



NB: Note that minutes are paraphrased to an extent and may not exactly match actual statements.

Project	Gloucester Coal Seam Gas Project	From	Michael Ulph
Subject	Community Consultative Committee	Tel	4941 2841
Venue/Date/Time	Thursday 23rd August Gloucester Country Club, 10.00am – 1.00pm	Job No	21/17714
Copies to	All attendees		
Attendees	Toni Laurie – Land and Approvals Manager Ian Shaw – Lands Officer Therese Ryan – Community Relations Manager Ed Robinson – Lower Waukivory Residents Group Rod Williams – Community Representative David Mitchell – Avon Valley Landcare Garry Smith – Barrington Gloucester Stroud Preservation Alliance Gerald McCalden – The Gloucester Project Clr Karen Hutchinson – Great Lakes Council Anna Kaliska – Mid Coast Water Michael Ulph – GHD (Facilitator) Lilen Pautasso – GHD (Assistant Facilitator) Andrew Parker – AGL Geologist Observers Ray Dawes – The Gloucester Project Alex Kennedy-Clarke – AGL Project Manager	Apologies	Clr Tony McKenzie – Dungog Shire Council Lisa Schiff - Great Lakes Shire Council Tim Hickman – Community Representative

1. Introductions

Action

Michael Ulph

Welcome and Acknowledgement of Country

Meeting commenced at 10:10am



2. Meeting agenda

- Welcome
- Action items from previous meetings

Action 1: Toni to re-distribute hard copies of maps to CCC members that did not receive a copy

Complete

Action 2: Toni to email the actual wording of the Act and a link to the Act to Michael to distribute to all CCC members

Toni provided material to Michael prior to meeting, Michael to forward tomorrow

Action 3: Stakeholder table to be issued by Therese to the CCC prior to the August meeting. Therese to publish on the AGL project website once complete

Not on website but is issued in the CEP. Once Department of Planning and Infrastructure sign off it will be on website.

Action 4: Michael to make contact with an Aboriginal group from the area and discuss participation in the CCC.

Michael contacted Dan Rose, CEO Forster Aboriginal Land Council. Has shown interest and asked for additional information. General agreement to proceed.

- One CCC member explained that there were some issues on a previous CCC regarding the addition of Aboriginal representatives. The member explained that, due to some competing interests, the committee split into two committees (one solely for the Aboriginal representatives). The member stated that they would not like this to happen to this group, especially if it will interfere with the information being received.
- Ian reiterated that the committee should not refer to Aboriginal representatives as 'Indigenous'. CCC is to refer to any representatives as 'Aboriginal'.
- Michael stated that he definitely wanted to ensure the integrity of the group was maintained. He asked for any comments on the notion of inviting an Aboriginal representative as per a request from the CCC in an earlier meeting.
- CCC is in agreement to move forward.

Michael to proceed with inviting an Aboriginal representative to the next CCC meeting

Action 5: Terms of Reference to refer to an 'Aboriginal' rather than 'Indigenous' representative in the section regarding CCC membership.

Therese to check and correct as necessary

Therese to check that the correct terminology is used in the Terms of Reference

Action 6: Minutes to be sent out in soft copy form with a

table of the action items.

Minutes have been issued and uploaded on the website as a draft (25th July)

Action 7 - 18: All actions relating to edits to the Terms of Reference

All actions have been completed

Rod Williams moved that the minutes be accepted as a true and correct record of the meeting and David Mitchell seconded.

3. Project update:

Toni Laurie (AGL) provided an update of the Gloucester project to the CCC. She stated that some approvals and additional conditions had come through since the last meeting. These include:

- Proceeding with water pump test on Stratford pilot wells. The workover rig for the pilot well is expected to be there for 4 to 5 days. The well will be in operation for somewhere between 10 days to a month. As it is a gas well there will be a flare.
- Yesterday AGL received approval for the core hole discussed at the last meeting
- The Land and Environment Court decision will be handed down on Monday afternoon (27th August)
- Demolition at Rombo (site of the central processing facility) will commence some time next month. AGL is currently in the final stages of planning for the demolition as per the DA requirements.
- The aero magnetic (aeromag) surveys will commence in December. Andrew Parker (AGL) is present at the meeting to discuss what this involves.
- AGL will submit the application for a Pipeline licence within next month:
- **CCC: Are most people affected by the pipeline on board in regards to access and compensation?**

Toni – Yes, about 80% are signed up. We can still put the application in while we're negotiating with those final few but it won't be approved until that is sorted out first.

- The groundwater monitoring annual report for the project is being prepared for an October release
 - SEWPaC is currently reviewing the water balance report
 - AGL is currently investigating sites for water monitoring to the north of the Stage 1 field area, closer to Gloucester. AGL is planning on drilling these toward the end of 2012.
 - AGL has received approval to commence the irrigation trials. This approval contained a number of conditions that have to be met prior to commencing, including the development of specific management plans. These management plans are currently being completed and, once they are approved, work will commence.
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Hopefully AGL will get to undertake these trials over summer. In the meantime, construction of another storage site on the Tiedman property will be finished later this year.

- **CCC: I understand that the irrigation trials will require trenches to be cut at about 900 mm deep.**

Toni – Currently there are 16 plots and each of these will be slotted. The soil will need to be improved so that we can utilise the water. AGL is currently looking at the alignments of these slots. We anticipate that they will be 900 mm, 600 mm and shallower depths. This technique is called ‘slotting’ which is a new method where they incorporate organics to improve the soil type. Through the inclusion of organic material, we think that the soil at these depths will be able to take the water and facilitate plant growth.

- **CCC: So the different depths are aimed at facilitating infiltration?**

Toni – Yes, it is for the purpose of aiding the tap root to maximise water use.

- **CCC: do you have a percentage of what this infiltration will be?**

Toni – I don't have an answer to that at the moment. But we will have catch dams to make sure that the irrigated water does not leave the trial site.

Michael asked if there could be an update on the CCC visit to Camden. Therese invited members of the CCC that attended to provide their thoughts and comments.

- **CCC – I thought it was an interesting trip and I particularly enjoyed getting the opportunity to have a look at the processing plant. The thing I was most disappointed and concerned about was the drill rig. This drill rig is located about 40 metres off the river, it is very noisy and causes very strong vibrations. No wildlife would go near it. I am also disappointed that they had 2 wells that they had pumped before we got there. They were holding sludgy-stuff that I thought was a bit scary being so close to a river. My strongest concern is about having that drill rig near properties for 2 years because it is extremely noisy. 24 hours a day will be significantly imposing. Other than that, I found it very interesting to look at the wells. They are not fracking, but they are drilling vertical wells and horizontal wells, not like they would here. That was what I gained from my experience.**
- Therese: Yes, in total we had 7 guests including candidates for council. Together we looked at the processing plant and gas well sites. A lot were integrated with farming operations (similar to what we will see here). There were also lots of questions, which was great.
- **CCC: The drilling that's occurring there – does it go for 24 hours?**



Toni: Yes.

Andrew: The reason it can be imposing is because horizontal drilling can take around 2-3 weeks so it sits there for much longer. Vertical holes will only be 1 week.

Ian: I just want to add that, on reflection, we were standing where the drill rig was going underneath us. It was about 700 m down.

- **CCC: If it is disruptive, is there an option for AGL to only do the drilling work during daytime hours?**

Ian: There would be no need to limit the time because that type of drilling does meet the conditions of noise approvals.

- **CCC: How far underground does it go when you are drilling horizontally?**

Ian: about 700 metres deep and out to about 2400 metres.

- **CCC: But even so, if there was a proximity to a landowner then would you work something out?**

Toni: Yes absolutely, and that's what we're doing now.

Andrew: I think it's important to also note that Camden is a bit different because there are only two coal seams, unlike in Gloucester.

- **CCC: The spot that we were observing in Camden was the site of an existing well. So now they are spider-webbing – hence the horizontal drilling.**

Andrew: Yes, but that horizontal well will replace a lot of vertical wells.

- **CCC: Yes, that's what they said. I think another thing to note that I found really interesting was that they don't have a lot of produced water. It all goes to a brick manufacturer and it is used really well.**

Therese mentioned that there will be a community open day in Camden on Thursday 27th September for those that missed out on attending this time around. Therese will be going back down if anyone is interested to go with her.

Therese to provide more details on the Camden community open day to the CCC

Therese also drew the CCC's attention to the display well that they brought along with them. The trailer has been built to demonstrate what a well head looks like and the CCC was invited to look at the well head outside the meeting room.

Toni clarified that vertical separators had been the ones used the most in Gloucester. The well head that is on display outside is an example of a horizontal separator which is used at Camden.

- **CCC – how many of these wells would you have operational in Camden?**

Andrew – There are about 80 operating wells at the moment.

- **CCC – how many of these wells would have the green box**
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enclosing it?

Andrew – About 20 of them do,.

Toni – At the moment we're looking at different types of vegetation and artificial screening of which we will discuss with each landowner. The box is just one option to disguise the well, what the landowner wants will be outlined in their access and compensation agreement.

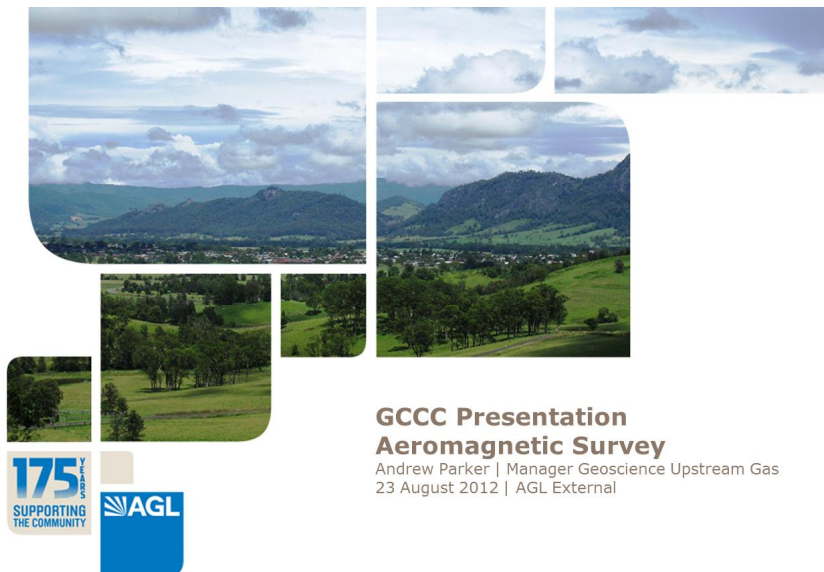
- **Michael – When I was outside I asked the question as to how much water you were expecting to be produced by these wells?**

Andrew – we believe that it will be similar to those installed in the Hunter.

- **CCC: Environmentally, which wells are better? Horizontal or vertical wells?**
- Andrew – horizontal is better in regards to reaching a broader area from one drill pad. But the drilling takes longer. The drill rig may be onsite for three to four months.
- **CCC – Mike Roy pointed out that horizontal drilling works well when the slopes of the coals are 2/3 degrees. Here it's more than that and the geography of the area (with faults and fractures) makes horizontal drilling impossible in many places.**

Andrew: Yes, that's correct. In that respect the horizontal drilling is unsuitable in the Gloucester area.

3. Aero magnetic (Aeromag) survey presentation.



Michael to include the aeromag presentation in the minutes.

Andrew Parker (AGL Geologist) gave a presentation on the aeromag survey, explaining how it works and how it will be used in Gloucester.

What is an aeromagnetic survey?

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- › An aeromagnetic survey measures changes in the Earth's magnetic intensity using a magnetometer
- › The magnetometer only measures the passive magnetic field and does not emit any signals itself
- › The intensity is affected by the underlying rock types and this data helps AGL to create a geological model of the Basin
- › This data is particularly useful for identifying intrusions.

› GCCC Aeromagnetic Survey
› August 2012
› AGL External



Why does AGL need to acquire the survey?

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- › The data collected in the survey will be primarily used for two purposes:
 - › Refine the structural model of the Gloucester Basin
 - › Identify igneous intrusions in the basin:
 - Intrusions are often associated with CO₂
 - Intrusions can alter the coal and make it unlikely to produce gas

› GCCC Aeromagnetic Survey
› August 2012
› AGL External



How is it acquired?

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- › An aeromag survey is carried out by an aircraft carrying a magnetometer
- › Terrain determines what type of aircraft is used:
 - ›› Flat open terrain tends to use fixed wing airplanes
 - ›› Hilly terrain requires a helicopter
 - ›› A remote controlled aircraft, a newly available technology in Australia, is also being investigated

- › GCCC Aeromagnetic Survey
- › August 2012
- › AGL External



Aircraft used

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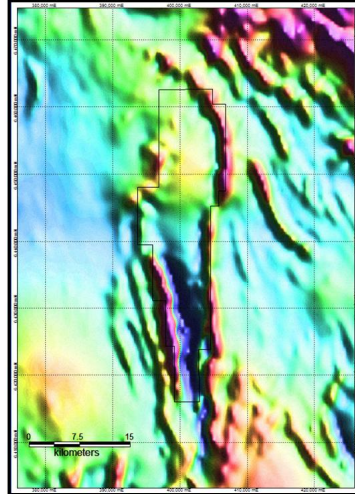
Pictures courtesy of Thomson Aviation

- › GCCC Aeromagnetic Survey
- › August 2012
- › AGL External



Previous surveys

- > The image to the right is from Geoscience Australia
- > It defines where the Basin is
- > Does not show much detail
- > Survey line spacing of 400m and a much higher flight height than one proposed by AGL
- > A previous aeromagnetic survey acquired by Pangaea resources is not available to AGL due to confidentiality



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- > GCCC Aeromagnetic Survey
- > August 2012
- > AGL External



Proposed AGL survey

- > Parameters proposed:
 - » 50m line spacing east to west orientation
 - » 500m line spacing north to south orientation
 - » 50m to 70m flight height
 - » Acquired by Helicopter



←→ 500m line spacing

↑↓ 50m line spacing

7

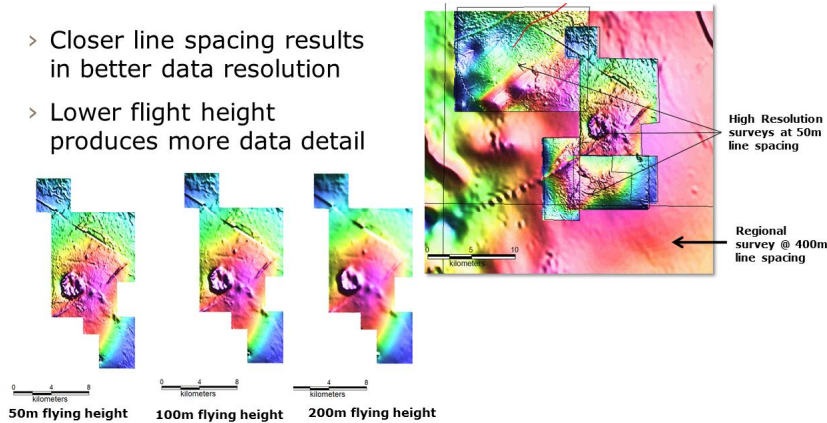
- > GCCC Aeromagnetic Survey
- > August 2012
- > AGL External



Line spacing and flight height effects data

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- > Closer line spacing results in better data resolution
- > Lower flight height produces more data detail



- > GCCC Aeromagnetic Survey
- > August 2012
- > AGL External



Survey timeline and consultation

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- > AGL proposes to acquire the survey in December and will take approximately three weeks to acquire;
- > Prior to acquiring the survey AGL will be undertaking community consultation including:
 - » Community meetings
 - » Community updates via the Gloucester Advocate and Dungog Chronicle
 - » Project updates via mail outs and Project Newsletters
- > AGL also proposes to meet with key stakeholders to minimise any impacts to their activities during the acquisition of the survey

- > GCCC Aeromagnetic Survey
- > August 2012
- > AGL External



Reservoir corehole

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- › AGL is planning to drill either 1 deep or 2 shallow coreholes to acquire reservoir data for its geological models and engineering studies
- › Once completed the well is likely to be converted into a piezometer monitoring well, or plugged and abandoned if no suitable coal seams are identified
- › Well design and drilling rig will be similar to the wells previously drilled by AGL in 2009/2010.

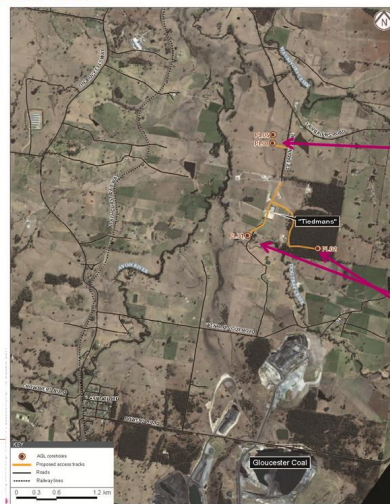
- › GCCC Aeromagnetic Survey
- › August 2012
- › AGL External



Reservoir corehole location

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- › The well is located on the Pontilands property
- › Well depth ~1000m
- › The well will not be production tested or fracture stimulated



Deep reservoir corehole

Shallow reservoir coreholes

- › GCCC Aeromagnetic Survey
- › August 2012
- › AGL External



- **CCC: At what height do the planes or helicopters fly at?**

Andrew: Around 50 to 70 metres off the ground because we want to make sure they are collecting high resolution images. The height affects the quality of the images.



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- **CCC: How big will the UAV be?**
Andrew: Some companies use blimps that are 6 metres long. Small petrol powered remote controlled vehicles are less.
 - **CCC: How far apart are the tracks that they have to fly?**
Andrew: 50 metres apart in the east west direction and 400 to 500 metres in the north south direction. Because we need to cover the whole area then they will be flying over quite a big trajectory. The survey will give a good idea of the shape of the basin.
 - **CCC: The image you have on the screen at the moment – is that a typical resolution or do you have better resolutions?**
Andrew: Much more than that, we would definitely look for images with a lot more detail. The image referred to here (slide 6) was taken in the 80s by another company to just get an idea of the area. This type of image is not for the purpose that we want to use them.
 - **CCC: The stuff Pangaea did a while ago – given they flew over the area. Why can't you use that data?**
Andrew: We can't use it because the images would look similar to the old image I just showed on the presentation– not good resolution. Once the data becomes available (because it is currently confidential) we can use them, but we can't really gather any data from it because they were flying too high for us to interpret the images or get any detail of the area.
 - **CCC: Do those images pick up power lines or fences?**
Andrew: Yes, they will because they are metallic. Similarly, railway tracks are easy to spot, but they are easy to differentiate.
 - **CCC: The interpretation of these images – is that done by humans or computers?**
Andrew: Interpreting is always done by humans. Processing is done by computers to turn the images taken into nice interpretable images. Geophysicists do this work, but geologists help them to make sure the faults and other features are interpreted correctly. It takes a long time.
 - **CCC: How long will the interpretation take?**
Andrew: Just to acquire the data will take around 3 weeks. The interpretation itself takes about 2 months. Similarly, as we get more data we revisit the images so the interpretation doesn't really end at a certain time.
 - **CCC: Do you need access agreements to undertake these surveys?**
Andrew: No because it's flying through the air which is not private property.
 - **CCC: There should be an agreement because I believe that, by not having one, will be a breach of aviation law. What if I don't**
-



**want the helicopter flying at that height above my property?
My cattle will be spooked if you're flying just 50 metres high.**

Andrew: While there is no access agreement AGL would consult with any affected landowners directly to make sure that they are aware of the survey happening and so we don't clash with anything they might be planning. The helicopter pilots are also ex-musterers so they are familiar with working with livestock and moving away.

- **CCC: I still think this is a breach of the aviation law.**

Andrew: I'm not sure about that. I would have to look at the law more closely but I am sure that it is within the law.

- **CCC: Even so, this wouldn't be the first time it has been done here in Gloucester?**

Andrew: No, that's right.

- **CCC: But not at 50 metres?**

Andrew: No, but this is why we're looking at using UAVs to make sure that the process is quieter.

Therese: Also, this is why we're bringing it up now to make sure that we are giving ourselves more time to consult with people in preparation for this.

- **CCC: In regards to acquiring the images – is it purely geology or can it pick up water?**

Andrew: No you need a ferric element to pick up water bodies, but this is mainly for rocks.

- **CCC: So it is just 2D? It doesn't go into great depth like the seismic survey?**

Andrew: That's right, but these images can model what the size of intrusion is.

- **CCC: And you can use the seismic to confirm what you're picking up in the aeromagnetic survey?**

Andrew: Yes, that's correct. And it can give us a depth too.

- **CCC: So this is quick to work out where you do the 2D and 3D seismic?**

Andrew: Yes, that's right. It gives us a bit more of an idea if there are significant intrusions and we can then focus 3D seismic. in that particular area to make sure we understand it properly.

4. Community Engagement Plan – Therese Ryan

Therese gave an update on the Community Engagement activities undertaken since the last CCC meeting. These included:

- A 2012 water highlights fact sheet was issued and published to the web. This fact sheet highlights additional work AGL is undertaking
-



following the Independent Peer Reviewer findings earlier in the year.

- Mike Roy presented to the CCC and to Council briefings
- On July 13th a media release was issued regarding the water transfer to Mid Coast Water.
- In July a community update was published in the Gloucester Advocate and hard copies were letter box dropped to areas that do not receive the GA.
- The 175 Roadshow Energy Cube event was held on the 2nd and 3rd of August. This included 180 school students attending the energy efficiency session and a cocktail event in the evening with the community, council representatives and sub contractors etc and project team members
- The Energy Cube was also open on Saturday with up to 200 people dropping in and out to find out about AGL, the Gloucester project and other things. There were also lots of questions asked.
- On 14th of August AGL took a trip to Camden with members of the community, including members of the CCC.

Therese also updated the CCC on activities that are coming up. This includes:

- A community open day will be held in Camden on 27th September. Members of the CCC and the Gloucester community will be invited to attend this, if they are interested or if they missed out on the event held in August.
- Information sessions will be held in a number of locations in relation to the aeromag survey, along with meetings with key stakeholders
- Community newsletter is being drafted now.

In regards to the Community Engagement Plan (CEP) Therese mentioned that no responses were received following the issuing of the final draft to the CCC earlier in the month. The CEP incorporates the changes from the Terms of Reference made at the previous CCC. It will now be submitted to the Department of Planning and Infrastructure.

- **CCC: It is not dated?**

Therese: No, that's because it has the planning and exploration label on the front.

Clr Karen Hutchinson left at 11:33am.

- **CCC: When are we going to get information about the project in advance rather than after they happen? I feel like AGL is not being proactive enough.**

Therese: I think we are achieving this. Today we have discussed the aeromag and the core-hole information that we received yesterday, as well as other project updates where no work has commenced but is being planned. Also the information sessions are for the purpose of informing the community about activities prior to them occurring.

- **CCC: I disagree, I think you're behind. That's my opinion.**

Toni: In your view, what do you think AGL can do to improve this?



CCC: Well, as an example, the approval for the irrigation trial was uploaded on the Department of Planning website in July. We are now 3 weeks down the track and we are only getting an update now because that just happens to be when the CCC meeting falls. I would've thought that a courtesy email on the irrigation trial would be great, at least to the CCC. Somebody had called me and asked about it and I didn't know about it. I then had to go back, download the document, read it and get back to them.

CCC: I think there are a few things that I think could've been told about too.

Michael – Would it help if we had some diary notes that advise us to send regular updates that keep everyone informed? That could be a memory jogger.

Toni – Yes, we could look into doing that.

- **CCC:** There is a bit of time between all the CCC meetings so that might be a way of tightening it up.

Therese: I also think that by putting a Community Relations person then we are trying to be more proactive. And certainly in trying to keep the CCC informed.

- **CCC:** I'm just making a general comment that we need to kept up to date. And the meetings are based about what's happened. We get a history and very little about what is going on now, with the exception of today which was good.

Toni – we will take that on board.

AGL to look into the idea of 'diary notes' to ensure the CCC remains informed about activities or project news

5. General business:

A member of the CCC raised a concern they had regarding the visual assessment undertaken by AECOM (consultants used for this project). The member issued a map used in the Environmental Assessment completed in 2009, attached was also the letter written to AECOM. The member stated that the map showed dwellings and their relative distance from a well to highlight visual impacts. The conclusion was that the dwellings would have very little visual impacts. He was not happy with the assessment and asked if AECOM could issue the criteria they used to conclude this.

- **CCC:** At the top centre of the map (near Jacks Road) running south there are something like 30 dwellings – none of which are shown but all of which have a clear view of the flat where there are a number of gas wells. I wrote to AECOM on 10th January this year and have been waiting a few months for a response. They said they couldn't find the letter that I sent to them and that I should send Michael England another copy. I have had no reply yet. So I ask AGL if they could give me more information but also follow up a response from AECOM.

Toni: Yes, the visual assessment was done by AECOM and if you have a look it shows how many gas wells can be seen from each



of those dwellings. The visual assessment was based upon the fact that at 200 metres a well cannot be seen. They have factored in distance and topography. What they've done is to highlight some residences just to be indicative – but they have also indicated what residences will be impacted or will be able to see the well site.

- **CCC: Your explanation doesn't clarify my question, I'm sorry. The purpose of this was to indicate that there will be minimal visual impacts. Does it make any sense to go hunting for residences that cannot see the well to make it justified that the visual impacts are incorrect?**

Toni – I understand your point and no that is not the intention.

Ian – Was your question raised during the submissions process?

- **CCC: Yes but I got a poor response. We said that this visual assessment only includes houses that have low level views not high level views. As such the whole visual assessment was a sham.**

Toni – The submissions report did cover this. And there was an additional report by AECOM that covers this.

Michael – Toni, when the project was approved, did you receive conditions regarding visual impacts?

Toni – Yes there are.

- **CCC: These are only indicative locations. Not confirmed locations.**

Toni – Yes, that's right. It is all indicative because we don't know where the wells will go yet. It is entirely indicative of what the impacts will be, until we have those well locations we will have more of an idea.

- **CCC: And, because the visual assessment was undertaken with the absence of the specific well locations then I feel that this allowed the assessors manipulative flexibility.**

Toni – No, not at all. I think if you have a look at the conditions, everything that we have to do is covered under this process.

Ian – Visual impact is included in the project conditions and is also part of discussions with landholders during the placement of the well sites.

AGL to speak with AECOM to identify the criteria used to undertake the visual assessment.

Michael asked for any other general business questions.

- **CCC: Do you have a local property manager now?**

Toni – Yes, we do. I forgot to mention this in my project update. Our new property manager Andrew Lenehan started this week and will be moving to live on the Avondale property.

- **CCC: And do you have anyone to replace the Operations Manager yet?**

Toni – No, not yet. We are still waiting to fill the position.



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Next meeting

Next meeting – Thursday 25th October

Meeting closed at 11:57am

Michael Ulph

GHD – Stakeholder Engagement



ACTION ITEMS			
Action	Responsibility	Complete	Outcome
Michael to proceed with inviting Aboriginal representative to the next CCC meeting	Michael Ulph		
Therese to check that the correct terminology is used in the Terms of Reference	Therese Ryan		
Michael to distribute the aeromag presentation by Andrew Parker (AGL) to the CCC	Michael Ulph		
Therese to provide more details on the Camden community open day to the CCC	Therese Ryan		
AGL to look into the idea of 'diary notes' to ensure the CCC remains informed about activities or project news	Toni Laurie & Therese Ryan		
AGL to speak with AECOM to identify the criteria used to undertake the visual assessment.	Toni Laurie		