that the companies are not paying royalties on flared gas.</li> <li>• Dave Munro advised that companies had an exemption of 3 million m<sup>3</sup> per well which can be flared before royalties must be paid.</li> <li>• Neville Wirth advised that there are 2 or 3 other flares around.</li> <li>• Lee McNicholl advised there is quite a lot of flaring around Miles and Wandoan. This has substantially impacted landholders near Condamine who need blackout curtains to sleep.</li> <li>• Dave Munro advised that Arrow would not be flaring during normal operations..</li> <li>• Darryl Phillips (AIFL Committee) advised that currently the Daandine Field is ramping up the amount of gas flowing to the CGPF in order to bring new compressors online.</li> <li>• Lee McNicholl stated that if the committee wanted to know how much pollutants are produced they should look at the data from the Kenya Plant. It is substantial.</li> </ul> <p><b>Kogan North Field</b></p> <ul style="list-style-type: none"> <li>• A rig is mobilising to the Kogan North field. Nine new 'twinned' wells will be drilled on existing well pads, next to existing wells.</li> <li>• Graham Clapham asked how long the existing wells had been at Kogan North, if both wells will produce gas.</li> <li>• Cary Bradford advised the original wells had been there for approx. 10-12 years.</li> <li>• Dave Munro advised that both the new and the existing wells would be producing as they are targeting different coal seams.</li> <li>• These wells are located on Peabody owned property.</li> </ul>	

	<p><b>Surat Greenfield Project</b></p> <ul style="list-style-type: none"> <li>• Arrow is in a value improvement phase, which includes looking at opportunities for collaboration.</li> <li>• Some proponents have infrastructure with spare capacity in proximity to Arrow tenure.</li> <li>• Ray Jamieson asked how much spare capacity.</li> <li>• Dave Munro advised that it varied across areas.</li> <li>• Dave Munro advised that supply had grown well above demand.</li> <li>• Dave Munro presented on global market trends in the oil and gas business, with a comparison to global trends in the cotton industry.</li> <li>• An overview of a Harvard Business Review article provided analysis of business strategies often adopted in an uncertain future.</li> <li>• Arrow's position is to review collaboration opportunities, and continue to work with government, regulators, landholders and communities.</li> </ul>	
<p><b>ITEM 5</b></p>	<p><b>Tipton Seismic Survey program update – Carey Bradford</b></p> <ul style="list-style-type: none"> <li>• The Tipton Seismic Survey was undertaken in the Tipton and Cecil Plains area between 5 February and 25 February 2016.</li> <li>• The survey was conducted over 100km of gazetted roads,</li> <li>• to map the location of the Horryne Fault to inform Arrow's development planning.</li> <li>• The data should provide a clearer picture of the subsurface. The report should be completed within a couple of months. After the data is received it will be used to determine modelling.</li> <li>• Ray Jamieson asked what accuracy does the survey gives.</li> <li>• Carey Bradford advised that vibration surveys discern a seam displacement of approximately 5m and approximately 20m laterally.</li> <li>• Graham Clapham asked if the results will give a better idea of the location of gas.</li> <li>• Carey Bradford advised that the survey provides direct information on the location of the coal seam surface, but only indirect information on where gas may be found gas.</li> <li>• Graham Clapham asked if the data was compromised where a large proportion of the area over the alluvium is dry.</li> <li>• Carey Bradford advised that where there is contrast in density there is some reflection and loss of signal. Unconsolidated soils and sediments can absorb some of the signal and the thickness of the soil and alluvium in the area was concerning; however, the quality of the data received thus far indicated this did not cause a problem with this survey.</li> <li>• A number of landholders in attendance reported no issues or concerns with the surveys, however had noted there were spot checks on equipment left on site during the night.</li> </ul>	
<p><b>ITEM 6</b></p>	<p><b>2016 Groundwater Drilling Program – Simon Gossmann</b></p> <ul style="list-style-type: none"> <li>• Simon Gossmann provided an overview of the ground water monitoring program.</li> <li>• Simon Gossmann advised that in 2016 Arrow's UWIR obligations are for 11 monitoring sites and 29 monitoring points. Arrow has completed 3 new monitoring bores and have 10 sites to complete. Some of these sites are off tenure in an area directed by the department.</li> <li>• Lee McNicholl stated that there is connectivity between the Hutton and the Walloon Coal Measures (WCM).</li> <li>• Simon Gossmann agreed, but stated that there is not a high degree of connectivity.</li> <li>• Lee McNicholl asked if there is a separation between the WCM and the Springbok. Simon Gossmann advised that the Springbok Sandstone overlies the WCM. This is described on page 19 of the UWIR (2012), "the medium to fine grained, often clayey, sandstone, siltstone and mudstones of the Springbok Sandstone overlie the Walloon Coal Measures."</li> <li>• Lee McNicholl asked what the depth of the Springbok Sandstone was at UWIR site 28.</li> <li>• Simon Gossmann provided an update on the Daleglade Connectivity Trial.</li> <li>• Data collected during irrigation season through to 24 January 2014 used by OGIA for analysis, "Walloon Coal Measures response to pumping in Condamine Alluvium does not indicate a strong hydraulic connection between the two systems".</li> <li>• Further data collected through 2014-2015 irrigation season shows the response in all Daleglade monitoring bores is consistent to that observed in the 2013-2014 irrigation season, such that conclusions are not expected to change.</li> <li>• Neville Wirth (AIFL Committee) commented that he had not received information on the monitoring of his bore which has been in place for 4-5 years.</li> <li>• Simon Gossmann advised Neville Wirth that he would follow up to ensure any outstanding information was provided.</li> </ul>	<p><b>Simon Gossmann to provide formation depths to Lee McNicholl for UWIR monitoring site 28</b></p> <p><b>Simon Gossmann discussed with Neville Wirth (AIFL) and confirmed that the data in question were the results of the one baseline assessment undertaken on his son's property in 2012. This report was provided to his son in January 2013.</b></p>

	<p><b>Baseline bore assessment in Dalby town</b></p> <ul style="list-style-type: none"> <li>• Update of the program was provided.</li> <li>• Letters are being sent to 195 registered bore owners inviting them to participate in the assessment process (21 March 2016). A notice will also be published in the Dalby Herald (22 March 2016).</li> <li>• Trudi Bartlett would like a copy of the letter and the advert and advised that the Chamber of Commerce would be happy to assist with promotion of the assessment process. Lee McNicholl also requested a copy to encourage participation within the BSA network.</li> <li>• Lee McNicholl provided an explanation of the CSG Net program. Landholders undertake monthly bore assessments and supply information to CSGCU. He stated that it was vital for landholders to participate in this scheme.</li> <li>• Lee McNicholl commented on the delay in the release of the 2016 UWIR update. The UWIR will be 7 months overdue when released, which is compromising landholders negotiations with CSG companies.</li> <li>• Simon Gossmann advised he was happy for landholders to contact Arrow for assessment results. A formal process also exists whereby landholders can contact DEHP who can direct companies to undertake bore assessments.</li> </ul>	<p><b>Tania Marshall to provide Trudi Bartlett and Lee McNicholl a copy of the baseline bore assessment letter of invitation – sent 06.04.16</b></p>
<p><b>ITEM 7</b></p>	<p><b>Crop dusting and aerial safety – Dave Munro</b></p> <ul style="list-style-type: none"> <li>• Dave Munro provided information on a recent incident which involved a plane undertaking crop dusting on a landholder's property within a proponent's tenure (not Arrow). The plane hit an aerial approximately 4m above the ground level.</li> <li>• Arrow would like to work with the Arrow Intensively Farmed Land Committee and local crop dusting businesses to identify and implement strategies to ensure this never occurs within an Arrow development area.</li> <li>• Graham Clapham noted that if CSG infrastructure was located near existing farm infrastructure, the likelihood of an incident was greatly reduced.</li> </ul>	
<p><b>ITEM 8</b></p>	<p><b>University of Queensland Centre for Coal Seam Gas 3D Water Atlas – St.John Herbert &amp; Alexandra Wolhuter</b></p> <ul style="list-style-type: none"> <li>• Alexandra Wolhuter provided an overview of the 3D Water Atlas. This atlas of the Surat Basin aims to fulfil the need to understand the groundwater system.</li> <li>• There are two versions of the water atlas, the 'expert version' provides government and CSG companies access to public and company groundwater data and the public version provides easy access to public groundwater data that has gone through a QA/QC procedure.</li> <li>• The Water Atlas is still in the development phase, testing the usability and the usefulness of the information.</li> <li>• Charlene Hall asked if the data input to the system was historical. Alexandra Wolhuter advised that there is limited historical data available.</li> <li>• Lee McNicholl commented that it was in a landholder's best interest to have knowledge of their own bores. Through CSG NET 400-500 bores are being reported on a monthly basis.</li> <li>• Further information on CCSG's activities – <a href="http://www.ccsq.uq.edu.au">http://www.ccsq.uq.edu.au</a></li> </ul>	
	<p><b>ASCRG Committee</b></p>	
<p><b>ITEM 9</b></p>	<p><b>Membership of ASCRG Committee</b></p> <ul style="list-style-type: none"> <li>• Letter to be sent to Matt Paull, APPEA, requesting a proxy attend if he is unable to attend meetings.</li> </ul>	
	<p><b>Minutes of previous meetings</b></p> <ul style="list-style-type: none"> <li>• Leisa Elder advised that the minutes of the December 2015 meeting would be re-sent to the committee for review.</li> </ul>	
<p><b>ITEM 11</b></p>	<p><b>Arrow Pest Management research program – Darren Marshall</b></p> <ul style="list-style-type: none"> <li>• Darren Marshall (Pest Management Contractor with Swift NRM) provided an overview of the pest management program to be undertaken on Arrow owned properties and surrounding areas.</li> <li>• The control program commenced in March 2016 on Arrow's Theten and Broadwater properties. Feral pigs were trapped; wild dogs, foxes and feral cats were trapped using rubber jaw leg hold trapping; and feral animal populations and kangaroo numbers are being monitored. Some of the feral animal's stomach contents were also reviewed to get information on their diet and potential impacts in the landscape.</li> <li>• Darren Marshall provided information on some of the findings he had from other areas including animals with disease.</li> <li>• Lee McNicholl wanted to know what strains of Brucellosis had been found in feral pigs.</li> <li>• A further program will be undertaken to monitor feral pig movements with GPS tracking collars.</li> <li>• A community engagement program will be undertaken to introduce this program to the neighbouring landholders prior to the program commencing.</li> </ul>	<p><b>Darren Marshall (through Lavinnia Fiedler) to provide information to committee on strain of disease –</b></p> <p><i>The strain of Brucella that has been tested and confirmed in the feral pig population in southern Queensland is Brucella suis. This is a concern as this infection, caused by bacteria, can be spread to humans. A vector for this is the feral pig (Sus scrofa).</i></p>

<p>ITEM 12</p>	<p><b>Any other business</b></p> <ul style="list-style-type: none"> <li>• <b>Gas Migration Matter</b> <ul style="list-style-type: none"> <li>• Lee McNichol had advised he wanted an explanation on what Arrow was doing regarding a gassy bore in the Hopeland area.</li> <li>• The landholder was contacted by Arrow to ensure they were happy for their matter to be discussed in the meeting. This approval was given.</li> <li>• Lee McNichol stated that there were 8 bores in the immediate vicinity that have been affected.</li> <li>• Simon Gossmann advised that Arrow's closest operations were ~35km away from the landholder's property and that other proponents had operations closer to the property. Arrow and DERM completed 3 separate investigations of potential impacts to the bore in 2011 between 2010 and 2011. Concluded that Arrow's operations had not impacted the water bore.</li> <li>• The bore in question is installed into the Walloon Coal Measures which naturally contain gas and water.</li> <li>• Lee McNichol questioned why it was Arrow's responsibility to make good on the bore if Arrow's operations may not be the cause of the issue.</li> <li>• Simon Gossmann advised that DEHP made a determination in 2013 that Arrow was required to undertake bore assessments of the landholder's bores located on Arrow tenure.</li> <li>• Simon Gossmann advised Arrow completed the bore assessment in 2014. This assessment also concluded that Arrow's operations had not impacted the bore.</li> <li>• Arrow provided a make good agreement to the landholder in April 2014</li> <li>• Ongoing discussions are being had with the landholder. Arrow has contacted the landholder on 16 separate occasions since the make good agreement was provided.</li> <li>• Lee McNichol advised that the landholder stated he feels he has been listened to more in recent times.</li> <li>• The new UWIR is being released and Arrow is keen to understand what this report says about predicted water level declines in this bore in the next 3 years</li> </ul> </li> <li>• <b>Accommodation</b> <ul style="list-style-type: none"> <li>• Trudi Bartlett raised the matter of accommodation and the use of the camp in Dalby.</li> <li>• Charlene Hall questioned how many staff lived locally and requested information on the numbers of live and stay local numbers.</li> <li>• Local accommodation providers were being requested to provide information on the services and facilities available which would enable Arrow to consider their facilities for future use.</li> </ul> </li> <li>• <b>Buy local policy</b> <ul style="list-style-type: none"> <li>• Ray Jamieson raised the issue of Arrow's buy local policy. He asked what is considered to be 'local'.</li> <li>• Charlene Hall asked where Arrow's uniforms were sourced.</li> </ul> </li> </ul>	<p><b>Tania Marshall to provide staff numbers</b></p> <p><b>Tania Marshall to provide</b></p>
<p>ITEM 12</p>	<p><b>Next meeting</b> 26 May 2016 – Toowoomba – venue to be determined.</p>	

There being no further business, the meeting was closed at 12.35pm.