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The Director
General Purpose Standing Committee No. 5
Parliament House
Macquarie St
Sydney NSW 2000

29 August 2014

Re: Performance of the NSW Environment Protection Authority (Inquiry)

Dear Sir/Madam,

Thank you for this opportunity to provide a submission on the performance of the NSW Environment Protection Authority as a part of the Legislative Council inquiry conducted by the General Purpose Standing Committee No.5.

The Wilderness Society is one of Australia's leading conservation organisations with a long history of engagement, campaigning and presence in New South Wales on key environmental issues. New South Wales and Australia's future prosperity depends on a healthy environment, and the Wilderness Society works to ensure that our unique but often fragile environment is properly protected from the threats of destructive development, degradation, and neglect.

The NSW Environment Protection Authority (EPA) plays a critical role in delivering shared prosperity and quality of life for the people of NSW. Australia's future prosperity depends on the adoption of a functional, consistent approach to manage environmental protections.

The NSW EPA exists to: *"work alongside Federal, State and local governments to deliver environmental outcomes for the people of NSW."*

The Wilderness Society believe that the NSW EPA, as the principal environmental regulator in NSW, needs to be strong, independent, transparent and acting only in the interest of achieving its purpose to protect the natural environment and the interests of the people of NSW.

Environmental regulation requires not only a safeguarding of human and environmental health, but also the enforcement of regulations under existing environmental laws. The Wilderness Society is extremely disheartened and concerned by the cultural shift in the current iteration of the EPA away from solely

focussing on environmental protection representing the interest of the community, to attempting to equally represent the bodies themselves to which the legislation or regulation applies.

The EPA's current vision statement is: *Healthy Environment, Healthy Community, Healthy Business*.

The Wilderness Society believes that this statement alone shows the move away from environmental protection and regulation to one the aims for *Healthy Business* to be given the same weighting as the natural environment and communities within decision making frameworks. This presents an inherent conflict of interest with State-owned corporations and agencies routinely have a direct interest in proposed developments and management activities here in New South Wales.

The US EPA provides a good example of an agency that sets out to achieve environmental outcomes, actively working towards crafting new legislation that sets a new agenda for environmental protection. Recently, they have proposed a rule that would limit carbon dioxide emissions from existing power plants under the *Clean Power Plan*. As a comparison, their mission is to: *protect human health and the environment*.

The Wilderness Society welcomes this opportunity to review the current performance of the EPA, as detailed below, and following this would encourage a serious review of the purpose and intention that underpins the current cultural behaviour of the EPA.

Section 1 - Key concerns with the NSW EPA in relation to coal seam gas EPLs and licencing

The current problems with the EPA in relation to coal seam gas are surmountable if there is a cultural shift in the Authority away from friendly collaboration, co-design and cover ups with the coal seam gas industry, and instead to an Authority that is on the front foot, unafraid to keep the public informed of pollution events and one that stays true to its brief of being independent and at arms length from those companies and projects it is supposed to be regulating and licensing.

This submission deals with two key matters. One is in relation to the culture and process of the EPL process over Santos. The other more detailed information is in direct relation to the Santos Pilliga groundwater contamination case.

Key issues that arise through the research presented in this submission are backed by the attached first hand information, detailed industry reports and email chains between coal seam gas company Santos and the EPA. Below, we provide several clear and demonstrable examples of where the culture of the EPA, and the working relationships between in these examples Santos and the EPA are shown to compromise the integrity of the EPA.

The EPA writes that it is "a strong independent regulator" and that it's relationship "with all of its licensees is professional and at arms length". See this open letter from Barry Buffier:

<http://www.epa.nsw.gov.au/resources/oricabotanycttee/130233botlettbb.pdf>

However, through the attached documents, it is clear the EPA, while supposed to be an 'environmental watchdog' displays candour and a close and friendly working style with Santos, while records show they are keeping the community in the dark about their work and even misleading the community with their press

statements and failure to discuss risks and known pollution openly with the local community and broader public.

EPA working relationship with Santos

The EPA work closely with Santos, work together to determine the load limits on pollution, the process for enforcement, rely on their data and aim not to 'single out any operator' when they were found to have polluted.

There is clear evidence to suggest that the EPA does not work at arms length from government and industry as is suggested in their terms of reference, nor are they seen to be independent. Please see the below listed attachments for insights.

Attachment 1_ Doc 3d: The EPA works closely with Santos to devise the plan for the EPL's – they do not work at arm's length.

Attachment 2_11 FW: Discussion of working with Santos on the EPL – not at arm's length – “We are currently working with Santos discussing their application for an EPL to cover the operations in the Pilliga.

Attachment 3_Doc 20 FW: Santos discusses with EPA about working together to integrate the EPLs with the other works in the Santos exploration plan. Santos says to the EPA, “We're keen to continue to assist with the integration of the licensing of the exploration phase of CSG activities into the EPL process.”

And from the EPA to Santos, “Hi Guys, thanks for the catch up last week on licensing of coal seam gas fields. Now that you have had a bit of time to digest the conversation have you thought of anything other issues of concerns you're your would like the EPC to consider? This is on top of the sunset clause issue?”

Attachment 4_Doc 27: Santos staff member gives Carmel Dwyer of the EPA tips on how to do her job in relation to the Produced Water Management Plan (required before the EPL). “Hi Carmen, note requirement is “consult” not “approve”, that is role of DRE Minister and probably in short term makes your job easier!”

Attachment 5_ Doc 57: Shows the EPA being pushed up against unrealistic assessment timelines by the NSW Dept of Industry. An email reads: "Jess, for your action please! Can you touch base with them and check are they really asking us to review this information within 24 hours???"

Section 2 - Direct feedback on the EPA investigation into ground water contamination in the Pilliga by Santos' coal seam gas exploration

The below points and supporting documents are obtained almost entirely through Freedom of Information laws (at a cost of hundreds of dollars from community donations). The documents demonstrate an ongoing pollution matter that was downplayed over time by Santos and the EPA to the public and to NSW Parliament, where early warning signs of potential pollution were ignored, where the NSW Health

department could not respond in a timely way to questions of uranium impacts in potential drinking water and the NSW Office of Water was excluded from reviewing key documents and undertaking independent monitoring activities.

I encourage you to read all the attachments in their entirety, as they provide very useful insights. They show where Santos and the EPA acted in a responsible and timely fashion to share and respond to critical information, and where time and time again they both appeared to mislead, distract, hide or ignore information.

In this instance to date, it appears that local groundwater dependant vegetation has suffered measurable negative impacts of the contaminated groundwater, with human and stock health spared. However the aquifer is contaminated to this day with no successful method of remediation secured, and questions remain about the ongoing impacts of the travelling polluted groundwater.

Below is a timeline of events to provide a clear initial overview of the events that occurred pre and post the EPA official investigation into the groundwater contamination at the Bibblewindi Water Treatment facility in the Pilliga Forest.

SANTOS PILLIGA GROUNDWATER CONTAMINATION TIMELINE

Date	Description	Att #
18 May 2012	Santos notifies the EPA and NSW Trade and Investment that there are problems with Pond 3 and attaches a 14 May Geotest report about Pond 3 that states “The fact that we are getting a high current with relative low voltage confirms that there is a direct connection between the saline water in the pond and the subgrade beneath the liner. (The EPA takes no action.)	6
28 June 2012	Geotest report to Santos confirms that the liners of all three Bibblewindi ponds are leaking and recommend in relation to pond 1 and 2, “There are substantial leaks in the liner and evidence that the subgrade is unstable and we recommend immediate action is required.	7
9 July 2012	CH2M HILL report to Santos states: Bibblewindi Ponds – “CH2M HILL concludes that the three Bibblewindi Pond liners are leaking, as confirmed by the electrical survey and visual examination completed by Geotest.”	8
13 November 2012	Santos informs Summerhayes of Dept Trade and Investment that October 2012 testing around Bibblewindi shows water connection between the pond and the soil below	9
Nov/Dec 2012	Nested groundwater monitoring bores were installed around Pond Three in response to the leaking ponds	10
18 December 2012	Santos uses the ability to move water out of the Bibblewindi Ponds as a justification to build CSG water storage dams 3.5 times the size of the Bibblewindi Pond 3 at their Leewood property, “as a matter of priority”. See online: http://www.resourcesandenergy.nsw.gov.au/_data/assets/pdf_file/0011/449921/Santos-Leewood-Phase-1-REF_20121219_Part1.pdf	See link

February 2013	Groundwater monitoring from these new bores around pond three shows elevated salts and uranium in groundwater below the pond.	10
26 March 2013	Notebook – Uranium levels at 350 ug/L in groundwater	11
26 March 2013	Mark Gifford from the EPA signs off on an “ISSUE ALERT” on the groundwater contamination with elevated heavy metals including uranium.	12
27 March 2013	Santos addresses a letter to Carmel Dwyer of the NSW EPA, reinstating the problems with the Bibbliwindi ponds and noting elevated levels in groundwater below the ponds	13
28 March 2013	CH2MHILL Technical Memorandum sent to Santos with page of limitations	14
Late March 2013	EPA letterhead on draft media release about the Bibblewindi groundwater incident that is never released	15
3 April 2013	The EPA draft a ‘holding statement’ about the incident that is never released.	16
9 April 2013	EHS report to Santos: “Based on the results presented in the Study, it is EHS Support’s opinion that water from Pond 3 is leaking into the subsurface in the northwest corner of the pond.”	17
14 May 2013	NSW Health do not have sufficient information to know if a health alert is required after 6 weeks of the investigation running.	18
22 May 2013	EPA writes in a Review of Environmental Factors for a Santos exploration project of a “suspected leak at the main holding pond at Bibblewindi” (even though it’s likely their investigation would have uncovered the documents that clearly state the pond was leaking). See online: http://www.resources.nsw.gov.au/__data/assets/pdf_file/0009/468486/pel-238-dewhurst-22-25-and-26-29.pdf	See link
22 May 2013	Minister speaking for Environment and Heritage in NSW Upper House states that a groundwater investigation was started in March 2013, citing only ‘elevated results’ from ‘routine groundwater monitoring’. See online: http://tinyurl.com/lqc7lwj	See link
22 May 2013	Updated ‘draft statement’ significantly watered down drafted to exclude details of the heavy metals including uranium for example, was not released	19
October 2013	Draft Investigation report written for sign off	20
18 February 2014	Media release uploaded to the EPA website, outlining the \$1500 fine with little detail. The release was only sent to one small newspaper outlet in Narrabri NSW, who chose not to report the story: http://www.epa.nsw.gov.au/epamedia/EPAMedia14021802.htm	See link
11 March 2014	Mark Gifford emails a copy of the final report to Lock the Gate following a meeting at the EPA office in Sydney.	21

The following points are related to the themes found across these documents that outline areas for improvement in the EPA's approach.

a) Santos knew definitively their three Bibblewindi ponds were leaking in 2012, yet the EPA failed to act and then failed to be clear with the public instead using the language: 'suspected leak'

The EPA was first alerted to the leak at Bibblewindi Pond 3 into the surrounding soil on 18 May 2012, yet took no action and did not consider that information in their subsequent investigation.

Attachment 6 contains a letter to Greg Summerhayes of Mineral Resources and copied to Jessie Giblet of the EPA on 18 May 2012 from Peter Mitchley, Santos. Refers to both a report dated 22 Feb 2012 and subsequent email of the 24 Feb 2012 indicating Santos have been in communication with government since then.

The attachment to the letter is a Geotest Report 14 May 2012, which outlines:

"The fact that we are getting a high current with relative low voltage confirms that there is a direct connection between the saline water in the pond and the subgrade beneath the liner."

Then the CH2M Hill Report 9 July 2012 (attachment 8, page 16) states, *"The presence of saline water in monitoring piezometer Bibblewindi-1 adjacent to Pond 3 confirms that Pond 3 is impacting the shallow groundwater horizon.... Due to the high hydraulic head, particularly in Pond 3, this has most likely caused low flows of the saline water to penetrate the saturated basal layer and then migrate vertically and laterally through higher conductive lithological sequences or faults."*

The EPA therefore had the reports that clearly stated that pond 3 was leaking in May 2012 – but took no action.

The Attachment 8 9 July report also states, *"Conclusion. Pond 1... which indicates the liner has major holes and therefore is not impervious... There are substantial leaks in the liner and evidence that the subgrade is unstable and we recommend immediate action is required... Pond 2... which indicates the liner has major holes and therefore is not impervious... the liner is leaking and there is evidence that the subgrade is unstable and immediate action is required."*

Attachment 9 of November 2012 confidential letter to Greg Summerhayes from NSW Trade and Investment (Mineral Resources) – outlines salt water leaking out of ponds.

The EPA commenced their formal investigations of Santos in late March 2013, seemed unable to access the documents and information from Santos in relation to the extent of the knowledge around the leaking ponds. For example, they should have seen the 28 June 2012 Geotest report (Attachment 7), that clearly stated all three ponds at the Bibblewindi Water Treatment plant were leaking.

However, they either missed this information, or choose to play down the issue, as on 22 May 2013, the EPA detail a 'suspected leak at the main holding pond at Bibblewindi' in an REF document that eventually put online for the public to access as per the Government's process.

http://www.resources.nsw.gov.au/__data/assets/pdf_file/0009/468486/pel-238-dewhurst-22-25-and-26-29.pdf

Why had the EPA used language around a 'suspected leak' when they had documents to clearly show that the pond was in fact leaking?

The EPA should have been able to ascertain in the almost 2 months of investigation that the ponds were in fact leaking.

b) There was nothing 'routine' about the groundwater monitoring that lead to the discovery of the two contaminated aquifers.

The EPA used the 'routine groundwater monitoring' language that Santos used over the phone to become the "Issue Alert" statement (Attachment 12). This incorrect language was then used to inform NSW Parliament Upper House on 29 May 2013 (<http://tinyurl.com/lqc7lwj>) and even in the final media release in February 2014 (<http://www.epa.nsw.gov.au/epamedia/EPAMedia14021802.htm>). However, the EPA should have been able to find out from the investigation that the monitoring was not routine and was in fact in direct response to recommendations made from the leaking pond reports over 2012.

It wasn't routine groundwater monitoring. Reports commissioned by Santos show they undertook the specific groundwater monitoring program in direct response to clear reports showing that the pond liner was damaged and that salty water was seeping into the surrounding soil. There was nothing 'routine' about the groundwater monitoring at the Bibblewindi Water Treatment Facility and the EPA should have known this.

The EPA's own Final investigation report (Attachment 21) outlines that a specific 'groundwater investigation' took place between November 2012 and April 2013. See Santos Bibblewindi Investigation Report page 9.

The 'routine groundwater monitoring' words of the gas company are repeated verbatim, when a critical analysis would show them to be incorrect.

The EPA statement could have more accurately stated for example: A groundwater investigation at the Bibblewindi Water Treatment facility was triggered in response to 2012 reports showing connectivity between the pond water and the surrounding soil. This groundwater investigation has now revealed there are elevated levels of salts and heavy metals in the groundwater below the ponds. The EPA is now conducting a full investigation into the matter.

c) After almost 2 months of EPA investigation, NSW Health were still not able to determine if health warning was required regarding uranium in groundwater due to lack of information

Attachments 22 and 23 give insights into the way the EPA and the Health Department have to seek Santos permission to access documents in order to make a call on the health impacts. Attachment 23 A shows that

despite “possible health implications” that were still undecided on 22 May 2013, the EPA was still more worried about “singling out a particular operator”.

The EPA chose not to talk to surrounding landholders around the groundwater contamination zone, even though for months they knew that uranium contamination had taken place, and did not know if locals were drinking that water.

As noted in the EPA [Investigation report](#) (Attachment 21), documents were not given to the NSW Office of Water to “independently review the technical memorandum” as suggested by the Department of Health.

d) The lack of media and public information

Attachment 24 shows the way the EPA weren't going to go public on the matter unless Santos chose to. They followed Santos' media closely. It turns out Santos didn't go public with information detailing any contamination of groundwater or the EPA inquiry, and the EPA also chose to stay silent.

Attachment 25 shows my phone calls to the EPA trying to get more information and shows evidence that the EPA made a commitment to the Wilderness Society to be in contact “when the matters were finalized.” This did not happen, I haven't received a call on the matter to this day.

Attachment 16 shows clearly that while the NSW Office of Environment and Heritage want to put out a clear statement about the issue and be on the ‘front foot’, EPA representatives don't want to set a ‘precedent’ or ‘single out an operator’. EPA reps have their way and the public statement is not made. The draft holding statement (Attachment 16) was first watered down (Attachment 19) and then not released.

When the investigation was finally complete and the \$1500 fine issued to Santos, the media statement <http://www.epa.nsw.gov.au/epamedia/EPAMedia14021802.htm> failed to mention any detail, particularly around the uranium contamination.

It also reinstated the incorrect statement about “routine groundwater monitoring”. The EPA's own investigation report outlines that a ‘groundwater investigation’ took place between November 2012 and April 2013. See Santos Bibblewindi Investigation Report (Attachment 21, page 9). This groundwater investigation was the basis for the water results that exposed the contamination.

The EPA statement should have at least more accurately said: A groundwater investigation at the Bibblewindi Water Treatment facility was triggered in response to 2012 reports showing connectivity between the pond water and the surrounding soil. This groundwater investigation has now revealed there are elevated levels of salts and heavy metals in the groundwater below the ponds.

The media release failed to mention the heavy metals involved or the high levels of uranium or the fact that two aquifers were impacted. An EPA press release revealed a “spill” which included “salts and other elements” but failed to mention that those other elements included such cancer-causing nasties as uranium, arsenic, lead, barium, boron, aluminium and nickel all in unsafe concentrations.

The Media release was only emailed to one newspaper based in Narrabri of North West NSW, which chose not to report on the release. The EPA made no further attempts to ensure the community was alerted to the pollution. The release did not get sent through any further media contacts, nor to the Sydney Morning Herald, who had been documented making inquiries and reporting that the EPA investigation was taking place.

e) Santos used the pollution to help gain approval of infrastructure needed for further coal seam gas activities – 3.5 times bigger capacity than was required to move the polluted water from the leaking dam

Santos actually used the pollution to justify the push for the approval of the Leewood CSG ponds, see The REF for the Leewood – Produced Water & Brine Management Ponds Review of Environmental Factors. The Leewood Dams have the capacity to hold 3.5 times the amount in the Bibblewindi Dam.

Go to: http://www.resourcesandenergy.nsw.gov.au/__data/assets/pdf_file/0011/449921/Santos-Leewood-Phase-1-REF_20121219_Part1.pdf

In the 'Justification' section of the Leewood REF, the first sentence states: The primary purpose of the proposed activity is to enable produced water and brine to be transferred from the existing Bibblewindi Water Management Facility located in the Pilliga State Forest, to the new Leewood ponds, which are located outside the Pilliga State Forest.

In this way, Santos was able leverage an approval for large scale infrastructure to support yet further coal seam gas develop and contaminated water storage from the Pilliga.

f) The EPA final investigation report reveals flaws in the process and the 'remediation' outcome to date

The EPA investigation report (Attachment 21) reveals what was not reported publicly at the end of the investigation, that not one, but two, aquifers have been polluted - one at 20m depth and another at 35m - and that the deeper aquifer has 4 stock and domestic bores within 5km.

The report finally publicly confirmed that CSG wastewater leached a number of heavy metals out of the soil into the water table - including uranium.

The report also reveals that the EPA did not conduct any independent sampling of their own, but relied entirely on data provided by the company they were investigating - Santos - and that the NSW Office of Water were effectively sidelined from the process.

There is a delay of seven months from the initial drafting of this investigation report until it is released. This report was first drafted by Jessica Creed of EPA on the 13 October 2013 (Attachment 20) but not released until farmers and environmentalists met with NSW EPA on 11 March 2013.

According to the EPA final investigation report, no remedy for the elevated levels of harmful elements in the aquifers was found, yet the paltry \$1500 fine was granted for this potentially long term rise in heavy metals, including levels of uranium that exceeded safe drinking water standard, in publicly accessed groundwater.

The report outlines that the Shallow Aquifer was still polluted, abstraction trials were “impractical” and that groundwater dependent vegetation was “likely to source their water from this aquifer”.

The Remediation plan shows that they don’t know if they can contain or fix the aquifer pollution.

Page 5, paragraph 3, *“The only additions of water to Pond 3 since then has been the transfer of water from Ponds 1 and 2, to allow decommissioning of these ponds, and small additions from the shut in wells that is necessary to keep the pressure down in these wells.”* Santos reply to a request by email from the EPA clearly stating that other additions have been made to Pond 3, *“Firstly, we keep pressure down in the shut in wells by flaring, ie we need to reduce pressure to maintain safety. With that comes small amounts of produced water that goes into Pond 3.*

Secondly, we also have transferred the liquids from Ponds 1 and 2 to allow us to rehabilitate them, and also the fluids from the other ponds rehabilitated, ie Bohena and Dewhirst Ponds all went there.” (See emails at Attachment 26)

There are inconsistent Statements within the EPA final Investigation Report:

Page 1, under the subheading ‘Notification’, *“The EPA was notified on 26 March 2013 that sampling of groundwater around the Bibblewindi WTF had occurred in February 2013.”*

The EPA had on at least two previous occasions been informed by Santos of issues as result of groundwater sampling in the area. The first is on the 18 May 2012 when Santos sent a copy of a letter to the DTIRIS to the EPA, *“Subsequently, in our email of 24 February 2012, we noted that an elevated TDS level had been found in a piezometer adjacent to Pond 3 at Bibblewindi,”* (Attachment 6).

The second occasion is on the 13 November 2012 when Santos sends a copy of a letter to the DTIRIS to the EPA, *“Further to the electrical resistivity testing, we have collected additional monitoring data from piezometers at Bibblewindi Pond 3. The results collected in October 2012 indicate highly varying electrical conductivity and concentrations of metals and cations across the site”* (Attachment 9).


There is also an issue of inconsistency on Page 5, paragraph 4 of the EPA investigation report. It states, *“Based on the report titled Hydrogeological definition study – Bibblewindi prepared by CH2MHILL for Santos the seepage velocity in the deeper groundwater zone is 0.03m/year.”* While on page 10, last paragraph, *“The data is indicating that the deeper aquifer has a velocity of 0.003m/yr. The closest bore to the site is a stock and domestic bore that is located over 4km away.”* EPA mix up their factor of tens or it is just a typo, on one page quoting 0.03 and another 0.003m /yr. This report needs to be checked out as the EPA relies on it heavily. Simple arithmetic suggests this pollution plume won’t reach the nearest bore for over 100,000 years. If this reported seepage velocity is correct how can Tim Burton (URS) measure high TDS and have it confirmed with a high electrical conductivity by a laboratory in Feb2012? (Attachment 27)

The bore #1 he sampled is about 50 metres away and 18 metres deep from the nearest possible hole in the pond liner. The pond liner was intact at the completion of construction in 2006, which suggests the seepage velocity is 10s of metres per annum. Also note from Feb 2012 to Feb 2013 the EC changes from 12,400 to 15,109 $\mu\text{S}/\text{cm}$ for bore#1 in just 12 months.

Our aquifers are too important to leave in the hands of coal seam gas companies to oversee, while the EPA catches up over email and waits to see what the company does so they can follow suit. More rigour in publicly holding coal seam gas companies accountable and even just keeping local landholders and the public up to date with key details of pollution events is important to residents of NSW.

Should you wish to discuss this submission, please contact Naomi Hogan on 02 4962 4123 or email naomi.hogan@wilderness.org.au or Belinda Fairbrother on 02 9282 9553 or email belinda.fairbrother@wilderness.org.au.

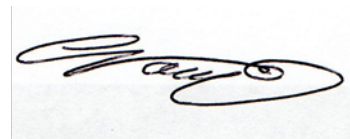
Yours sincerely,



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