MINUTES:	SANTOS COMMUNITY COMMITTEE – UPPER HUNTER Tuesday, **March 27, 2012** Barry Rose Room, Upper Hunter Shire Council office.
Attendance:	David Ross (Chair), Peter Bishop (PB), Kathy Burns (KB), Sam Crafter (SC), Peter Miller (PM), Steve Guihot (SG), Sean Constable (SCo), Cate McMahon (CM), Rohan Richardson (RR), Ann Stewart (AS), Cr Michael Johnsen (MJ), Paula Stevenson (PS) and Wayne Bedggood (WB).
Apology:	Graeme Brown (GB).

	Discussion	**Action/By Whom**
1. Welcome, apologies and introductions	The Chair opened the meeting at **6:30pm.** • **Chair:** Since the last meeting we have been trying to source **government representatives** to present at this meeting. I have spoken with **Daniel Keary** from the Department of Planning to talk about land use and I've been advised at the moment that may be difficult as they are doing a series of public forums. In the interim I've been advised people can visit: http://www.haveyoursay.nsw.gov.au/regionallanduse to find the nearest forum. **Julie Maloney**, Principal Adviser – Minerals and Petroleum, with the Department of Primary Industries (DPI) will be able to attend the April meeting and present. **Ann Stewart**, who is here from Santos, will also be present at the April meeting to discuss how Santos works with the various government regulatory bodies to make sure they are meeting the standards. Ann Stewart added that **Steve Barry** the acting director of environmental operations for the DPI may also be valuable to present to the Committee due to his role with environmental regulations. The Chair asked members if they approved of this proposal. They did. • **Apologies** from **Graeme Brown**. Also, **Murray James** has resigned from the Committee as he is leaving his position in Council to take on another role. The Chair thanked Murray for his work	DR to invite WB, MJ and PB to present their views on the land use forums at the next meeting

on the Committee to date and introduced **Sean Constable**, Manager Economic Development and Tourism for Council, who will be taking Murray's place as a Council staff representative.

- Sean Constable spoke about his work in looking at the impacts of coal mining in the area and his interest in the impacts as well as the potential of CSG. He added that he had travelled with Council, last year, to visit coal seam gas fields in Queensland and was keen to stay up to date with developments.

2. Review of the minutes

- **Modifications:**
- Paula Stevenson said that the words "in the Pilliga" needed to be deleted at the bottom of page 9 of the minutes; this was implemented.
- The Committee endorsed the minutes.

- **Review of the Actions:**
- **Mail out database –** Sam Crafter confirmed there had been a triplicate entry for the Stevenson's which has now been corrected in the database.
- **Licence renewal for PEL 456 –** Sam Crafter tabled an information sheet "PEL 456 Licence Renewal" (*see Appendix 1*) detailing the licence renewal of petroleum exploration licence 456 (PEL 456). Sam explained the licence expiration and renewal process.
- Ann Stewart added that companies need to lodge the application for renewal, not longer than two months and not less than one month, before the anniversary date. She added that the licence does **not expire as such** until the government makes the decision to provide a renewal or not, but companies may have to put up additional securities in the interim. The government expects the operator to continue their scheduled works until or unless directed otherwise once the government has properly assessed the renewal application.
- Peter Bishop – how long is the **licence term**? Sam Crafter: It is usually issued for a period of six years. Is the licence able to be traded? Yes.
- Paula Stevenson – I think the due date was **March 5** and it does not say that here. Ann Stewart: The licence does not expire as such on that date, it is the date for when the renewal application is due, with the timeframe I mentioned of not more than two months and not less than one month prior to the date. The licence does not expire until the government makes its assessment, but in the meantime companies may have to pay increased securities.
- Michael Johnsen – The government said they are **not granting any new licences** at the moment, does that apply to renewals or only new licences? Sam Crafter – My understanding is

	the government is not granting any new licences, pending the land use strategy, but in the meantime they have also not renewed licences either. Paula Stevenson: it does not matter because the Hunter is covered with existing licences anyway. • Steve Guihot: asked about Ann Stewart's role. What is your **experience with the regulators**? Can you go through that or is that part of next meeting? Ann: I'm happy to answer that briefly and go into proper detail at the next meeting. My personal experience is they are very considered, want lots of documentation, conduct lots of site visits and are very thorough before they give you an approval. Chair – We can cover things further in the next presentation next week.	
3. Presentation on Santos' well abandonment by Rohan Richardson	• Rohan Richardson (RR) went through the presentation **"Well abandonment"** (*See Appendix 2*). • **Questions:** • Steve Guihot – asked what the different **colours on a graph** represented. RR read the information from the diagram. • Steve Guihot - So when do you **test the concrete**, do you test it before you use it? RR: Yes. We test the cement before we use it in the lab and we test it in the well as we fill it. • Steve Guihot – do they (the regulators) come and check on that part (during plugging)? No, we sign an affidavit afterwards, but they don't check that part. • Peter Bishop: Is the cement on the outside of the casing **pressure tested**? Yes. And it can be a different kind of cement to make sure it is appropriate to the strata it is going through. • Ann Stewart – I viewed that site today (indicating the image on page 7 of the slide presentation) and it was good to see the site is looking good. You can't really see where it was in the paddock, unless you knew where it had been. We have a lot of regulatory requirements for rehabilitation and we have set processes for ourselves which are over and above that. Paula Stevenson: Is that **Brawboy 1**? Ann: Yes it is. Rohan does the subsurface and I oversee the surface rehabilitation and I'll be able to cover that better in next month's presentation. Paula: It would be interesting to see the **Brawboy 2** site before and after; it would be interesting to see what it is like now, especially since it is a site that has been suspended, rather than plugged. Ann: Absolutely we can bring those with us next time. We take photographs before, during and after. And at intervals of 6months and 12 months. We'd be happy to share those with you. Yes that would be good to see next time. Ann: We'll show you the difference of a hole that is plugged and abandoned and one that is suspended. Paula: That	Santos to provide before and after photos of the Brawboy 2 site at the next meeting.

would be good.

- Peter Bishop – can you turn a **hole into a water bore**? Ann: there is a very different approval process for that; but theoretically if it meets all of the requirements for a water bore it is possible. Wayne Bedggood: You'd have to still go through all of the usual processes for getting a water licence though, which would be problematic. Sam Crafter: It can be done technically, but you are right it is a difficult process.
- Steve Guihot (to RR) – you're a family man I assume, I coach footy and I always try and think about what the other team is thinking and how you can modify things to your advantage. How would you **modify the designs** (to the government regulations)? What would you do differently from the outside looking in? RR: I believe Santos operates to highest standards, higher than the government regulator, so I think they should have higher standards. For example we do steel stress tests; we design it to 160% not just 100%. Steve: So they don't dictate higher standards - you do? RR: Yes. Steve: another example? RR: the guidelines around materials selection. Some people would say we overcompensate, our holes are very expensive compared to other companies, but it is because of the materials we use. Sam: so material stuff… can you give details? RR: A classic is steel connection fittings. Temperature connections can impact them, you can have different grades of connections and steel, or you can have polypipe. Steve: Again, **failure of things** like this that you've seen? RR: I have seen pipes dropped down holes that we have to retrieve. In all honesty in the years I have worked in the industry I have not personally seen a design flaw as such. Steve: Obviously Eastern Star Gas (ESG) did not. RR: Those wells were drilled 12 years ago, standards have changed and certainly ESG did not meet Santos standards. Of their wells 80 have been abandoned and we are happy with them. There are another 30 which are currently under the microscope. Steve: All batches of cement go wrong, so what if a batch you haven't tested goes wrong? RR: We can confirm that it has gone off, because we pressure test each section of the cement.
- **Peter Miller:** Has Santos ever had a **well failure**? RR: Not that I know of. Ann: I've been in and out of Santos for 20 years and I don't know of one. RR: Look things do go wrong, but I can't say I've seen a well failure as such. Paula: It would be good to know of things that have gone wrong, not now, but at some stage. RR: There was a bund in a pump that was plastic not steel which caused a leak of 1000L. Ann: It was not reportable, but we still reported it to the government. Steve: Was it highly saline? RR: Not really it was about a 1/3 of sea water. We were able to remove the soil impacted and rehabilitate. Ann: Santos has a team within Santos whose whole job is to audit all wells in the Gunnedah area and we just finished that last year.

RR: Just to clarify on the regulations, they are not poor regulations and I don't want to give that impression. Our costs in NSW are greater than in QLD because the regulations are higher here.

- *Ann Stewart left the meeting.*
- Paula: In the **Brawboy** review of environmental factors (REF) it says of the **black soil** that can cause "foundation cracking and underground pipe displacement". Can that soil impact the hole? RR: Yes. That is why we use cement that is stronger than the surrounding strata, so that it is harder and stronger than what we pull out. Sam: …and isn't every well different based on those specific conditions of each well? RR: Yes, that is completely correct. Paula: Apart from the soil type, in this strata there are **geological flaws and cracks** you can't see with seismic and your activities could impact on those cracks, so how can you say your activities will be geological stable? You could alter the whole geological strata. RR: I don't believe that is the case, but I'll leave the water alone as I think that is the topic for someone else to discuss. When we drill a well we get a better idea of the strata and if the formations are different than the seismic. There is no big deal with faults, except when you are drilling horizontally within the coal and that only impacts production and wouldn't result in an environmental issue. (RR drew a diagram showing horizontal drilling encountering a fault). I can't imagine any activity we do could impact on the pressure of the earth. We are in the middle of a tectonic plate and we are in a very safe region. If it was possible that faults could cause problems we would have seen that by now in less stable regions overseas, but we haven't.
- **Michael –** There are no regulators actually **inspecting** the abandonment process. Would you have a problem if the government were to come out with some form of government inspections? RR: They do, do random audits. They just are not there to check the cement you use is the same as what is in the lab, but we do have inspections all the time, about four times a year. I've had two major audits in the last four months, both of which we passed.
- **Michael –** You mentioned before that **steel must be removed**, I've heard concerns about how the hole may deteriorate. RR: drew a diagram. If there is the potential for coal mining in the area at 800 metres or less, we would need to cut the steel off at 800 metres , so they can mine that area if they wish. We have to apply for special dispensation. Sam: We supply the data and may make a case that we don't need to remove the steel if it is not minable coal. RR: If we need to, we mill the steel at 800m and take the steel out and the report goes to the director of the coal board. Then we plug, tag and pressure test and continue up the hole when we cement. Peter Bishop: So it has less integrity? RR: I don't believe that's right, it is the cement

Next water management presentation to respond to the issue of geological flaws and cracks

that has the integrity, not the steel anyway. Wayne: What is the **integrity of the steel and cement**? RR: We design it forever. Wayne: So you haven't tested forever…. RR: The lifespan is geological time. Wayne: My understanding is that cement does not last forever, because it degrades. RR: We design it so that it won't degrade. We don't design it for to last 100 years we design for it to last geological time. We design it to be stronger than the surrounding geological strata. I don't know about the steel, but I am sure about the cement.

- Steve: At the moment it's a bit like Dracula in charge of the blood bank, how do you see some of these **regulations changing** so that won't be the case? RR: The New South Wales Well Integrity Code of Practice will resolve a lot of that. They have also brought out new industry best practice.
- Steve: Ann mentioned you have a **well integrity team**, but it is still you guys in charge of your own activities. It's like I run a canoe business and there are holes in the canoes, but I check it and keep operating. What assurance do we have that they are being compliant? Chair: Do you believe there are not enough regulatory inspections? Steve: That is the perception. RR: It is a fair perception. Sam: the well integrity team is there to make sure from a company perspective that all of our activities are up to standard. With the example of the canoes, our well team would be the first to report those holes and demand they be fixed and then the government regulators do check. RR: It is still driven by the company, not the regulator. Chair: well that is where we will get the regulator in for the next meeting.
- Michael – I would suggest you change the term "**abandonment**" as it does not instil confidence. RR: We'll make a note of that and raise it with the government when we see them.

General business –

Joint CSG water forum

Cr Michael Johnsen reported to the Committee on the recent joint CSG water forum conducted by AGL and Santos.

Michael Johnsen: It can be simpler for two companies to present at the same time. It is ideal for the community to have all of the players in the one room at the one time. The forum was good and I'd encourage anyone who goes to these forums to go with an attitude of education.

The negative was that there were a small number of people who wanted to question the integrity of the people and companies involved. I think in future forums if we can do the joint forum again, because it is about process, not about company, then the more open the education the better. I can't say enough to the industry about you need to be on the front foot, not wait for people to fill the void in terms of information. If you need to do a quarterly forum, then do them. The more of these types of forums the better.

Chair: Has there been discussions with AGL for **further forums**? Cate: Santos is definitely open to do more forums and thank you for your input, also thank you to the Committee members who attended and Bob Rose for Chairing the event. It was worthwhile and we'd take your advice on what other forums you would like to see happen in this community. Steve: I think Santos should have regular forums and where you are doing the activities. Paula: regulatory would be good. We have had a huge gap in activity, people are anxious and they are dreading what they will see when they drive into Bunnan next and that could be alleviated by more information. Michael: There is a lot of angst out there is about the unknown, but the whole point is education. Paula: It is not the "unknown" it is a totally realistic fear that we will see a gas field where we once had farms. Michael: I'll put that in context; in a Council visit to Queensland that we had Ian Naylor put up a slide of an aerial and said "I love this photo because it makes it look a lot worse than it actually is." This is where the education process needs to be done on a regular basis with integrity, whether you are there to give information, or you are there to listen. **Misinformation** on all sides feeds the fear and anxiety. Paula: No matter how much information we can't get a guarantee they will not damage the aquifers and it will ruin our land and put you out of business. No matter how many diagrams we see of well design they can't prove it, the science is not there.

Santos to provide updates on progress of organising future joint forums

Wayne: It is like being told you are going to have a **boarder** there whether you want them or not and you don't really want the boarder there, and the landholders are thinking when are they going to come knocking? How can I stop them? What rent is the right rent? Chair: In the next meeting with Julie Maloney perhaps we can address more of that. Steve: It is a like a wind farm, Peter may have one, but his neighbours have to put up with it. It is the same with gas. Paula: But it does not solve the problem. I had a lady call who could hardly talk she was so upset, who has AGL coming on her land and another man who called who has told he can't sell his land because it is under a PEL. If they find gas there, what will happen to the value of all of

DR to talk to Julie Moloney about landowner rights

our properties? Look at Peter Bishop's family who have been here for more than 100 years. Peter's place used to be run by his grandfather, Peter's father continued the legacy and now Peter and then Peter's three sons. These people have been farming the land for over 100 years and now a new industry can come and just invade their land. Cate: I am from the land and my parents are still on the land, I know how important water is and it is important to me personally that this industry does not impact on water. There is a water portal which anyone can log into that shows the states of the aquifers in Queensland with our operations and there has been absolutely no impact, there is proof there. Paula: That's wonderful, but you can't say it won't happen. Two wells went dry after two core holes were done by a mine, so it does happen. Sam: But where is the proof that those two core holes caused those wells to go dry? Wayne: That could be due to a range of things that have nothing to do with a core hole. Cate: A neighbour drawing more water from their bore could be what caused it. Sam: The **valuation of land** bugs me. A man stood up at the meeting recently who said they like the stable income generated by having gas wells and he saw it as a positive for his land value. For every person who says it devalues their land there is someone who says it has not devalued their land and has improved it. Wayne: comment: After the water forum, AGL posted all of the questions and answers asked at the forum on their website, if anyone is interested in those. Chair: we will try and find the link and put that in the minutes. (Link to webpage was not available to include in the minutes)

Steve: Would Santos go back to Bunnan to hold one of the forums? Sam: Sure. We have had two meetings there previously and if they want us to provide more information we would be happy to do that, but we were clearly told last time the majority did not want us to do further sessions. (refers to Paula) Would you want us to go back to the Bunnan hall? Paula: Sure. It would be good if you actually did this proactively, instead of waiting to be told by the community like you did last time.

Santos to hold further Bunnan community meetings in Bunnan.

Cate tabled a copy of the Santos presentation to the Committee meeting.
Cate also tabled an information sheet "Water Desalination" (*see Appendix 3*) providing further details to the questions Peter Bishop had asked in a previous meeting.

Peter Miller – Santos has been putting information in the **Scone Advocate** every couple of weeks is there any feedback? Cate: We have had feedback from you (referring to Peter M).

	Sam: We have not been overwhelmed with feedback. PM: Is Santos going to continue with it? Sam: Yes.
Media and Foreign Correspondent Program	**ABC Television, Foreign Correspondent story: "Meet the Frackers."** Sam Crafter: I've seen Gasland the movie, so I guess it didn't have the shock and awe factor, if you had not seen Gasland. The overall thing is I've been to America and it is very different to what we do here. There was a very big increase of activity very quickly into **shale** to try and turn their economy around. Clearly you look at some of the things that have been done there it has not been very well planned, environmentally it is extremely different to here and the companies deal with people differently. I don't think you can use the American example even as a starting point with what we do here. In America they still **discharge water from coal seams directly into streams**, there is no way we can do that in Australia, so you just can't compare. There are major **approval processes** we have and we are in a very different situation here. There are big differences with shale compared to coal. **Fraccing** is not used as much in coal, whereas in shale you have to fracc every time. Over a million wells have been fracced around the world and fraccing itself is not the demon it is made out to be. When I went to America and **visited an area where Gasland was filmed** and there were a couple of things the locals made very clear: 1: they were rope-able about their portrayal on Gasland. They saw a guy from New York fly in and paint a picture the way he wanted the rest of the world to see it, which was not what they feel was the truth about what was happening in their town. 2: In the beginning they were opposed but they now see it as an important part of their community, it has not ruined the community as Gasland would have you believe. I'm happy to answer any particular question you may have about the program. Cate: Also we don't use **BTEX** in coal seam gas in Australia, which is an important difference. Chair: So is that the cocktail of chemicals? Cate: Yes. Also if you notice it was their **council** that was approving wells, which is not the case here, where we have state and federal regulators. Sam: another important difference is they own the **mineral rights**, so there are some incentives for them. In Australia we need to look at how it can be seen as an advantage for

people to have us on their land.

Sean: Something that was raised on our trip to Queensland was the **confidentiality clauses** in contracts with gas companies means the neighbours don't know what is in each other's contracts, so there needs to be more transparency. Sam: Yes, we are happy to have agreements without confidentiality clauses, but that is at the discretion of the landholder, which we also respect.

Media

Chair: In the last meeting I asked the Committee for **feedback** on how I was doing in my role as independent Chair and how the Committee was progressing. The feedback at the meeting was positive and there were no negative issues raised at that stage. But after the last meeting I had a call from the **local ABC Radio** asking me to respond to the claims by a Committee member that the Committee was not working. My initial reaction was that it was not someone from the Committee, as the Committee drives the agenda for each meeting. I also said to the interviewer that Santos is being held accountable in the meetings and I was surprised by the comments. As I'd also pointed out to you from our first meeting, I would be seeking your feedback and I have throughout these meetings. So let's come back to, is there an elephant in the room? Are you concerned about the quality of the meetings and the way things are going?

Steve: Paula I heard the interview you gave on ABC radio and I have a lot of confidence in and respect for you and I was concerned about what you expressed on the radio and I want to know why you felt that way?

Paula: I made the comment, because although I understand all this information is being given, at the end I feel I come out thinking **Santos has not told me anything I don't know**. And what I wanted out of this Committee was that I was going to get information for my community that I can't find on a company website. I'm just getting all this technical stuff.

Chair: Couldn't you give us that feedback during the meetings? Paula: Well no, because it is all very polite, but when I get to the end, I ponder why I am wasting my time? Chair: I also appreciate you may be more advanced than others on your understanding of CSG.

Kathy: At the last three meetings I have raised the **last two presenters** because I am trying to

learn and I'm sorry, you have not asked for anyone to attend this meeting. I felt a little responsible that they were the last two speakers, but everyone at the meeting agreed that they wanted those speakers, no one argued with me. I am trying to learn. I am interested in the cement and the technical information we are being given. The other Committee members have asked lots of questions during the presentations and I feel we are being given a lot of information from Santos, I am learning a lot and I think we are holding them accountable.

Paula: Well we are not here to educate the community; that is not our purpose. Chair: Well Bunnan may be different, but it can be useful to share information and education. Wayne: Paula you are after the end result, but I am sorry we are not there yet. So I think you have to wait until everyone is up to speed and yes we do need to bring people in the Committee up to speed. I know there are people who are across it, who are so into it, but not all of the community is like that and we need to educate and get everyone up to speed.

Steve: I was not aware of your frustration; maybe education you would want is in different areas like legal rights or land values. Paula: We know our legal rights, we've attended workshops by the Environmental Defenders Office and we know about land values, we know all that. I'd like to know about **what other Committee members are doing here who don't even live on the land**. Who do you represent and impart information to? Who are you talking to and who do you represent? Kathy: I actually do think this Committee is worthwhile and I am learning a lot from it. I also work in Quirindi where coal seam gas is very topical. We are all members of this community and we all feedback to other people in our community, through our work, through our social activities and through our friends and family. Chair: And Michael on behalf of Council? Michael: Yes, we feed this back into Council. I also spoke last night about the expectation about what a community consultative committee is and it is only a disappointment when there is a differentiation between expectations. If there are concerns from various areas of the community, you bring it to the table and take the information back. It is not a regulatory body and if there are expectations of that or beyond the reasons for the Committee there is really not something the Committee can do about that. If there are community groups who have more expectation than that, then those expectations need to be managed by their representative on this Committee.

Steve: In **the charter** it says clearly says an objective is to: "Keep the community informed of Santos' exploration activities and findings." And for Santos: "Ensure that Committee members are provided with adequate information to assist them in contributing to Committee discussions." Part of our role is to educate and to ensure Santos is giving information.

Peter Bishop: To begin with it takes some time to develop and I think it takes bit of patience. My opinion is **I don't think it is a waste of time**. Some organised forums on different topics other than technical stuff would be good though.

Steve Guihot: I think **you need to raise what your concerns actually are**; you need to bring them up for Santos to be able to address them. Paula: Alright, where is the **core hole in Bunnan**? Has it been approved and when will you start drilling? Sam: Right now, I don't have the answers for those questions. If I had the information, I would tell you, it would be much easier for me. I've no reason not to give you that information, if I had it. Kathy: **What is happening in Santos that is holding up those answers**? Sam: the reality is **the take-over of ESG**; the work that we need to do there has been the focus for us. We do have work schedule commitments with the company we partner with here. At the Bunnan site we went through the **ecological survey** again and because of some of the grasses at the original location, which we shared with you, we now have to go through a whole new process for a new site on the property. And we have to develop a **rig schedule** we don't just call a rig in for four weeks. Rohan is actually developing a schedule for rigs and then we have to decide where Bunnan fits into that schedule. We do a drilling program across the company for all of our operations for the rigs, it is not just PEL 456, so the extra work in the Pilliga is tied into all of our other activities. I am asking these questions myself within Santos constantly; but it has not been scheduled yet. Once we have that information we will tell you. At the moment we are also looking at **further sites in PEL 456**, we are continuing our work process and trying to look at drilling we may do next year also. Paula: so there are going to be more than seven core holes? Sam: Yes, core holes will continue to be part of our exploration in the area. Wayne: Paula, are you comfortable with the response you got then? I mean I found it quite interesting. Paula: Well I never knew there were going to be more core holes. Sam: We will continue to do exploration. Wayne: There was a tonne of information in that and maybe having that in a written format would also be useful and as a set agenda item. Chair: So we will have that as a

Produce written update on work schedule in PEL 456.

DR to ensure that staging of works to be a set agenda item

set agenda item.

Sean: I'd like to start having discussions about the opportunity of these industries for our communities, to help **our community and industries plan** and prepare for this kind of development. Steve: I think we have that in the priorities of the Committee and also Murray has raised that and we have had some initial discussions in previous meetings.

DR to talk to Julie Moloney about responding to road sales in April meeting

Peter Bishop: There are **road reserves** around our area now that the government is saying we have to buy in the next month or they will sell them. They are running through properties and people are really concerned. There is one farmer who would have to spend about $40,000. Chair: Perhaps we can get an update from Julie Moloney at the next meeting about the roads being sold and brought back from the government.

Chair: To be clear are Committee members happy with the progress of the Committee? Steve: I have **confidence in the meeting**. Peter Miller: I may not be a landowner, but **I am part of the community** and I go and talk to people. I am getting a lot of useful information from these meetings and when the time is right I will put information out there. (To Paula) If you come to a meeting and you don't like what you hear then are you going to go to the media again instead of talking about it in the meeting where it can be properly addressed? Paula: Yes I will. Peter M: We agreed as a Committee who would represent the views of the Committee to the media and it is part of the charter and you showed disrespect for the Chair in going about it the way you did.

Chair: I will take on any feedback provided, and you can provide that feedback to me at anytime. Also in the media protocol, we had previously agreed that I would be the independent spokesperson for the Committee; in the first meeting you said it was acceptable. Only last month Paula you raised an issue with a media release. So with regards to the **media protocol**, am I still here as a voice of the Committee, unless the Committee wants to change those protocols? Wayne: You (indicating the Chair) speak on behalf of the Committee, if you (indicating Paula) wish to speak to the press as an individual about coal seam gas that is fine, but you don't discuss what happens at this meeting, that is for the Chair to do in an independent way. Paula: I said it was theatrical and I think I have the right to make a comment about that. It was unpremeditated. Chair: you also said yourself you had not raised

those issues within the meeting, but I can only Chair these meetings in a way that is acceptable based on the feedback I receive from members. Paula: My comment was never meant to reflect on your independence or the way you conduct the meetings. Sam: Can I just put on the record my interaction, in this matter. The ABC called and said "we've had some concerns about how you run the Committee", I explained the Chair ran the Committee and I referred them to David for comments about the Committee, it is his call around this. We agreed to a protocol as members of this Committee and we adhered to them; but I guess there are two clearly different approaches evidenced in that protocol. I don't want any inference that Santos is trying to control these meetings. **Santos is also happy for the media to come to these meetings** if the Committee agrees. We are open to that; but when it comes to the running of the Committee I try and participate like any other Committee member. If you want to be completely open with the media, I want to be clear we are happy for them to be here. Paula: It was only my view. Chair: You actually said "a lot of us". Paula: I said 'a few of us', referring to myself and Graeme who is not here. Cate: So what if someone else wants to talk? Wayne: Then that is why we just have one person speak on behalf of this Committee. Steve: But that is what the media does, plays people off against each other.

Peter Bishop: Can we be sent tonight's handouts by email? Cate: Sure.

Update on the Pilliga

Sam Crafter tabled a fact sheet to the Committee "Environmental breaches in the Pilliga State Forest" (See Appendix 4)

Sam: We have put a **rehabilitation report** to the government, the Office of Resource and Energy and the NSW Forestry, who is the landholder. They are reviewing the proposed work. The Department will then give us a **notice of direction** based on the report, setting out a project schedule of when they want each action completed. Yesterday we also presented to them a **rehabilitation plan for all of the plugged and abandoned wells**. That has been approved and work on those will be completed by May 31. Something you will probably soon hear in the news, is we have received a **part 3A modification of our pipeline** approval, so the pipeline can now carry water, so that we can remove water from some of the ponds that need to be rehabilitated into the large pond at Wilga Park. When the ponds are empty we can do

soil analysis on the ponds and further develop our rehabilitation plans for the site. I wouldn't be surprised if this is touted by some as because the ponds are about to overflow or some other such speculation, so I want to be clear with you this is something that we have planned, sought approval for and understand the real reasons behind it. We are also continuing a general clean up of the site, there were a lot of old pipes and materials that were no longer needed on the site and that is being generally cleaned up.

Kathy: Last meeting we saw your report, and the independent report, what about the **government report**? Sam: No we haven't seen that report either and in fairness the government report will be very thorough and will take some time.

Other matters

Peter Bishop: How far out can we add things into the **agenda**? Chair: Two week's notice. Michael: I've had no trouble getting things sorted and into the agenda, if you just call the Chair.

Chair: At the **next meeting** we hope to have Steve Barry, Julie Maloney and Ann Stewart. Hopefully Daniel Keary.

Wayne: I also wanted to tell the Committee that my industry invited Santos to come and see some of the operations at our **studs**. It was not a free lunch, we did grill them and we had some really good discussions and each of the farms had the chance to meet them. We are happy to talk to people about that and I'm sure Santos would also be happy. Sam: Yes it was very worthwhile for all of us to see those operations and have a better understanding of your industry.

PB: Would you be happy to have a **cattle property tour**? Sam: Sure.

PB and PS to discuss organising a cattle property tour with Santos

Chair: It has been a really good discussion and I appreciate your ongoing respect in these forums.

Finished: 8:50pm.

Attachment 1. Issues prioritised by the Committee Members and progress made

	Issue Prioritised	Progress Made
1.	Understanding the impacts of the coal seam gas industry drilling and fracture stimulation techniques on water	**Well integrity presentation – Feb 2012**
2.	Identifying the need for independent peer reviews of water monitoring	
3.	Better communication with the community	
4.	Providing timelines for proposed activities, including Santos activities, commercial in confidence matters and regulatory changes	
5.	Providing better education on the process and impacts of coal seam gas	
6.	An understanding of the cost of the industry to the community and how this may be recovered	**Discussed at February meeting**
7.	Establishing baseline data of local aquifers	
8.	The need for independent specialists such as hydrologists and geologists to provide information	
9.	Understanding how value can be added to the community through this process	

Attachment 2. Actions raised by Committee Members that are not complete

	Action Raised	Date Raised	Progress Made
1.	Committee to ensure that all communication is distributed through DR rather than through any other individual(s)	29th November 2011	**Ongoing**
2.	Alternates to be briefed by their colleagues before attending any meetings, as required	29th November 2011	**Ongoing**
3.	Santos to present on legislative approvals process at a future meeting	29th November 2011	
4.	Santos to invite water specialist to present at next meeting	29th November 2011	**Ongoing**
5.	SC to table an REF at a future meeting	29th November 2011	
6.	SC to present at a later date on the Eastern Star Gas pipeline projects once the business plan has been completed	29th November 2011	
7.	DR to provide Committee Members with copies of future media releases	29th November 2011	**Ongoing**
8.	Santos to report back to the Committee on the findings of the investigation in to spill	24th January 2012	**Ongoing**
9.	Santos to report back on whether a prosecution is to go ahead	24th January 2012	**Ongoing**
10.	CM to report back on progress on joint water forum	24th January 2012	**Ongoing**
11.	Minutes to be provided to members within one to two days and members then to have five days in which to provide comments back to the Chair	24th January 2012	**Ongoing**
12.	Santos to present on well integrity at next meeting	24th January 2012	**Ongoing**
13.	DR to ensure there is another presentation on the impacts of CSG on water management	28th February 2012	**Ongoing**
14.	DR to ensure there is a presentation on fracture stimulation in future presentations	28th February 2012	
15.	DR to invite government regulator to present at next meeting	28th February 2012	**Ongoing**
16.	Pilliga issue to remain on the agenda for March meeting	28th February 2012	**Ongoing**
17.	DR to invite WB, MJ and PB to present their views on the land use forums at the next meeting	27th March 2012	
18.	Santos to provide before and after photos of the Brawboy 2 site at the next meeting.	27th March 2012	

19.	Next water management presentation to respond to the issue of geological flaws and cracks	27th March 2012
20.	Santos to provide updates on progress of organising future joint forums	27th March 2012
21.	DR to talk to Julie Moloney about landowner rights	27th March 2012
22.	Produce written update on work schedule in PEL 456	27th March 2012
23.	DR to talk to Julie Moloney about responding to road sales in April meeting	27th March 2012
24.	PB and PS to discuss organising a cattle property tour with Santos	27th March 2012
25.	DR to ensure that staging of works to be a set agenda item	27th March 2012

Attachment 3. Actions raised by Committee Members that have been completed

	Action Raised	Date Raised	Progress Made
1.	SC to provide DR with copy of presentation to go out with minutes	29th November 2011	**Completed**
2.	SC to provide information on crops grown (at site in presentation) and the details of the water content of the treated water	29th November 2011	**Completed**
3.	DR to contact Committee members to determine the **date for the next meeting**.	29th November 2011	**Completed**
4.	DR to forward Kathy a copy of the previous minutes	24th January 2012	**Completed**
5.	CM to source information on costs of running a desalination plant	24th January 2012	**Completed**
6.	CM to report back on Santos' policy on community investment	24th January 2012	**Completed**
7.	DR to contact Committee members to determine the date for the next meeting	24th January 2012	**Completed**
8.	SC to resolve Santos mail out database	28th February 2012	**Completed**

9.	SC to provide DR with possible government contacts for presentation	28th February 2012	**Completed**
10.	DR to discuss list of government contacts with PS	28th February 2012	**Completed**
11.	DR to invite government regulator to present at next meeting	28th February 2012	**Completed**
12.	SC to respond to Foreign Correspondent story at March meeting	28th February 2012	**Completed**
13.	Electronic copy of Santos report on the Pilliga to be forwarded to the Committee	28th February 2012	**Completed**
14.	Hard copy of Santos report on the Pilliga to be sent to Don Eather	28th February 2012	**Completed**
15.	SC to identify the date for licence renewal	28th February 2012	**Completed**
16.	Santos to present on well abandonment at March meeting	28th February 2012	**Completed**

WATER DESALINATION

Information for the Santos Community Committee – Upper Hunter, March 2012.

How much coal seam water is produced from a coal seam gas well?

The amount coal seam gas water produced from a well varies dramatically. It is only through operating a pilot well that the quantity of water can be predicted over the life of the well.

Some examples:

- In Queensland some of Santos' wells produce several hundred to several thousand barrels per day. A barrel is approximately 160L.
- In Gunnedah Santos recently conducted a testing on a pilot well which produced 872.2mega litre over 60 days.
- In Broke, two test wells operated by Sydney Gas produced 14,000L per day and 19,000L per day, which within three months had declined to 800L per day and 10,000L per day respectively.
- In the Camden area, operated by AGL there are producing gas wells which only produce one household sized water tank of coal seam gas water per year. AGL has a total of 138 wells, with approximately 80 which are currently producing. In 2011, approximately 2ML of coal seam gas water was produced in Camden.

How long does a gas well produce coal seam gas water?

Every well is different, just as the quantities of water they may produce can vary highly. A well may produce coal seam gas water for a period of up to five years.

All gas wells produce coal seam gas water first and then as the coal seam gas water rate starts to decline, the rate of gas flowing from the well begins increasing. All gas wells will produce the most amount of coal seam gas water at the beginning of the wells operation.

What is the quality of the coal seam gas water produced?

It can vary dramatically. In Queensland, where Santos has the most data from fully developed coal seam gas fields, the quality of water produced is between 15,000 to 20,000 mg/l plus total dissolved solids. To put this in context sea water is approximately 35,000 parts per million. During pilot well testing water quality tests are performed to gauge the quality of the coal seam gas water from each well.

If I had a gas well on my land would I be able to use the water from it on my own farm?

Currently in New South Wales, all coal seam gas water must be treated as waste water and may not be used for other purposes unless special approval is sought to use the water. Theoretically if the water is treated onsite, it may be possible for a farmer to use the treated water.

What is the cost of desalinating water?

Approximate costing of reverse osmosis is $1 per kL.

The cost of desalinating water varies depending on the volume of water and the relative scale of the desalination unit. An average cost is $1050 per day including the membrane, electrics and chemicals etc. Desalination units come in all different sizes, including very small units which are used on board boats to treat marine water.

It is theoretically possible for small desalination units to be placed at the site of gas wells, however due to the volumes of coal seam gas water produced Queensland, it would not be viable for those fields. Theoretically, it may be possible in areas where less water is produced, as an alternative to removing the water from site for treatment.

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PEL 456 LICENCE RENEWAL

Information for the Santos Community Committee – Upper Hunter, March 2012.

When is PEL 456 due for renewal?

Dart Energy, the joint venture partner in the exploration licence with Santos, submitted an application for the renewal of Petroleum Exploration Licence 456 on 1 February 2012 The Department of Primary Industries is the consent authority for PEL's and is currently reviewing the renewal application. Dart Energy is yet to be advised of approval.

Has there ever been a licence that has not been renewed in New South Wales?

Since Santos' involvement in New South Wales we are not aware of a licence not being renewed. The regulatory authority is best placed to further answer this question.

Santos is aware that the Regulator has issued breach of licence notices to operators to remedy issues and if the issue is not rectified they can then issue a threat of loss of licence for noncompliance.

Further details about licence renewals in NSW:

- The Minister can withdraw a licence if a company does not comply with the licence terms and conditions.
- A licence is not renewed if the company does not reapply for the licence.
- Licences can be issued for a period of up to six years.
- The Regulator may choose a lesser period for licence renewal to more closely monitor companies, at their discretion.
- Before a licence is renewed an operator must put forward to the Regulator a work program and licence spend acceptable to the Regulator.
  - The Licence contains a clause which states:
    - "The work program will be reviewed at the end of Year 2 (this is for a 3 year permit) and continuation/ renewal of the title beyond that period will be dependent upon the submission of a satisfactory report of the work carried out over the previous two years"
- Provided the application is received by the due date, the operator may continue to operate while the licence is being reviewed by the Regulator.
  - Under the POE Act, clause 19 applies:- Renewal of title

    (1) The holder of a petroleum title may apply for renewal of the title by application made within the time prescribed by subsection (2) or (2A).

    (2) The prescribed time in relation to a special prospecting authority or an exploration licence is not earlier than 2 months and not later than 1 month before the authority or licence ceases to have effect.

    (2A) The prescribed time in relation to a petroleum title other than a special prospecting authority or an exploration licence is not earlier than 5 years and not later than 1 year (or, if the term of the title is for 1 year or less, not earlier than 2 months and not later than 1 month) before the title ceases to have effect.

    (2B) After considering an application for renewal of a petroleum title, the Minister:

    (a) may renew the petroleum title, or

    (b) may refuse the application.

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NSW CSG
ENVIRONMENTAL BREACHES IN THE PILLIGA STATE FOREST

Version 1 • March 2012

Overview

Santos purchased Eastern Star Gas (Eastern Star) in November 2011. Santos acquired all of Eastern Star's operations including its Bibblewindi water treatment facility in the Pilliga State Forest, south of Narrabri. On inspection of the Pilliga site, Santos identified initial concerns with the plant and closed the water treatment facility in December, pending a full review of the site and its operations.

In January 2012, Santos identified a water spill which had occurred on the site during June 2011 that Eastern Star had failed to report to the government. Santos reported the incident to the regulator, the NSW Department of Trade & Investment's Division of Resources and Energy, and is continuing its full investigation of the operations in the Pilliga.

The investigations to date have shown Eastern Star had an unacceptable culture of accepting minor spills, failures to report and the possibility of unapproved land clearing on some sites.

Santos is taking action to implement much higher standards of operation on all previously Eastern Star operated sites. Santos is making an initial investment of $20 million to bring the Pilliga operations up to Santos standards. The plant will remain closed until Santos is confident it can operate to the highest standards.

What leaks occurred at the water treatment plant?

After taking over operations, Santos discovered an internal Eastern Star report stating that on June 25, 2011, approximately 10,000 litres of untreated saline water had leaked from a pipe going into the reverse osmosis plant. Eastern Star did not report this to Government at the time. Santos reported the incident to the Government and commenced a full investigation into the site.

Another significant leak is likely to have occurred during 2010, but there is no record of the incident in Eastern Star's incident management system.

Pilliga area.

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In retrospect it is difficult to determine the total volume of water released as a result of this incident.

Santos has also been able to establish that Eastern Star experienced a number of smaller incidents associated with the water treatment plant, virtually from the time of its installation.

What has been the impact of leaks from the water treatment plant on the environment?

The area affected by the release is a corridor trending south-west extending approximately 700 metres from a water storage pond. There is visible vegetation stress for approximately the first 300 metres from the water treatment plant and a black residue on the ground surface that diminished with distance from the pond.

Santos engaged external scientific consultants, Golder Associates, to conduct detailed soil sampling of the area to assess the environmental impacts of the spills. A copy of the full report is available on the Santos website to download: www.santos.com/library/120222_Report_into_ESG_operations.pdf

They determined the following from the soil samples:

- "...the most distinct soil quality difference within the release area is a concentration of salts, and particularly sodium, in the shallow soil profile. This may have been the major contributing factor to the observed vegetation stress within the release area."
- "...the black substance is not consistent with a petroleum hydrocarbon source" and are likely attributable to natural organic material including eucalypt trees and grasses.
- The soil results are below the guidelines of the National Environment Protection Measure (NEPM) required for parks and playing fields. The soil was shown to fall below the most sensitive health-based land use soil criteria of low density residential with garden/accessible soil, children's day care centres, kindergartens and preschools.

Although these findings show there was no potential health or ecological risk, the spills are not acceptable and the site will be fully remediated and the water treatment plant upgraded before Santos allows it to recommence operations.

Have there been other environmental breaches on the site?

Yes. To date Santos investigations have revealed evidence of:

- Eastern Star failing to report water discharge into Bohena Creek.
- Water from an untreated water pond overflowing during rain.
- Possible unapproved land clearing.

Bohena Creek: Eastern Star did not in all instances accurately report data obtained by the company during weekly testing of the Bohena Creek discharge water.

Water pond overflow: During heavy rainfall in December 2010/January 2011 some water overtopped a holding dam. Santos understands that the Department was informed of the incident but has been unable to find a written record of the report.

Land clearing: It appears some land may have been cleared in excess of the estimates proposed in the review of environmental factors (REF) that Eastern Star submitted to the government.

What does Santos plan to do next?

- The full investigation by Santos will be delivered to government in coming weeks.
- Santos has also commissioned independent assessments of soil and water samples to assess the extent of contamination, indicate any further investigation required, and recommend immediate and full scale remediation options.
- Develop and implement a Remedial Action Plan in consultation with relevant experts and the government.

What has Santos done to date?

Santos commissioned an independent ecological survey for Matters of National Environmental Significance (MNES) under the Environment Protection and Biodiversity Conservation Act 1999 on the spill that has been provided to the Commonwealth Government.

Other steps Santos has already taken to rectify the site include:

1. Audit and rectify safety signage in the field.
2. Develop significant hazard risk register.
3. Develop emergency response plans for NSW operations and roll out training.
4. Carry out training needs analysis and training plan development.
5. Develop waste disposal and waste management plan.
6. Dispose of glass fibre/poly pipe,
7. Dispose of scrap equipment/steel pipe/field pipe off-cuts.

What action is the government taking?

The NSW Division of Resources and Energy is undertaking an investigation of all of the non-reported incidents that have occurred in the Pilliga State Forest including interviewing the management team of Eastern Star Gas at the time of the incidents. Santos is assisting the government in its investigation.

CONTACT US

For more information contact:

The Santos NSW CSG Team

PO Box 1025
Gunnedah, NSW, 2380

Free call: 1800 071 278

Email: Energy.NSW@santos.com

or visit the Santos website

www.santos.com/nswcsg

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