



Independent Audit Report

Dewhurst Gas Exploration Pilot Expansion Project

Reference No. SSD-6038

Prepared for Santos NSW (Eastern) Pty Ltd

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The sole purpose of this report prepared by SMEC is to document the findings from the independent verification of the Dewhurst South Gas Exploration Pilot Expansion Project against the conditions and requirements contained within the Project related documentation.

SMEC has applied due professional care in completing the verification activities as detailed in this report, however all findings contained in this report have been derived from the visual observations of the activity, and documentation and records provided by Santos. SMEC has relied upon, and presumed accuracy of information (or confirmation of the absence thereof) provided by Santos. Except as otherwise stated in this report, SMEC has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may require adjustment.

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Executive Summary

SMEC (Australia) Pty Ltd (SMEC) were engaged by Santos NSW (Eastern) Pty Ltd (Santos) to undertake an independent environmental audit as required under Development Consent SSD-6038 (MOD 2), Schedule 5 Condition 8, for their Dewhurst Gas Exploration Pilot Expansion. The Dewhurst pilot expansion forms part of the overall Narrabri Gas Project. As such the scope of the audit was limited to the following:

- Dewhurst Coal Seam Gas (CSG) pilot wells 13, 14, 15, 16H, 17H and 18H (all wells currently not operational)
- Dewhurst CSG pilot wells 26, 27, 28 and 29 (currently operational)
- Two CSG wells pads at Dewhurst 30 and 31 (pads have been cleared but not drilled).
- Associated road network, water and gas flow lines

No new wells have been drilled since the previous independent audit completed in November 2015, including the proposed wells at Dewhurst 30 and 31, where well pads have been constructed in preparation for the drilling of these two wells.

At the time of the audit, all gas collected from Dewhurst wells 26-29 is flared at a dedicated flare at Dewhurst well 28, whilst all produced water is collected at a 22,000 litre holding tank at Dewhurst well 28 and directed to the Santos Leewood water storage facility via the Bibblewindi water transfer facility. In addition to this, Santos were in the process of constructing gas flow lines to connect Dewhurst wells 26-29 to the larger Narrabri Gas Project, directing all gas to the Wilga Park power station via the Bibblewindi facility.

Interviews of Santos personnel were carried out as part of the audit methodology and the level of environmental awareness and understanding was found to be of a high level. Interviews were also conducted with government agency representatives and the Narrabri Gas Project Community Consultative Committee with all interviewees found to support how the Dewhurst Exploration Gas Project is being conducted. All representatives found that access to information had been timely and as requested.

A total of 302 conditions were audited in accordance with the NSW Government Independent Audit, Post Approval Requirements (June 2018) with 197 found to be compliant, zero non-compliant and 105 conditions not triggered.

Summary of findings of the audit

APPROVAL DOCUMENT	COMPLIANT	NOT COMPLIANT	NOT TRIGGERED	TOTAL
Development Consent: SSD-6038	43	0	13	56
EIS Statement of commitments (Appendix 4 of the Development Consent)	75	0	35	110
Petroleum Exploration Licence 238	36	0	22	58
Environmental Protection Licence 20350	43	0	35	78
SUBTOTAL	197	0	105	302

In the opinion of the auditor, the project is being conducted in a way that manages the identified risks posed by the activity to the local environment. Adequate resources are provided by Santos to manage the risks who are appropriately trained, experienced and qualified to do so.

1 Introduction

1.1 Background

SMEC (Australia) Pty Ltd (SMEC) has been engaged by Santos NSW (Eastern) Pty Ltd (Santos) to undertake an independent environmental audit as required by Schedule 5 Condition 8 of the Development Consent application number SSD-6038 (MOD 2), for their Dewhurst Gas Exploration Pilot Expansion. The latter forms part of the overall Narrabri Gas Project.

The Development Consent was issued to Santos under Section 89E of the *Environmental Planning and Assessment Act 1979* by the NSW Department of Planning and Environment on the 18 July 2014.

Santos NSW (Eastern) Pty Ltd is a joint venture arrangement between Santos Ltd., and Energy Australia Narrabri Gas Pty Ltd.

Work activities for the Dewhurst Gas Exploration Pilot Expansion Project commenced on 4 November 2014, with the clearing of Dewhurst 30 and 31, one-hectare petroleum lease pads. The well cellars have been established but at the time of the audit, each of the wells have not yet been drilled and as such development work has been limited.

It is noted that Dewhurst 26-29 wells were drilled in 2014 prior to the issuing of the Development Consent for the Dewhurst Gas Exploration Pilot Expansion (Dewhurst 30 and 31). The Dewhurst project area sits within the Petroleum Exploration Licence 238 (PEL 238).

An Environmental Protection Licence (EPL 20350) is held by Santos that applies to all of the Narrabri Gas Field activities including the Dewhurst development sites. It should be noted that there are conditions in this licence that are not relevant to the Dewhurst Gas Exploration Pilot Expansion Area, such as the requirement to carry out a Pollution Study and Reduction Program.

The petroleum and gas activities for which the Development Consent has been issued are listed below:

- The operation of existing Dewhurst Coal Seam Gas (CSG) pilot wells 13, 14, 15, 16H, 17H and 18H (currently not operational)
- The operation of existing Dewhurst CSG pilot wells 26, 27, 28 and 29 (currently operational)
- The drilling of an additional two horizontal wells at each of the existing Dewhurst 16H, 17H and 18H wells (currently not drilled)
- The drilling and operation of two new additional CSG wells at Dewhurst 30 and 31 (currently not drilled).

The Dewhurst development is shown in Figure 1 showing how it forms a part of the overall Narrabri gas field operations and the regional context.

Dewhurst wells 13-18H are currently not being operated and these well leases have been partially rehabilitated.

With reference to Table 1 below, the Dewhurst 26-29 wells were drilled in 2014 prior to the issuing of the Development Consent for the Dewhurst Gas Exploration Pilot Expansion.

Dewhurst wells 26-29 are currently operating with produced water from these wells being initially collected in a 22,000 litre above ground storage tank at Dewhurst 28 before being transferred by pipeline to the Leewood water storage facility via the Bibblewindi water transfer facility. Gas from these pilot wells was being collected and flared at Dewhurst 28 at the time of the audit.

No new wells have been drilled since the previous independent audit completed in November 2015, including the proposed wells at Dewhurst 30 and 31, where well lease pads have been constructed in preparation for the drilling of these two wells. This is the only new activity which has been undertaken under this approval.

Details of the current status of each of the wells in the development is shown in the Table 1.

Table 1: Current status of wells in the Dewhurst development

DEWHURST WELL NO	WELL TYPE	WELL DRILL COMPLETION DATE	WELL COMPLETION REPORT SUBMITTED	WELL STATUS AS AT NOVEMBER 2018
13	Vertical	12/11/2009	22/06/2011	Suspended
14	Vertical	04/11/2009	22/06/2011	Suspended

DEWHURST WELL NO	WELL TYPE	WELL DRILL COMPLETION DATE	WELL COMPLETION REPORT SUBMITTED	WELL STATUS AS AT NOVEMBER 2018
15	Vertical	25/10/2009	22/06/2011	Suspended
16H	Horizontal	18/12/2009	12/07/2011	Suspended
17H	Horizontal	07/12/2009	12/07/2011	Suspended
18H	Horizontal	13/12/2009	12/07/2011	Suspended
26	Vertical	03/03/2014	03/09/2014	Operating
27	Horizontal (3)	04/04/2014	03/10/2014	Operating
28	Vertical	21/02/2014	22/08/2014	Operating
29	Horizontal (3)	14/05/2014	07/11/2014	Operating
30	Not Drilled (Only well lease pad and well cellar constructed in Nov 2014)	N/A	N/A	N/A
31				

N/A: Not Triggered

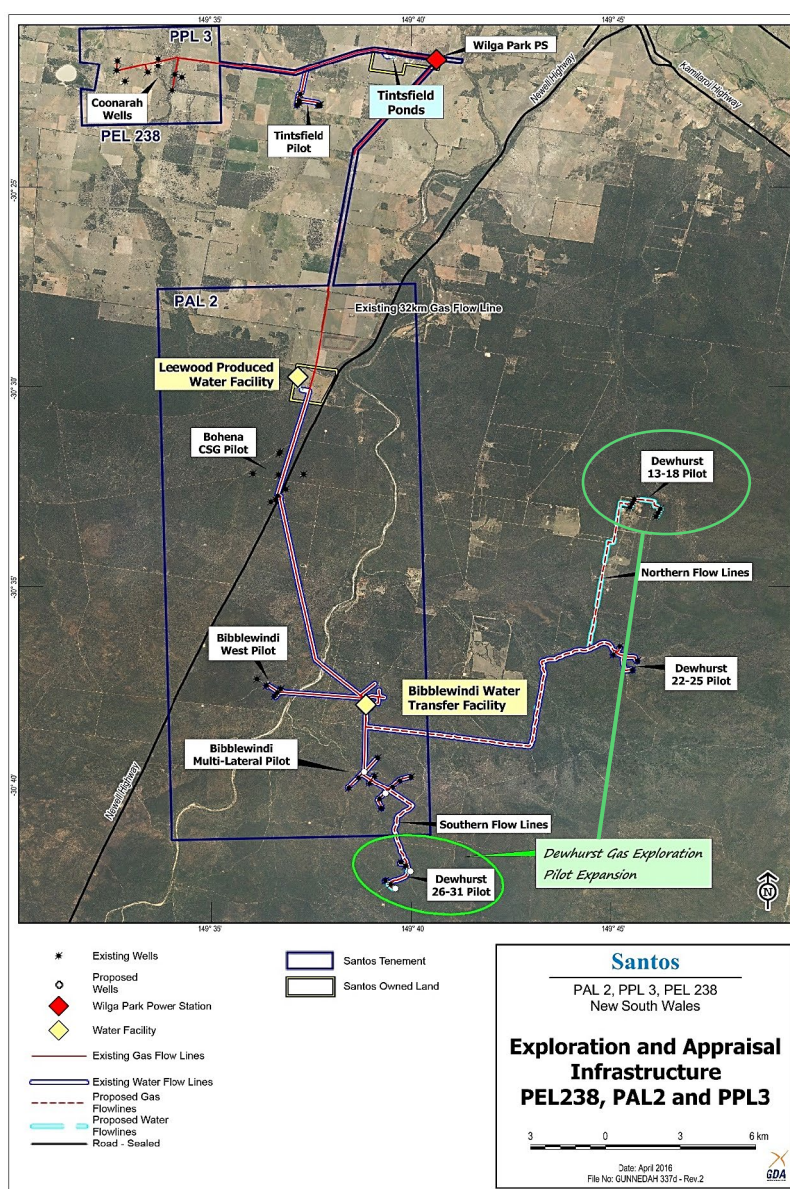


Figure 1 Exploration and Appraisal Infrastructure layout
Source: Santos April 2016

1.2 Audit Team

The Secretary of the Department of Planning and Environment endorsed the approved of Damien Taylor of SMEC (Australia) Pty Ltd as the independent environmental auditor in correspondence dated 19 September 2018.

Damien is a principal environmental scientist with 24 years of regulatory, auditing and consulting experience. He has work with coal seam gas and resource companies throughout Queensland over the past 15 years. He is also a certified environmental management systems auditor under Exemplar Global, certificate number 105674, expiry 15 February 2019.

A copy of the Planning Secretary endorsement is provided in Appendix B .

1.3 Objectives

The objective of the audit, carried out in accordance with Schedule 5 Condition 8 of the Development Consent, is to assess the environmental compliance of the Dewhurst Gas Exploration Pilot Expansion and to assess the level of compliance with requirements of other key approvals relating to the development as outlined in Section 1.4.

1.4 Scope

The audit scope comprised the following as required by Schedule 5 Condition 8 of Development Consent SSD-6038:

- a) An audit of compliance with the requirements of the following approval documents as they apply to the Dewhurst development (Appendix A):
 - Development Consent conditions: SSD-6038
 - EIS Statement of commitments (Appendix 4 of the Development Consent)
 - Petroleum Exploration Licence 238 conditions
 - Environmental Protection Licence 20350 conditions.
- b) An assessment of the overall environmental performance of the activity
- c) A review of the status and adequacy of strategies, plans or programs related to the development
- d) Consultation with relevant project Stakeholders
- e) Recommend actions.

This audit report and compliance status has been prepared based on observation, information and data obtained from both a desk top audit, interviews and field inspections of the project area carried out on 23 October 2018 and 26-28 November 2018. It should be noted that this audit is conducted at a point in time and may change if the facts and circumstances subsequently change at a later time.

Samples of contaminants released to the environment were not taken as part of the audit and compliance with release limits was audited against historical monitoring data made available to the auditor. It should also be noted there is a considerable amount of monitoring data that has been collected by Santos and a detailed analysis and review of the results of the individual data results in terms of compliance is beyond the scope of this audit.

There are a small number of conditions in the various approvals requiring Santos to consult with Government or to ensure the particular issue in a condition has been addressed to the satisfaction or approval of the relevant administering authority. The Department of Planning and Environment has advised the auditor that in relation to such conditions it would determine compliance after reviewing the findings of the audit.

The audit findings are based on the evidence provided by Santos and auditor's observations. This report does not, or purport to, give legal advice on the liabilities or potential liabilities as to whether a particular set of facts and circumstances constitute a breach of legislation and that is a matter to be determined by others, nor does it provide comment or advice on the validity or enforceability of the Development Consent conditions.

1.5 Audit Period

This Audit Report covers the period 13 November 2015 to 28 November 2018. The audit was completed on 9 January 2019.

2 Audit Methodology

The audit process involved a preliminary review of a number of documents relevant to the Dewhurst Pilot Development, in particular the requirements of approvals such as the Development Consent. Field visits were undertaken, accompanied by Santos personnel, of the Dewhurst Development on 23 October 2018 and 26-28 November 2018.

A number of documents including plans and procedures required to be developed and implemented under the conditions of the Development Consent were reviewed at Santos' Narrabri Operations Centre during the field audits. Other documents not available during the Narrabri field visits were provided by Santos to the auditor on request for review following the field inspections.

Following the field visits, the Audit Report was drafted and provided to Santos on 10 January 2019.

2.1 Selection and endorsement of team

Damien is a principal environmental scientist with 24 years of regulatory, auditing and consulting experience. He has work with coal seam gas and resource companies throughout Queensland over the past 15 years. He is also a certified environmental management systems auditor under Exemplar Global, certificate number 105674, expiry 15 February 2019.

As far as can be determined, Damien has no conflict of interest with the Project or its operating companies. He has not previously been involved with or worked for the Narrabri Gas Field Project.

The Secretary of the Department of Planning and Environment endorsed the appointment of Damien Taylor as the independent environmental auditor in correspondence dated 19 September 2018 (see Appendix B)

A signed independent auditor declaration is provided in Appendix C .

2.2 Audit Scope Methodology

The audit was carried out in accordance with the following:

- Department of Planning and Environment guideline, Independent Audit - Post Approval Requirements (June 2018)
- Australian Standard ISO 19011:2014 Guideline for Auditing Management Systems.

2.3 Site Inspections

Field audits of the project area were carried out on 23 October 2018 and 26-28 November 2018.

Samples of contaminants released to the environment were not taken as part of the field audit and compliance with release limits was audited against historical monitoring data made available to the auditor. It should also be noted there is a considerable amount of monitoring data that has been collected by Santos and a detailed analysis and review of the results of the individual data results in terms of compliance is beyond the scope of this audit.

In addition to the above, it was noted that Dewhurst wells 26 to 29 were operational during the site inspection carried out on 23 October 2018, however, the gas field was not operational during the inspection on 26-28 November 2018 due to the construction of the southern gas flow line. The non-operation of Dewhurst wells 26 to 29 did not affect the completion of the audit.

2.4 Consultation

To evaluate the integrity of the project data and gain an understanding of how the project is being delivered with respect to the consent conditions, a number of interviews were undertaken with key project personnel and government agency regulators. A summary of these interviews is provided in Section 3.8 and Appendix A .

3 Audit Findings

3.1 Approvals Audited

The framework and key approvals required for the Dewhurst Development are outlined below including the responsible administering authority.

Environmental Impact Statement (EIS) and Development Consent

The Dewhurst development was classified as State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) and as such an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed activity was prepared and submitted by Santos to the Department of Planning and Environment.

The Planning Assessment Commission subsequently assessed the application and issued a Development Consent (with conditions) under Section 89E of *Environmental Planning and Assessment Act 1979* (EPA Act) on 18 July 2014.

The EIS also included a Statement of Commitments made by Santos and these have formed part of the Development Consent conditions (Appendix 4 of the development consent).

Petroleum Exploration Licence (PEL) 238:

Santos is the holder PEL 238 which gives exclusive right (subject to conditions) to explore for petroleum (including conventional and coal seam gas) within the exploration licensed area, during the term of the licence. The Dewhurst development project area is within the spatial area of PEL 238.

PEL 238 has been issued under the *Petroleum Onshore Act 1991* and is administered by the NSW Department of Planning and Environment (Resources Regulator within the Division of Resources and Geoscience).

Environmental Protection Licence (EPL) 20350

EPL 20350 has been issued by the NSW Environmental Protection Authority (EPA) under the *Protection of Environment Operations Act 1997* for Santos' Narrabri Gas Field activities, of which the Dewhurst development area forms a small part.

Forestry Occupation Permit

This permit, issued under the *Forestry Act 1916* by Forestry Corporation of New South Wales (Forestry Corporation) authorizes, subject to conditions, land access use and for petroleum activities to be carried out by Santos in stipulated areas of the Pilliga State Forest.

3.2 Compliant performance

The Compliance assessment criteria in the Table 2 has been obtained from the NSW Government's Independent Audit – Post Approval Requirements Guideline (June 2018). The use of the same assessment criteria will allow audit results to be consistent and comparable.

Table 2: Compliance status descriptors

COMPLIANT LEVEL ASSESSMENT	CRITERIA
Compliant	There is sufficient and appropriate evidence to demonstrate the particular requirement has been complied with and is within the scope of the audit.
Not compliant	Clear evidence has been collected to demonstrate the particular requirement has not been complied with and is within the scope of the audit.
Not Triggered	The circumstances of the authorisation or title holder have changed and are no longer relevant: e.g. construction has been completed, design amendments have removed the need for the requirement, and/or plant has been removed, etc. An invoking element in the criteria was not activated within the scope of the audit. The element of the criteria may require that a particular activity be carried out or that an event occur before the requirement needs to be complied with. For example, 'The

COMPLIANT LEVEL ASSESSMENT	CRITERIA
	licensee must notify DEC of incidents causing or threatening environmental harm'. If there were no incidents that caused or threatened environmental harm within the scope of the audit, the requirements of this condition do not apply to the auditee.

Any compliance risk was rated considering environmental impacts and recommendations made on risk mitigating measures that could be adopted for all potential and actual non-compliance.

The compliance assessment is based on the criteria outlined in Table 2, with a summary of the findings of the audit provided in Table 3.

Table 3: Summary of findings of the audit

APPROVAL DOCUMENT	COMPLIANT	NOT COMPLIANT	NOT TRIGGERED	TOTAL
Development Consent: SSD-6038	43	0	13	56
EIS Statement of commitments (Appendix 4 of the Development Consent)	75	0	35	110
Petroleum Exploration Licence 238	36	0	22	58
Environmental Protection Licence 20350	43	0	35	78
SUBTOTAL	197	0	105	302

3.3 Agency enforcement actions

From discussions with Santos personnel and government agency representatives, it is understood that no enforcement action has been undertaken for activities in relation to the activities at Dewhurst Gas Exploration Pilot Expansion Project since the previous independent audit.

3.4 Previous independent audits, actions and outcomes

The previous independent audit report completed in December 2015, was reviewed as part of the scope of this audit. From this report, three conditions were found to be non-compliant with the approval conditions. They were administrative non-compliances and were reviewed as part of this audit scope. The findings are outlined below.

Table 4: Previous audit non-compliances

CONDITION	COMMENT
SSD-6038, Schedule 3 Condition 22 Information on one required item (waste management) not contained in the annual report provided to Government.	Compliant Verified that the 2017 annual report contains information pertaining to waste management and minimisation has been prepared by Santos and submitted to the NSW Government.
SSD-6038, Schedule 5 Condition 5 Late submission of a report.	Compliant Santos submitted the Annual Review for the 2017 calendar year to the Department Environment and Planning on 29 March 2018. Viewed email 29/03/18 of submission of review to Department. Viewed letter of acceptance from Department of Planning and Environment (ref: SSD 6036(#1136)

CONDITION	COMMENT
Environment Protection Licence (EPL) 20350 Condition M6.3 Web site “contact us” page not explicitly referring to a complaints line.	Compliant Auditor verified that the 1800 number is active and is listed on the project website as a complaints number.

3.5 Environmental Management Plans

In addition to the above documents Santos has developed additional management plans for other identified environmental matters as outlined below. These plans have been developed, as a requirement of other approvals or by Santos as part of meeting its due diligence requirements, and also to assist it in achieving compliance with relevant legislative requirements and approval conditions.

- Biodiversity and Heritage Management Plan
- Noise and Vibration Management Plan
- Air Quality and Greenhouse Gas Management Plan
- Soil and Water Quality Management Plan
- Groundwater Management Plan
- Waste and Resource Recovery Plan
- Traffic Management Plan
- Hazard Plan (including Bushfire Management)
- Community Consultation Plan
- Driver Code of Conduct
- Produced Water Management Plan
- Bushfire Management Plan
- Rehabilitation Completion Plan/Criteria
- NSW Incident Management Plan
- NSW Safety Plan
- NSW Emergency Response Plan

Commitments required to be undertaken under the management plans are managed by Santos using a Compliance tracking system called ‘ComTrack’.

The adequacy of these additional management plans was not included as part of the audit nor a detailed compliance audit of these secondary commitments within these plans conducted. Nevertheless, any key commitments or obligations that have been identified or brought to the attention of the auditor have been included as action(s) required and prioritised in the report.

The approach of managing key identified environmental issues under the Project Environmental Management Plan (PEMP) using sub plans for each issue is fully supported as it avoids fragmentation and should lead to better and more effective management of issues from both a proactive and reactive perspective as they are dealt with under “one plan”. It will assist in increased understanding and awareness of environmental issues by management, operational staff and contractors and also further assist with induction procedures and training particularly for new staff and contractors.

Each of the plans have been developed or reviewed in consultation with the relevant administering authority and, in some cases, the documents have been approved by the relevant authority.

The PEMP includes eight sub plans and has been developed by Santos as a part of its overall Environmental Strategy (Figure 2). Its a key implementation tool for the effective management of environmental issues to prevent or minimise the risk of adverse environmental harm being caused or threatened.



Figure 2 Environmental Management Strategy

3.6 Environmental performance

During the site audit there was no evidence of unlawful material or serious environmental harm being caused in the Dewhurst development area.

The overall performance of the Dewhurst Gas Exploration Pilot Expansion is considered to be of a high standard. No new wells have been drilled since the previous independent audit completed in November 2015, with all well pads maintained and inspected by Santos personnel regularly.

Dewhurst wells 26-29 are currently operating with produced water from these wells being initially collected in a 22,000 litre above ground storage tank located at Dewhurst 28 before being transferred by pipeline to the Leewood water storage facility via the Bibblewindi water transfer facility. At the time of the first inspection, 100 percent of gas from these pilot wells was being collected and flared at Dewhurst well 28. At the time of the second inspection, the wells were not operational as the southern gas flow line was being constructed to transfer all gas from Dewhurst wells 26-29 to the power station at Wilga Park, via Bibblewindi transfer facility.

Detailed compliance assessment of the approval conditions for the Development Consent and the EIS Statement of commitments, Petroleum Exploration Licence 238 and Environmental Protection Licence 20350 as they relate to the Dewhurst development project are provided in Appendix A.

3.7 Consultation Outcomes

The following Government Departments, Agency and Community Consultative Committee were contacted as part of the audit, as required under Schedule 5 Condition 8 of the Development Consent.

- Department of Planning and Environment – Planning Services, Compliance
- Department of Planning and Environment – Division of Resources and Geoscience (Petroleum Safety)
- Department of Planning and Environment – Division of Resources and Geoscience (Resources Regulator)
- Environmental Protection Agency
- Narrabri Gas Project Community Consultative Committee (CCC)

Initial contact with the Departments, agencies and CCC was made email and this was followed by a telephone call which outlined the purpose of the audit and in particular the consultation requirement and inviting them to raise any issues they had in relation to the environmental performance of the Dewhurst development that needed to be addressed.

Details of the consultation are shown below:

AGENCY	HOW CONSULTED	RESPONSE
DPE (Planning Services)	Email 26/11/2018	Interactions with Santos have been on the whole positive. Requests made by the Department, primarily following submission of annual reviews, have been responded to reasonably and in a timely manner.
DRG (petroleum safety)	Telephone interview 18/12/2018	No specific issues or matters raised and no issues with non-compliance of the conditions of PEL 238. Safety is a very high standard with all information requested from Santos provided in a timely manner.
DRG (resources)	Email response 11/12/2018	Confirmed that regulation for petroleum activities had been given to EPA and to contact them in the first instance.
EPA (Gas Regulation)	Telephone interview 13/12/2018	No environmental issues of concern noted during previous inspections carried out to date. Santos had been cooperative and good to deal with. On average, the agency deals with Santos on a monthly basis. Santos had been protective in providing some information.
CCC	Telephone interview 13/12/2018	The committee is thought to be working genuinely and openly and its recognised that Santos are unable to answer 'all' questions 'all' the time due to the questions and explorative nature of the project. Acknowledge that it's a tense environment at times and Santos have been providing information to the committee and wider community as required. Committee membership has been stable with good representation across the community. Access to senior government representatives and senior Santos management has been good. Generally happy with how the committee is being run and flow of information. Acknowledged that due to the stagnant nature of the project at this time, the CCC meetings haven't been held every month, but this is communicated to all members.

No specific non-compliance issues with approval conditions for Santos' Dewhurst development were raised by the relevant Government departments or agencies.

3.8 Complaints

All complaints are recorded and published on the Narrabri Project website.
(narrabrigasproject.com.au/about/environment/dewhurst-gas-exploration-pilot-expansion/)

At the time of the audit, there had been zero complaints received relating to the Dewhurst Gas Exploration Pilot Expansion since the project inception in January 2015.

3.9 Incidents

At the time of the audit, there had been zero incidents reported relating to the Dewhurst Gas Exploration Pilot Expansion since the project inception in January 2015.

3.10 Actual vs predicted impacts

Santos undertakes environmental monitoring as part of the fulfilment of their statutory obligations under the various approvals that pertain to the Dewhurst Gas Exploration Pilot Expansion project.

Compliant status of the project is based on observation, information and data obtained from both a desk top audit, interviews and field audits of the project area carried out on 23 October 2018 and 26-28 November 2018. It should be noted that this audit is conducted at a point in time and may change if the facts and circumstances subsequently change at a later time.

A summary of monitoring data collected is available on the project website. The environmental monitoring register (EQUIS) was also reviewed as part of the audit and confirmed that records are available and up to date. Note that a full comparison of all actual and predicted impacts as presented in the Environmental Impact Statement for the Dewhurst Gas Exploration Pilot Expansion project was not carried out. Rather an assessment of the monitoring data as presented in the annual report was reviewed against that available in EQUIS and was confirmed to be consistent. Where anomalies were highlighted, such as excessive dust from dust monitoring, these records and the reason for the anomaly noted (i.e. dust storm, local bushfires etc)

As part of the audit, all aspects of the Dewhurst Gas Exploration Pilot Expansion project were inspected. It's confirmed that the physical extent of the impact area of the project is as outlined in the Environmental Impact Assessment.

3.11 Site inspections

Site inspections of Santos activities and interviews were carried out on:

- 23 October 2018
- 26-28 November 2018

Infrastructure inspected during the audit, included the following:

Dewhurst Gas Exploration Pilot Expansion project

- Dewhurst wells 13, 14, 15, 16, 17 and 18 and associated lease pads
- Dewhurst wells 26, 27, 28 and 29 and associated lease pads
- The constructed lease pads for the proposed Dewhurst wells 30 and 31
- Gas flare and the 22,000 litre produced water transfer tank at Dewhurst well 28.
- Air quality monitoring station at Dewhurst well 26 lease pad
- Access tracks and roads
- Construction of the southern gas flow line.

Additional Narrabri Gas Project facilities visited but not within scope of audit:

- The Bibblewindi water transfer facility
- Leewood water storage facility
- The gas and water pipeline easement from Bibblewindi to Leewood

3.12 Site Interviews

Santos (Energy NSW) Personnel Interviewed:

- Todd Dunn – NSW Operations Manager
- Ron Anderson – Principal Advisor Compliance
- John Higgins – Production Supervisor
- Michael Hewett – Safety Advisor
- Brendan Ward – Maintenance Planner
- Annie Moody – Team Leader, Community and Land
- Shane Rily – Field Environmental Officer
- Rodney Dunlop – Field Environmental Officer

3.13 Improvement opportunities

In the opinion of the auditor, the project is being conducted in a way that manages the identified risks posed by the activity to the local environment. Resources are provided by Santos to manage the risks who are appropriately trained and qualified to do so.

The level of monitoring required by the consent conditions were found to be disproportionate to the level of risk of the activity to the location environment, particularly with respect to air quality monitoring and the need to carry out real time high volume sampling when the nearest resident is some ten kilometres away. The cost, labour and infrastructure required in delivering this aspect of the monitoring program is considered excessive, particularly when the previous four years of monitoring data has demonstrated negligible impacts. It is suggested that the air quality monitoring aspect of the Dewhurst Gas Exploration Project could be reduced and still provide the regulator with a sufficient level of knowledge of what the project impact are.

3.14 Key strengths

There was a high level of compliance with approval conditions and no evidence of material harm being caused by current approved activities in the Dewhurst development area as defined in the Development Consent. It should be noted that at the time of the field audits there was little activity being carried out in the development area. Drilling of gas wells, one of the higher risk activities associated with this development, has yet to take place under the Development Consent issued on 18 July 2014.

Administrative and reporting requirements in the various approvals are entered in to a corporate Santos wide system called 'ComTrack' allowing the assigning and tracking of action items and compliance obligations (i.e. monitoring, reporting etc). These obligations include compliance with the conditions of the Development Consent and other relevant approvals. This system is an excellent initiative of Santos and provides a transparent record of all items to be done and have been done for the life of the project.

Santos Ltd has developed a wide range of corporate SMS standards required to be implemented by its various business units. These standards address a wide range of environmental issues likely to be found in the petroleum and gas industry. These standards are then incorporate in to the site-specific PEMP as part of its overall environmental management strategy required by Schedule 5 Condition 1 of the Development Consent. This plan was submitted to the Department of Planning and Environment and has been approved by the Departmental Secretary. The PEMP which includes eight sub plans is a key implementation document and tool for ensuring compliance as part of day to day to operations combined with the use of ComTrack.

The approved PEMP has been reviewed and the majority of the measures in the management plan have been taken directly from the various approvals that relate to the Dewhurst development. These have been audited as per Appendix A of this report.

The environmental management of the project is well resourced with two field staff utilised for the collection and management of environmental monitoring data for the Narrabri Gas project. The field staff are then supported by a principal compliance advisor and environmental manager. In addition to each of the environmental staff, Santos have a full-time stakeholder manager and community liaison officers. Engineering staff interviewed had a high level of knowledge and understanding of the environmental implications of the project on the local environment, providing a high level of comfort to the auditor that the project is being well managed outside of the environment team.

4 Recommendations

The overall compliance for the Dewhurst Gas Exploration Pilot Expansion project is of a high standard. The administrative items identified in the previous independent audit have been addressed and closed out, and no additional non-compliant items were identified during this audit.

4.1 Opportunities for improvement

In the opinion of the auditor, the project is being conducted in a way that manages the identified risks posed by the activity to the local environment. Resources are provided by Santos to manage the risks who are appropriately trained and qualified to do so, and as such no specific opportunities for improvement were identified.

Notwithstanding this, and as outlined in Section 3.13, the cost-benefit of providing real time air quality monitoring when the nearest resident is some ten kilometres away seemed disproportionate to the environmental risk of the activity on the local environment and sensitive receptors. The cost, labour and infrastructure required in delivering this aspect of the monitoring program is considerable, and enhancements in other aspects of the project could benefit from the funding currently provided to this air quality monitoring program. In this regard, it's suggested that the Department consider the cost-benefit of requiring Santos to carry out such monitoring when the environmental risk at this stage of the project is negligible.

5 Conclusion

SMEC were engaged by Santos NSW (Eastern) Pty Ltd (Santos) to undertake an independent environmental audit as required under Development Consent SSD-6038 (MOD 2), Schedule 5 Condition 8, for their Dewhurst Gas Exploration Pilot Expansion. The latter forms part of the overall Narrabri Gas Project.

Petroleum and gas activities for which the Development Consent has been issued are as follows:

- The operation of existing Dewhurst Coal Seam Gas (CSG) pilot wells 13, 14, 15, 16H, 17H and 18H (all are currently not operational)
- The operation of existing Dewhurst CSG pilot wells 26, 27, 28 and 29 (all are currently operational)
- The drilling of an additional two horizontal wells at each of the existing Dewhurst wells 16H, 17H and 18H (all are currently not drilled)
- The drilling and operation of two new additional wells at Dewhurst wells 30 and 31 (both are currently not drilled).

No new wells have been drilled since the previous independent audit completed in November 2015, including the proposed wells at Dewhurst 30 and 31, where well lease pads have been constructed in preparation for the drilling of these two wells. This is the only new activity which has been undertaken under this approval.

At the time of the audit, all gas collected from Dewhurst wells 26-29 is flared at a dedicated flare at Dewhurst well 28, whilst all produced water is collected at a 22,000 litre holding tank at Dewhurst well 28 and directed to the Leewood facility for disposal, via the Bibblewindi facility. In addition to this, Santos were in the process of constructing gas flow lines to connect Dewhurst wells 26-29 to the larger Narrabri Gas Project and direct all gas to the Wilga Park power station via the Bibblewindi facility.

A total of 302 conditions were audited with 197 found to be compliant, zero non-compliant and 105 conditions were not triggered.

In the auditor's opinion the Dewhurst Gas Exploration project is being carried out appropriate to the level of risk that the project poses to the environment. All records were available and up to date with annual reporting to government agencies and available on the project website.

Monthly meetings of the Narrabri Gas Project Community Consultative Committee are ongoing with reporting of these available on the project website.

Interviews of Santos personnel were carried out as part of the audit methodology and the level of environmental awareness and understanding was found to be of a high level. Interviews were also conducted with government agency representatives and the Narrabri Gas Project Community Consultative Committee with all interviewees found to support how the Dewhurst Exploration Gas Project is being conducted. All representatives found that access to information had been timely and as requested.

In the opinion of the auditor, the project is being conducted in a way that manages the identified risks posed by the activity to the local environment. Adequate resources are provided by Santos to manage the risks who are appropriately trained, experienced and qualified to do so.

Appendix A Independent Audit Table

1. SSD-6038 - Development Consent conditions
2. EIS Statement of commitments (Appendix 4 of SSD-6038)
3. Petroleum Exploration Licence 238 conditions
4. Environmental Protection Licence 20350 conditions.

SSD-6038: Department of Planning and Environment Development Consent (18 July 2014)

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 2 Condition 1	In addition to meeting the specific performance criteria established under this consent, the Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.	Project Environmental Management Plan (PEMP), June 2018, and associated sub plans, June 2016. Site inspection.	No environmental harm observed outside the work areas where permitted activities are authorised. Santos has developed and implements a Project Environmental Management Plan (PEMP) specifically for the Dewhurst (DWH) development which outlines measures and procedures for the effective management of environmental issues and risks associated with the development.	Compliant
Schedule 2 Condition 2	The Applicant shall carry out the development Site inspection.: a) EIS; b) Statement of Commitments; and c) Conditions of this consent.	Site inspection and interviews with Santos personnel.	The project is being generally carried out in accordance with the approved plans, EIS, Statement of Commitments; and Conditions of this consent, as per the findings of this audit.	Compliant
Schedule 2 Condition 3	If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.	Site inspection and interviews with Santos personnel.	No inconsistency between the documents identified.	Not Triggered
Schedule 2 Condition 4	The Applicant shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of: a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent; and b) the implementation of any actions or measures contained in these documents.	Site inspection and interviews with Santos personnel. Email dated 24/07/18 advising of continuance with dust monitoring.	The Secretary advised that dust monitoring is to continue as per consent condition.	Compliant
Schedule 2 Condition 5	Wells in the development may be operated: a) until 18 July 2020, in the case of existing wells within the development; and b) a period of 3 years from the date of well completion, in the case of the Dewhurst13-18H	Site inspection and interviews with Santos personnel.	The Development Consent was modified in July 2017 and under the consent existing wells are authorised to operate until 18 July 2020. DWH 13-18H and DWH 30 and 31 Extension Wells have not yet been drilled.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	Extension and Dewhurst 30 and 31 Extension wells. Notes: - under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to operate the development until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily. - The drilling and operation of petroleum exploration wells requires a Petroleum Exploration Licence or Petroleum Assessment Lease to be held under the Petroleum (Onshore) Act 1991.			
Schedule 2 Condition 6	The applicant shall not undertake hydraulic fracturing.	Site inspection and interviews with Santos personnel.	No new CSG wells have been drilled since the Development Consent was issued on the 18 July 2014 and Santos advised that no hydraulic fracturing has been carried out in the past on any of the wells in the Dewhurst development area.	Compliant
Schedule 2 Condition 7	The Applicant may undertake the development 24 hours a day, 7 days a week.	Site inspection and interviews with Santos personnel.	Activities are operated 24 hours a day, 7 days a week.	Compliant
Schedule 2 Condition 8	The Applicant shall: a) repair, or pay all reasonable costs associated with repairing, public infrastructure that is damaged by the development; and b) relocate, or pay all reasonable costs associated with relocating, public infrastructure that needs to be relocated as a result of the development.	Site inspection and interviews with Santos personnel. Six month maintenance program is in place, approved by Forestry.	There has been no damage to public infrastructure that has required this condition to be activated. Santos maintains the State Forest roads needed to access their development work sites and the condition of these roads is regularly discussed in monthly meetings with Forestry Corporation NSW (FCNSW).	Compliant
Schedule 2 Condition 9	The Applicant shall ensure that all plant and equipment used at the site is: a) maintained in a proper and efficient condition; and b) operated in a proper and efficient manner.	Viewed Santos maintenance planner system. System was up to date. Viewed records for Y65144 – firefighting trailer	Surface plant and equipment infrastructure appeared to be well operated and maintained with no evidence of no adverse environmental impacts occurring outside leases boundaries or likely to be caused as a result of faulty plant and equipment.	Compliant
Schedule 2 Condition 10	With the approval of the Secretary, the Applicant may submit any strategies, plans or programs required by this consent on a progressive basis.	Site inspection and interviews with Santos personnel.	Santos advises that all of the strategies, plans or programs required to be prepared under the consent were approved prior to commencing new work in the Dewhurst development area following the	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
		Letter of approval of Produced water management plan from Secretary (Ref: OUT17/22711) Review of PEMP carried out on June 2018.	issuing of the consent and that there have been no subsequent amendments to any of these documents that were approved by the Secretary.	
Schedule 3 Condition 1	The Applicant shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply and licenced water entitlements, to the satisfaction of the Secretary.	SSD-6038 Annual Review Produced Water Management Plan, May 2017	The produced water extracted to release coal seam gas for the Dewhurst development is obtained under the Gunnedah Oxley Basin Groundwater Source NSW Murray Darling Basin Water Sharing Plan. Santos is authorised to take 600 ML per annum. 01/01/17 to 31/12/17 – 66.7ML	Compliant
Schedule 3 Condition 2	The Applicant shall provide a compensatory water supply to any landowner or privately-owned land whose water entitlements are adversely impacted (other than an impact that is negligible) as a result of the development, in consultation with DPI Water, and to the satisfaction of the Secretary. The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the development. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified. If the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution. If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant shall provide alternative compensation to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel.	No new Coal Seam Gas (CSG) wells have been drilled since the Development Consent was issued on the 18 July 2014. Santos advises that there has been no cause to activate this "make good" condition as a result of Santos' exploration and appraisal activities in the Dewhurst development area nor in other areas of the larger overall Narrabri Gas Project area.	Not Triggered
Schedule 3 Condition 3	Unless an EPL authorises otherwise, the Applicant shall comply with Section 120 of the <i>Protection of the Environment Operations Act 1997</i> during the carrying out of the development.	Site inspection and interviews with Santos personnel.	No incidents of water pollution have occurred since the Development Consent was issued on 18 July 2014.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 3 Condition 4	The Applicant shall implement all reasonable and feasible measures to ensure that gas wells are constructed, operated and decommissioned to avoid risks of gas leakages to and adverse impacts on beneficial aquifers, including resulting impacts on groundwater users and groundwater dependent ecosystems.	Site inspection and interviews with Santos personnel. Verified use of leak detection camera by field staff.	No new CSG wells have been drilled since the Development Consent was issued on the 18 July 2014. For wells drilled prior to this date Well Completion Reports for each of the wells have been prepared and submitted to DRE as required under legislation. The only operational wells during the audit were DWH 26-29. The wells are periodically checked for gas leaks in accordance with Santos' Leak Detection and Repair Program.	Compliant
Schedule 3 Condition 5	The applicant shall ensure that no drilling fluids containing Benzene, Toluene, Ethylbenzene and Xylene (BTEX) chemicals are used in the development.	Site inspection and interviews with Santos personnel.	No drilling activities have been undertaken since the issuing of the Development Consent on 18 July 2014. Santos advised that BTEX chemicals are not used when drilling wells.	Not Triggered
Schedule 3 Condition 6	The Applicant must ensure that all petroleum wells: a) must be designed, constructed, maintained and abandoned in accordance with the Code of Practice for Coal Seam Gas – Well Integrity (DTIRIS 2012); b) ensure hydraulic isolation between the Upper Namoi and Lower Namoi alluvium and the Great Artesian Basin Southern Recharge during drilling activities c) have all casing fully cemented from casing shoe to surface, leaving no open annuluses; d) have a blow-out prevention device on the wellhead secured to the steel casing; and e) are sealed with cement from the total depth to 1.5 metres below the surface when exploration is completed and the well is no longer required; f) in order to protect the integrity of any underground aquifers, prevent gas escape and maintain groundwater quality.	Site inspection and interviews with Santos personnel.	No new CSG wells have been drilled since the Development Consent was issued on the 18 July 2014. For those wells drilled prior to the issuing of the Development Consent well completion reports for each of the wells have been prepared and submitted to the Department of Industry - Division of Resources and Energy (DRE).	Not Triggered

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 3 Condition 7	Prior to the commencement of drilling activities, in consultation with DPI Water, the Applicant shall revise its Groundwater Monitoring and Modelling Plan to include a description of the monitoring specific to the development and provide consideration of the future development of the groundwater model to a Class 2 or 3 model in accordance with the Australian Groundwater Modelling Guidelines and to a standard required by the NSW Aquifer Interference Policy to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel.	No drilling activities have been undertaken since the issuing of the Development Consent on 18 July 2014. Santos advised that the GMMP has been revised and the revised version provided to the Government. Santos further advised that following the issuing of the Development Consent they have given consideration to the development of a Class 2 or 3 Groundwater model and it is of the view that it is not feasible at this point in time as 20 years of groundwater monitoring data would be required to inform such a model. Santos advised it has discussed its views arising from its consideration of the proposal with various NSW government agencies, including the Department of Planning and Environment and the Department of Industry (Lands and Water).	Compliant
Schedule 3 Condition 8	Water extracted from all wells in the development (i.e. produced water) must be stored in ponds constructed with an impervious lining, to prevent contamination of groundwater.	Site inspection and interviews with Santos personnel. Verified groundwater monitoring records – EQUIS.	Produced water is currently only being extracted from DWH 26-29 CSG wells. This water is collected in a small tank within an earthen bund at Dewhurst 28 well lease prior to its transfer to the Leewood Water Facility via the Bibbblewindi Water Facility. The water storage dams at Leewood have a doubled lined HDPE liner system installed with leak detection and recovery installed as an additional safeguard.	Compliant
Schedule 3 Condition 9	Soil and water management measures consistent with Managing Urban Stormwater – <i>Soils and Construction Vol. 1</i> (Landcom, 2004) shall be employed during the construction of the development to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.	Site inspection and interviews with Santos personnel. PEMP, June 2018 FEED 2013/062 20020-5-REP-001 (July 2013)	Installation of the southern gas flow line was being constructed at the time of the audit. All areas were stabilised and there is no evidence of erosion or sediment run off having been discharged from the work area. Santos in their PEMP (June 2018) have developed and implement a Soil and Surface Water Management Sub Plan. The Sub Plan includes mitigation measures and requires site specific Erosion and Sediment Control Plans to be prepared and implemented for each lease area and these were sighted during the audit.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 3 Condition 10	The Applicant shall, to the satisfaction of the Secretary, ensure that: a) pipelines are designed, constructed and operated in accordance with the Australian Standard for the Installation and Maintenance of Plastic Pipe Systems for Gas AS 3723-1989 (or its latest version); b) the route of gas gathering and water transport systems and access roads follow previously or currently disturbed areas wherever possible; c) trenches are not left open overnight, unless adequately covered or suitable fauna egress structures are put in place; d) any open trenches are inspected for fauna each day at the commencement of construction activities; e) open trenching works within 20 metres of watercourses are only undertaken during dry weather conditions; f) construction activities do not impede lateral water flows; g) no crown or camber remains along any gas gathering system line, following rehabilitation; h) signs are erected at intervals along all gas gathering system lines indicating the presence of a buried gas pipeline; and i) impacts to riparian vegetation and endangered ecological communities are minimised.	FEED 2013/062 20020-5-REP-001 (July 2013) Code of Practice Upstream Polyethylene Gathering Networks – CSG Industry Version 4.0 Site inspection and interviews with Santos personnel. Mitchell Water - CEMP, Rev4, 11/11/18	Installation of the southern gas flow line was being constructed at the time of the audit as per the FEED, by Mitchell Water. It is understood that all pipelines are designed and constructed as per the industry standard - Code of Practice Upstream Polyethylene Gathering Networks – CSG Industry Version 4.0. AS3723 has been superseded by AS/NZS4645.3:2008 <i>Gas distribution networks Plastics pipe systems</i>, which is called on under the Code of Practice. Route of gas flow line follows the existing road way. No trenches were left open over night with only the trenches exposed what was needed for construction for that day.	Compliant
Schedule 3 Condition 11	The applicant shall ensure that the noise generated by construction complies with the requirements of the <i>Interim Construction Noise Guideline (DECC (2009))</i>.	Site inspection and interviews with Santos personnel.	Construction of Dewhurst 30 and 31 well leases pads had been completed and no other construction work was being carried out at the time of the audit. Installation of the southern gas flow line were being constructed at the time of the audit, with the closest residence to the works is approximately 10 kilometres away, noise criteria would not be exceeded.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 3 Condition 12	The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 2 and Table 1 at any residence on privately-owned land. Table 1: Construction Noise Impact Assessment Criteria dB(A) <u>Location:</u> Any residence on privately owned land <u>Standard Construction Hours:</u> 40db(A) LAeq (15 min) <u>Outside Standard Construction Hours:</u> 35(dbA) LAeq (15 min) <i>Note: Standard construction hours are 7 am to 6 pm Monday to Friday and 8 am to 1 pm Saturday.</i> Table 2: Operational Noise Impact Assessment Criteria dB(A) <u>Location:</u> Any residence on privately owned land <u>Operational Noise Criteria LAeq (15 min):</u> 35(dbA) Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Appendix 2 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating Compliant with these criteria. However, these criteria do not apply if the Applicant has an agreement with the relevant landowner to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.	Site inspection and interviews with Santos personnel.	At the time of the audit only DWH 26-29 were operational and noise levels (not measured) are relatively low and as the closest residence to any of these wells is approximately 10 kilometres away the operational noise criteria would not be exceeded.	Compliant
Schedule 3 Condition 13	The Applicant shall: - implement best management practice to minimise the construction, operational, road noise of the development; - operate an on-site noise management system to ensure Compliant with the relevant conditions of this consent;	Site inspection and interviews with Santos personnel. PEMP, June 2018 Noise Management Sub Plan, 2016	Santos in its Project Environmental Management Plan (PEMP) has developed and implements a Noise Management Sub Plan. The Sub Plan includes management and mitigation measures to minimise adverse noise impacts during both construction and operational phases and which may cause an unreasonable interference at any sensitive receptors depending on the proximity to the noise source.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	c) minimise the noise impacts of the development during meteorological conditions under which noise limits in this consent do not apply (see Appendix 3); d) regularly assess the noise management system to ensure Compliant with the relevant conditions of this consent, to the satisfaction of the Secretary.		The PEMP was approved by the Secretary on 14 October 2014, and revised in June 2018.	
Schedule 3 Condition 14	The Applicant shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.	Site inspection and interviews with Santos personnel.	No offensive odours were detected outside well lease boundaries during the audit.	Compliant
Schedule 3 Condition 15	The Applicant shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel. Verified use of leak detection camera PEMP, June 2018 Air Quality Management Sub Plan, 2016	The mitigation and control measures Santos implements to minimise the release of greenhouse gas emissions are outlined in Section 1.5 (AQMP-5 to APQMP10 inclusive) in the Air Quality Management Sub Plan in Appendix A of the Project Environmental Management Plan which was approved by the Secretary on 14 October 2014.	Compliant
Schedule 3 Condition 16	The Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the particulate emissions generated by the development do not exceed the criteria listed in Tables 3, 4 and 5 at any residence on privately-owned land. Table 3: Long term criteria for particulate matter <u>Total Suspended Particulate:</u> 90 µg/m ³ expressed as an annual average <u>Particulate matter < 10 µm (PM10):</u> 30 µg/m ³ expressed as an annual average, Table 4: Short term criterion for particulate matter <u>Particulate matter < 10 µm (PM10):</u> 50 µg/m ³ expressed as a 24 hour average Table 5: Long term criteria for deposited dust; <u>Maximum increase in deposited dust level:</u> 2g/m ² /month expressed as an annual average <u>Maximum total deposited dust level:</u> 4g/m ² /month expressed as an annual average	Annual Return 2017. EQIS monitoring database	The approval sets air quality criteria that is not to be exceeded at any residence on privately owned land. It should be noted that the nearest residence to the current development is greater than 10 km away. Santos has installed air monitoring equipment at DWH 26 and the monitoring results listed below for the air quality within the development area, for the period up to Nov 2018 are well within the criteria stated in the approval. Furthermore, it would appear that the limits set in the approval have never been exceeded as caused by activities of Santos, at any residence on privately owned land given these results, the relatively low levels of dust being generated by the development and the large buffer distance to the nearest residence. TSP (Annual) – 16.017 µg/m ³	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	Notes for Tables 3-5: - a total impact (ie incremental increase in concentrations due to the development plus background concentrations due to othersources); - b Incremental impact (ie incremental increase in concentrations due to the development on its own); - c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and - d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Secretary in consultation with EPA.		PM₁₀ (Annual) – 8.34 µg/m³ PM₁₀ (24 hr) – 18 µg/m³ Dust Deposition – 2.6 g/m²/mth	
Schedule 3 Condition 17	The Applicant shall: - implement a Leak Detection and Repair Program that is conducted in accordance with US EPA Method 21 – Determination of Volatile Organic Compound Leaks (40 CFR Part 60, Appendix A, Method 21), unless otherwise agree by the EPA; - implement best practice air quality management at the site, including all reasonable and feasible measures to minimise off-site odour and dust emissions generated by the development, including from any spontaneous combustion on site; - operate an air quality management system on site to ensure Compliant with the relevant conditions of this consent; - minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d to Tables 3-5 above); and to the satisfaction of the Secretary.	Well integrity and control plan (0011-289-IMP-0001, Rev1) Verified use of leak detection camera. Site inspection and interviews with Santos personnel.	Santos has developed and implements a Leak Detection and Repair Program using various technologies for the whole Narrabri Gas project area which includes the Dewhurst development project area. No gas leaks were detected at any of the Dewhurst wells related to this Development Consent in this audit. No off site emissions of odours or dust emissions were detected or observed. An air quality management station is located at DWH 26 for monitoring and compliance purposes.	Compliant
Schedule 3 Condition 18	The unsealed road network used by the development shall be maintained and managed consistent with <i>Managing Urban Stormwater – Soils and Construction Volume 2C Unsealed Roads and Erosion and sediment control on unsealed roads – A field guide for erosion and sediment control maintenance practices</i> and in	Site inspection and interviews with Santos personnel.	The access road network used by the development in the Pilliga State Forest has two categories: (1) Forestry roads opened to the public and (2) Santos constructed access tracks from these roads to well lease pads.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	accordance with the Permit to Occupy issued by Forestry NSW.		Santos maintains the State Forestry roads needed to access their development work sites and the condition of these roads is regularly discussed in meetings with FCNSW and where issues that arise are addressed. The access tracks to each of the Dewhurst wells are properly constructed and maintained and there was no evidence of significant erosion. Santos advised that they use the same road maintenance contractor as that used by FCNSW.	
Schedule 3 Condition 19	The Applicant shall seal the first 30 metres of X-Line Road at the intersection of X-Line Road and Newell Highway to the satisfaction of RMS	Site inspection and interviews with Santos personnel. Email – 23/10/14 from RMS to Santos	Verified that the initial 30 m (not measured) of X-Line Road/Newell Hwy is sealed and has been prior to the approval of the project in 2014. Verified - email from RMS dated 23/10/14.	Compliant
Schedule 3 Condition 20	The Applicant shall ensure that, prior to commencing construction of the Dewhurst 13-18H Extension and Dewhurst 30 and 31 Extension wells, Size B “Turning Traffic” Signs (W5-25) and 300 metre distance plates are installed at a distance of 300 metres on either side of the X Line Road intersection with the Newell Highway, to the satisfaction of the RMS.	Site inspection and interviews with Santos personnel.	Traffic signs have been installed.	Compliant
Schedule 3 Condition 21	The Applicant is to prepare a Code of Conduct, in consultation with RMS, for all drivers required to access the site. The Code of Conduct is to include: a) details of the transportation/access routes to be followed to access and exit the site; b) management actions that ensure drivers operate their vehicles in a safe, professional and courteous manner; and c) measures to minimise or avoid access to the site outside of daylight hours, wherever practicable.	Site inspection and interviews with Santos personnel.	Santos has prepared a Traffic Management Plan and Drivers Code of Conduct for construction work.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 3 Condition 22	The Applicant shall: a) minimise and monitor the waste generated by the development; b) ensure all above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place; c) ensure it has in place appropriate containment, mitigation, contingency, remediation and rehabilitation methods and actions in order to prevent an accidental spill of waste material or in the event of an accidental spill; d) ensure that the waste generated by the development is appropriately stored, handled and disposed of; e) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and f) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel. Annual Review 2017	The only waste being generated during the audit was produced water from DWH 26-29 wells and this is collected and transferred by to the Leewood Water Facility using transfer tanks and an underground pipeline – 66.7 ML in 2017. The Annual Review to report on the environmental performance of the development as required under Schedule 5 Condition 4 has been prepared by Santos and submitted to the NSW Government.	Compliant
Schedule 3 Condition 23	The Applicant shall ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant <i>Australian Standards</i>, particularly AS1940 and AS1596, and the <i>Dangerous Goods Code</i>.	Site inspection and interviews with Santos personnel.	The only dangerous good currently stored on the development area is diesel, which is stored in two double lined tanks one at DWH 28 and the other at DWH 29 well lease pads. Santos advises that the diesel is transported to DWH 28 and 29 by accredited suppliers. Note under the Dangerous Goods Code diesel is classified as C1 Combustible Liquid and the Code only applies to the storage of diesel not road or rail transport.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 3 Condition 24	The Applicant shall: a) implement all reasonable and feasible measures to minimise the visual and lighting impacts of the development; b) ensure no outdoor lights shine above the horizontal; and c) ensure that all external lighting associated with the development complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting.	Site inspection and interviews with Santos personnel.	The only light source currently in the development area is the flare at DWH 28 which is remotely located in the State Forest and approximately 10 km away from the nearest private residence. Santos advises that construction activity so far has only taken place during daylight hours and there has been no need for outdoor night time lighting to be provided.	Compliant
Schedule 3 Condition 25	The Applicant shall: a) ensure that the development is suitably equipped to respond to fires on site; b) take all reasonable measures to prevent the ignition and/or spread of bushfires, in accordance with the Schedule of Onshore Petroleum Operations and Production Safety Requirements (1992); and c) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.	Site inspection and interviews with Santos personnel.	Santos has prepared and implements a Bushfire Management Plan to prevent the risk of bushfires and to be able to respond in the event of a bushfire occurring. Verified that firefighting equipment is available on-site.	Compliant
Schedule 3 Condition 26	The Applicant shall ensure that the development does not cause any exceedances of the performance measures in Table 6, to the satisfaction of the Secretary. Table 6: Performance Measures Biodiversity <u>Groundwater Dependiant Ecosystems:</u> Negligible environmental consequences <u>Threatened species, threatened populations, or endangered ecological communities:</u> Minor environmental consequences	Site inspection and interviews with Santos personnel. Eco-logical Autumn 2018 Monitoring report (29/06/18)	Santos has developed and implements a Biodiversity Management Plan for the Dewhurst development and which has been approved by the Secretary NSW Department of Planning and Environment. Santos advised that they have engaged to Eco Logical Australia Pty Ltd to undertake ecological surveys twice per year following the issuing of the Development Consent. Subsequent surveys have been carried out in Autumn and Spring. There has been no exceedance of the performance measures noted in Table 6.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
Schedule 3 Condition 27	The Applicant shall prepare and implement a Biodiversity Management Plan for the development, to the satisfaction of the Secretary. This plan must: a) be prepared in consultation with OEH, and be approved by the Secretary prior to commencing construction of the Dewhurst 13-18H Extension and Dewhurst 30 and 31 Extension wells; b) describe the short, medium, and long term measures that would be implemented to minimise indirect impacts of the development; c) include a seasonally-based program to monitor and report on the effectiveness of these measures, d) and progress against the performance measures in Table 6; and e) include details of who would be responsible for monitoring, reviewing, and implementing the plan	Site inspection and interviews with Santos personnel. Eco-logical: Biodiversity Management Plan (Oct 2014)	A Biodiversity Management Plan has been prepared and submitted to NSW Planning and Environment and approved by the Secretary on the 29 October 2014. This date was prior to the commencement of construction of DWH 30 and 31 well lease pads which is the only land disturbance that has occurred since the consent was issued.	Compliant
Schedule 3 Condition 28	Unless otherwise agreed by the Secretary, the Applicant shall rehabilitate progressively, that is, as soon as reasonably practicable following disturbance, all surface borehole locations and any other parts of the site impacted by the development, to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel.	All well lease pads are stable and have been partially rehabilitated. The extent of the rehabilitation at each well does vary due to current and future operational needs.	Compliant
Schedule 3 Condition 29	Prior to commencing construction of the Dewhurst 13-18H Extension and Dewhurst 30 and 31 Extension wells, the Applicant shall revise its Rehabilitation Management Plan to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel.	Santos submitted a revised Rehabilitation Management Plan to the former Office of Coal Seam Gas (OCSG) The revised plan was approved by OCSG on 16 October 2014 and before construction of the lease pads for DWH 30 and 31 commenced. No further work has been carried out since the construction of the pads.	Compliant
Schedule 3 Condition 30	The Applicant shall fully seal and rehabilitate all boreholes, to the satisfaction of the Secretary, no longer than 10 years after drilling of the Dewhurst 13-18H Extension and Dewhurst 30 and 31 Extension is completed, unless a development application related to	Site inspection and interviews with Santos personnel.	None of well drilling activities listed in the condition have as yet commenced.	Not Triggered

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	gas production is submitted to the Department by that date.			
Schedule 4 Condition 1	As soon as practicable after obtaining monitoring results showing: a) an exceedance of any relevant criteria in Schedule 3, the Applicant shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and b) an exceedance of any relevant air quality criteria in Schedule 3, the Applicant shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).	Site inspection and interviews with Santos personnel.	Since the Development Consent was issued on 18 July 2014 only the following activities have been carried out in the Dewhurst development area a) The construction of DWH 30 and 31 well leasepads and access tracks. b) The operation of DWH 26-29 wells c) There has been no exceedance of the air quality monitoring criteria. No noise monitoring has been deemed necessary as the only potentially noisy activity would be the construction of DWH 30 and 31 well lease pads and as the nearest residence is approximately 10 kms away there would have been no noise impacts and further Santos advised that they have not received any noise complaints.	Not Triggered
Schedule 4 Condition 2	If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land. If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant shall: a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to: i. consult with the landowner to determine his/her concerns; ii. conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and iii. if the development is not complying with these criteria then identify the measures that could	Site inspection and interviews with Santos personnel.	Santos advises that there have been no such requests from private landholders made to the Secretary.	Not Triggered

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	be implemented to ensure Compliant with the relevant criteria; and b) give the Secretary and landowner a copy of the independent review.			
Schedule 5 Condition 1	The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: a) be submitted to the Secretary for approval prior to the commencement of the construction of the Dewhurst 13-18H Extension or the Dewhurst 30 and 31 Extension; b) provide the strategic framework for environmental management of the development; c) identify the statutory approvals that apply to the development; d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; i. describe the procedures that would be implemented to: ii. keep the local community and relevant agencies informed about the operation and environmental performance of the development; iii. receive, handle, respond to, and record complaints; iv. resolve any disputes that may arise during the course of the development; v. respond to any non-Compliant; vi. respond to emergencies; and (f) include: vii. copies of any strategies, plans and programs approved under the conditions of this consent; viii. and	PEMP, Rev 5, 26/06/18. Email dated 24/07/18 notifying Santos of comments on PEMP.	Santos has prepared and submitted to the NSW Government Planning and Environment Department a Project Environmental Management Plan (Rev 5) and subsequent comments from the Department of the revised Plan.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	ix. a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.			
Schedule 5 Condition 2	The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include: a) detailed baseline data; b) a description of: i. the relevant statutory requirements (including any relevant approval, licence or lease conditions); ii. any relevant limits or performance measures/criteria; iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; d) a program to monitor and report on the: i. impacts and environmental performance of the development; ii. effectiveness of any management measures (see c above); e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; f) a program to investigate and implement ways to improve the environmental performance of the development over time; g) a protocol for managing and reporting any: i. incidents; ii. complaints;	Site inspection and interviews with Santos personnel. PEMP, Rev 5, 26/06/18.	Santos is required to develop and implement the following management plans under the Development Consent conditions: 1. Biodiversity Management Plan 2. Rehabilitation Management Plan 3. Environmental Management Strategy (Project Environmental Management Plan) These plans are generally in accordance with items stated in the condition (a) to (h) as relevant for each plan and were all submitted to the Department of Planning and Environment prior to the commencement of work at DWH 30 and 31 and approved. The Project Environmental Management Plan (PEMP) which has six sub plans that also deal with likely or potential environmental risks related to the development and is a key document in managing day to day operations to ensure unlawful environmental harm is not caused or threatened.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	iii. non-Compliers with statutory requirements; and iv. exceedances of the impact assessment criteria and/or performance criteria; and h) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans			
Schedule 5 Condition 3	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EPA Act or EPA Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity: a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur; b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel.	There does not appear to have been any exceedance of criteria in Schedule 3 nor breaches of the conditions of the Development Consent and which may be subject to the offence provisions of the Environmental Protection and Assessment Act. Santos in its PEMP for the Dewhurst Development has developed and implements a Hazard and Risk Management Sub Plan designed to manage hazards and risks of the development so as to prevent or minimise harm to the environment and to the protect safety and well-being of employees and the community. Santos advises that there have been no circumstances that have arisen where remediation has been required other than normal rehabilitation of disturbed areas.	Compliant
Schedule 5 Condition 4	By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must: a) describe the development (including any rehabilitation) that was carried out in the past	Annual Review – 2017 Letter of acceptance from the Department of Planning and Environment (ref: SSD 6036(#1136))	Santos submitted the Annual Review for the 2017 calendar year to the Department of Planning and Environment and Planning on 29 March 2018. Commentary from Dept requested the following information to be included in future annual reviews: • Forecast of activities • Monitoring results of biodiversity	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	calendar year, and the development that is proposed to be carried out over the next year; b) include a comprehensive review of the monitoring results and complaints records of the development over the past calendar year, which includes a comparison of these results against the: i. relevant statutory requirements, limits or performance measures/criteria; ii. requirements of any plan or program required under this consent; iii. monitoring results of previous years; and iv. relevant predictions in the EIS; c) identify any non-Compliant over the past calendar year, and describe what actions were (or are being) taken to ensure Compliant; d) identify any trends in the monitoring data over the life of the development; e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.		Summary of waste generated. Confirmed that the review was available on the project website as requested.	
Schedule 5 Condition 5	Within 3 months of: a) the submission of an annual review under condition 4 above; b) the submission of an incident report under condition 7 (DC48 on this checklist) below; c) the submission of an audit report under condition 9 (DC50) below; or d) any modification to the conditions of this consent, (unless the conditions require otherwise),	Annual Review – 2017 Viewed email 29/03/18 of submission of review to Department. Viewed letter of acceptance from the Department of Planning and Environment (ref: SSD 6036(#1136) PEMP, Rev 5, 26/06/18.	Santos advised that on consideration of the requirement of the condition or initial review they decided that a review of strategies, plan and programs would be necessary. PEMP was reviewed in early 2018.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	The Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.	Site inspection and interviews with Santos personnel.		
Schedule 5 Condition 6	The Applicant shall immediately notify the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant shall notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Site inspection and interviews with Santos personnel.	Santos has advised that there have been no incidents that would trigger the requirements of this notification condition since the previous audit.	Not Triggered
Schedule 5 Condition 7	The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	Site inspection and interviews with Santos personnel. narrabrigasproject.com.au	Santos has a web site for the Narrabri Gas Project (narrabrigasproject.com.au) and this site is regularly updated to include the required information on the Dewhurst development.	Compliant
Schedule 5 Condition 8	Within 12 months of the commencement of the construction of Dewhurst 13-18H Extension or the Dewhurst 30 and 31 Extension, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must: a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; b) include consultation with the relevant agencies; c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent and any relevant EPL or petroleum title (including any	Appendix B SMEC audit report	The independent audit carried out by SMEC commenced on 23 October 2018. Damien Taylor of SMEC was approved by Secretary NSW Planning and Environment as the independent auditor for the purpose of this condition on 19/09/18 – See copy of approval in Appendix B .	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	assessment, plan or program required under these approvals); d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.			
Schedule 5 Condition 9	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	Not applicable.	This matter to be addressed by Santos.	Not Triggered
Schedule 5 Condition 10	Within 6 months of the date of this consent, the Applicant shall: a) make copies of the following publicly available on its website: i. the documents referred to in condition 2 of Schedule 2; ii. all current statutory approvals for the development; iii. all approved strategies, plans and programs required under the conditions of this consent; iv. a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; v. a complaints register, updated monthly; vi. the annual reviews of the development; vii. any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit; viii. any other matter required by the Secretary; and	Site inspection and interviews with Santos personnel. narrabrigasproject.com.au	Santos has a web site for the Narrabri Gas Project and is regularly updated to include the required information on the Dewhurst development.	Compliant

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	b) keep this information up-to-date, to the satisfaction of the Secretary.			
Appendix 3 Noise Assessment Condition 1	The noise criteria in Table 3 are to apply under all meteorological conditions except the following: a) average wind speed at microphone height exceeds 5 m/s; b) wind speeds greater than 3 m/s measured at 10 m aboveground level; or c) temperature inversion conditions greater than 3°C/100 m or stability category F.	Site inspection and interviews with Santos personnel. Viewed real time weather data collected by Santos from onsite weather station.	No noise monitoring has been carried out as there have been no noise impacts due to the large separation distance between the development at and the nearest noise sensitive receptor for works carried out since the consent was issued on 18 July 2014. No noise complaints have been received by Santos to date.	Not Triggered
Appendix 3 Noise Assessment Condition 2	Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.	Not applicable	No noise monitoring has been carried out as there have been no noise impacts due to the large separation distance between the development at and the nearest noise sensitive receptor for works carried out since the consent was issued on 18 July 2014.	Not Triggered
Appendix 3 Noise Assessment Condition 3	Attended monitoring is to be used to evaluate Compliant with the relevant conditions of this consent.	Not applicable	There was very little activity at each of the lease pads during the audit and it was relatively quiet. There was no excessive noise being generated and no need for noise monitoring. The requirements of this condition are addressed in Santos' PEMP Noise Management Sub Plan.	Not Triggered
Appendix 3 Noise Assessment Condition 4	Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the <i>NSW Industrial Noise Policy</i> (as amended from time to time), in particular the requirements relating to: a) monitoring locations for the collection of representative noise data; b) meteorological conditions during which collection of noise data is not appropriate; c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and	Not applicable	There was very little activity at the lease pads during the audit and it was relatively quiet. There was no excessive noise being generated and no need for noise monitoring. The monitoring requirements stated in this condition are addressed in Santos' PEMP Noise Management Sub Plan.	Not Triggered

CONDITION REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATIONS	COMPLIANCE STATUS
	d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.			

END

EIS Commitments (Appendix 4 of SSD-6038)

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
Activity type	The Dewhurst Gas Exploration Pilot Expansion (proposed activity) includes the expansion of operations at the Dewhurst 13-18H and Dewhurst 26-31 pilots, and operation of both pilots for up to three years. Works at Dewhurst 13-18H involve re-entering three existing wells to convert single horizontal wells to triple-stacked horizontal wells. Works at Dewhurst 26-31 involve the construction of two additional wells on new lease areas to expand the pilot from four to six wells.	Site inspection and interviews with Santos personnel.	Site operations and activities are generally in accordance with the EIS. The only construction work that has been carried out since the Development Consent was issued on 18 July 2014 has been the construction of the well lease pads at Dewhurst wells 30 and 31 and the wells have not been drilled.	Compliant
Location	The proposed activity is within PEL 238, on private and Crown land (Dewhurst 13-18H) and within the Pilliga East State Forest (Dewhurst 26-31).	Site inspection and interviews with Santos personnel.	All activities are within PEL 238.	Compliant
Hours of operation	Hours of operation will be up to 24 hours a day, seven days a week.	Site inspection and interviews with Santos personnel.	Activities are conducted 24 hours a day, seven days a week.	Compliant
Activity duration	Approximately 5-6 months construction/drilling and up to 3 years for operation of the wells.	Site inspection and interviews with Santos personnel.	The only new construction work that has been carried out since the Development Consent was issued on 18 July 2014 has been the construction of the well lease pads at Dewhurst (DWH) 30 and 31 and the wells have not yet been drilled. The construction work was carried out over a period of 3 weeks from 4-25 November 2014. No additional construction/drilling of wells has been carried since this time. Construction of gas flow lines was being carried out at the time of the inspection.	Not Triggered
Proposed commencement date	Works are scheduled to commence in Q2 2014.	Site inspection and interviews with Santos personnel.	The Development Consent was not issued until Q3 2014 and the construction work at Dewhurst 30 and 31 commenced in Q4 2014. No construction/drilling of wells has been carried since this time.	Not Triggered

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
Maximum area of disturbance	8.89 ha (Dewhurst 13-18H – 5.37 ha; Dewhurst 30/31 – 3.52 ha)	Site inspection and interviews with Santos personnel.	The only land disturbance carried out since the Development Consent for the Dewhurst development was issued on the 18 July 2014 has been the construction of DWH 30 and 31 well lease pads. The actual area cleared was 2.44 hectares.	Compliant
Rehabilitation commitments and timeframes	Pilot well decommissioning and rehabilitation of the well lease areas and access tracks will occur within six months of abandonment where practicable. Pilot wells and ancillary infrastructure will be decommissioned and lease areas rehabilitated as outline in section 4.5 of the EIS.	Site inspection and interviews with Santos personnel.	None of the wells subject to the Development Consent have been decommissioned or abandoned by Santos. Notwithstanding this, Santos have commenced rehabilitation of pads surrounding wells which is not needs for operations.	Not Triggered
Community Consultation	Community consultation will be undertaken in accordance with Chapter 5 of the EIS.	Site inspection and interviews with Santos personnel. PEL 238_Annual Consultation Report_2018_Final Stakeholder and Community Engagement Plan	A community consultation plan has been developed for PEL 238 and a specific plan developed for the Dewhurst development.	Compliant
	Advice will be provided to relevant landowners that may be impacted by the activity 14 days prior to the proposed activity commencing.	Site inspection and interviews with Santos personnel. PEL 238_Annual Consultation Report_2018_Final Stakeholder and Community Engagement Plan Weekly forestry update – 19/11/18-25/11/18	Forestry Corporation NSW as the landholder was notified in writing of the proposed development at Dewhurst 30 and 31 on 21 October 2014. Forestry are sent a weekly update of operations. The nearest private landowner is approximately 10 km away from DWH 30 and 31 and is not likely to be impacted.	Compliant
	Narrabri Shire Council will be consulted on a monthly basis where appropriate.	Site inspection and interviews with Santos personnel. PEL 238_Annual Consultation Report_2018_Final	Santos is in regular dialogue and consultation with Narrabri Shire Council as per the following:	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
		Stakeholder and Community Engagement Plan Calendar invite – 3 rd Friday of each month – meeting with Stewart Todd (NSC)	- Emails and telephone calls to advise that the Narrabri Gas Project RTS had been lodged - Site Tour for Senior Council Staff - May 2018 - Regular meetings with the General Manager - Meetings and presentations to Mayor as required - Technical consultations in relation to the Narrabri Gas Project EIS - Council representatives on Narrabri Gas Project CCC - Meetings with project officers in relation to specific matters (e.g., roads, planning) - Written notification of environmental surveys and investigations on Council administered land - Monthly Activity Update	
	Updates on the proposed activity will be provided to the Narrabri Community Consultation Committee.	Site inspection and interviews with Santos personnel. PEL 238_Annual Consultation Report_2018_Final	The Narrabri Community Consultation Committee met 6 times during 01/09/17 to 31/08/18. Minutes available on Narrabri gas project website.	Compliant
	Advertisements will be placed in the local media of the up-coming exploration and drilling activities.	Site inspection and interviews with Santos personnel. Monthly update in 'The Narrabri Courier' 12/04/18	The advertisement for the proposed drilling of DWH 30 and 31 wells was placed in the Narrabri Courier on the 21 October 2014 and before the commencement of construction. No further exploration and drilling activities have been carried out since this time.	Compliant
	The local police will be notified of the proposed drilling activities and provided with a road traffic plan specifying the route, time and location of the drilling rig 14 days prior to the drilling rig mobilising to site.	Not applicable.	No drilling has yet taken place under this approval.	Not Triggered

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
Land Resources	Construction	Not applicable	At the time of the audit no well construction activities were being carried out on tenure since the Development Consent was issued on 18 July 2014 has been the construction of lease pads for DWH 30 and 31 The only construction work carried was the installation of the southern gas flow pipeline.	
	Excess topsoil and subsoil generated during site preparation activities will be stockpiled onsite and used as backfill following completion of drilling.	Site inspection and interviews with Santos personnel.	Top soil is stockpiled at both DWH 30 and 31 well lease pads as part of creating these lease pads for which construction concluded on 25 November 2014. The top soil will be used as part of the final rehabilitation of the lease pads.	Compliant
	Stockpiles will be managed according to best management practices such as the measures outlined in <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom 2004) ('the Blue Book').	Site inspection and interviews with Santos personnel.	The soil stockpiles at DWH 30 and 31 have been sprayed with a polymer seal to assist with the stabilisation of the stockpile and appears to be effective. There was no evidence of any sediment run off from the lease and the small perimeter earthen wall was intact.	Compliant
	Erosion and sediment controls will be implemented where necessary during construction activities, in accordance with best management practices (such as the Blue Book). These controls will be maintained until disturbed areas of the site are stabilised.	Site inspection and interviews with Santos personnel.	Effective erosion and sediment controls have been installed and maintained in the construction of leases pads in particular for the latest well pads constructed DWH 30 and 31. All of the lease pads are stabilised and there was no evidence of sediment being discharged outside the lease pad boundaries and causing adverse environmental impacts.	Compliant
	The quantity of chemicals, fuels and oils stored onsite will be minimised, where practicable.	Site inspection and interviews with Santos personnel.	No chemicals or fuels and oils currently being stored at any of the well sites other than diesel held in two 6,000 litre double lined storage tanks one at DWH 28 and the other at DWH	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
			29. The diesel is used as fuel for the generator used to drive the electric pump used to extract water from the coal seam. This is only used when gas is not available due to being down for maintenance. Diesel is minimised by utilising one generator for multiple well heads.	
	All additives, chemicals, fuels and oils stored onsite will be kept in an appropriately secured, bunded storage shed in accordance with the relevant SDS.	Site inspection and interviews with Santos personnel.	Refer comments above and the diesel storage tanks at DWH 28 and 29 are on the lease pads out in the open and not in a shed but they are still secure. The leases are fenced, CCTV back to Santos Narrabri Operations Centre and the entry gate is locked.	Compliant
	Where there is a risk of contamination pits will be lined or material will be stored in surface tanks or metal bins.	Site inspection and interviews with Santos personnel.	There are currently no underground pits used to store chemicals, process material or waste products etc. on any of the Dewhurst well leases pads	Not Triggered
	An SDS register of all chemicals used or stored onsite will be maintained.	Site inspection and interviews with Santos personnel.	The SDS chemical register is kept at the Santos Narrabri Operations Centre	Compliant
	Maintenance of vehicles, plant and equipment will occur offsite at an appropriately licensed facility unless deemed necessary and appropriate to conduct such maintenance onsite.	Site inspection and interviews with Santos personnel.	There was no activity at the lease pads at the time of the audit. Santos advised that routine maintenance is done off site at contractor's premises and only emergency breakdown repairs would be carried out on lease pads.	Compliant
	Any spills or leaks will be contained and cleaned up immediately using the spill kit. Contaminated material (such as contaminated soil or absorbent materials) will be placed in a bag and removed from site for disposal at a licensed waste facility.	Site inspection and interviews with Santos personnel.	No spills or leaks of contaminants at any of the well lease pads observed during the audit. There is a spill kit available at DWH 28 and the operators carry spill kits in their vehicles to allow them to respond to pollution incidents.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Plant and equipment will be inspected daily to ensure these are properly maintained.	Site inspection and interviews with Santos personnel.	Operators inspect and maintain plant and equipment at operating well lease sites on a daily basis.	Compliant
	Operation			
	Ongoing management and maintenance of remaining infrastructure onsite will occur, including water transfer area and well heads.	Site inspection and interviews with Santos personnel.	Remaining infrastructure namely well heads, water gathering and transfer systems, gas gathering and flares appeared to be well maintained and in good working order.	Compliant
	The gathering system water pressure will be monitored. Should line failure occur between the wells to the transfer tanks at Dewhurst 14 and Dewhurst 28, operation of the well will be suspended until the problem is rectified.	Site inspection and interviews with Santos personnel. Viewed Santos' Supervisory Control and Data Acquisition (SCADA) system interface	Remote pressure monitoring takes place. Wells can be shut down remotely in the event of a pipeline failure.	Compliant
	The two pilot sites will be rehabilitated in accordance with Section 4.5 of the EIS.	Site inspection and interviews with Santos personnel.	The two pilots sites are still operational and full rehabilitation will not take place until the wells are decommissioned.	Not Triggered
Groundwater	Construction			
	The wells will be designed and constructed in accordance with the NSW Coal Seam Gas Code of Practice Well Integrity (DTIRIS, 2012b).	Site inspection and interviews with Santos personnel.	Santos has not drilled any new wells subject to Development Consent since the approval was issued on 18 July 2014. Santos has previously submitted to the former NSW Office of Coal Seam Gas well completion reports for each of wells they have drilled which provides comprehensive drilling information including well design as constructed.	Not Triggered
	Drilling and installation operations, well control, waste management and abandonment procedures for the pilot wells will be in accordance with accepted industry practices and in accordance with the processes outlined in the EIS.	Site inspection and interviews with Santos personnel.	Santos has not drilled any new wells subject to Development Consent since the approval was issued on 18 July 2014.	Not Triggered

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	A driller that holds the relevant qualifications as defined by NOW will be onsite during drilling of the top hole until the surface casing is set, cemented, and pressure tested. During this time, there will be 24 hour coverage by one person working the day shift and on call at site during the night. This will ensure that the appropriate knowledge of water legislation and regulation in NSW and technical skills are employed to avoid impacts to surface and groundwater sources.	Site inspection and interviews with Santos personnel.	Santos has not drilled anynew wells subject to Development Consent since the approval was issued on 18 July 2014.	Not Triggered
	Excessive drilling fluid losses will be cured by loss circulation material (cellulose material such as sawdust or other benign naturally occurring substances, as required) to ensure most fluids return to the surface.	Site inspection and interviews with Santos personnel.	Santos has not drilled anynew wells subject to Development Consent since the approval was issued on 18 July 2014.	Not Triggered
	Santos will make reasonable endeavours to seek permission (from landowners) to access registered groundwater bores within 2 km of the two pilot sites to undertake groundwater monitoring prior to drilling, to establish baseline conditions, and on completion of drilling, to determine if there are any impacts. Where access to bores is granted (and the bore is functioning), monitoring will include water level measurements and water quality observations in the field, and sampling for analysis by an accredited laboratory.	Site inspection and interviews with Santos personnel.	There are no registered groundwater bores within 2 km of the Dewhurst 30 and 31 well lease sites. There are 5 registered water bores within 2 km of the DWH 13-18H wells of which only three are operational and able to be monitored. For the two other bores one is thought to be an old bore which may no longer exist and the other was faulty and not capable of being operated.	Compliant
	Operation			
	The volume of water extracted from the pilot wells will be monitored.	Site inspection and interviews with Santos personnel.	The volume of produced water is measured and recorded using Santos' "Supervisory Control and Data Acquisition (SCADA) system. If VHF system goes down, data is logged at the monitor and down loaded manually.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Pressure gauges will be fitted to the pilot wells and monitored remotely through a SCADA system. Should pressure change due to a leak, the pilot wells will be shut down immediately and the affected area investigated.	Site inspection and interviews with Santos personnel.	Pressure is measured on each well head and monitored/recorded remotely via the Santos SCADA system.	Compliant
	The groundwater monitoring program will be implemented.	Site inspection and interviews with Santos personnel. EQIS monitoring database	Santos has a Groundwater Monitoring and Modelling Plan (GMMP) approved by the former Office of Coal Seam Gas in 2013 and is being implemented.	Compliant
	In line with monitoring during drilling, Santos will make reasonable endeavours to seek permission (from landowners) to continue monitoring of registered groundwater bores within 2 km of the two pilot sites to determine if there are any impacts to aquifers.	Site inspection and interviews with Santos personnel. EQIS monitoring database	No Coal Seam Gas pilot wells have been drilled in the Dewhurst development area since the Development Consent was issued on 18 July 2014. The groundwater monitoring program is ongoing.	Not Triggered
	The wells will be decommissioned as soon as they are no longer required.	Site inspection and interviews with Santos personnel.	All wells are still required.	Not Triggered
Surface Water	Construction			
	Water will not be extracted from nearby watercourses, including Mount Pleasant Creek, Tuppiari Creek, Cowallah Creek or Jacks Creek.	Site inspection and interviews with Santos personnel.	Santos advises that they have not extracted water from any of these creeks.	Compliant
	The existing diversion bund at Dewhurst 13-18H will be maintained on the up-slope side of the lease areas to divert clean water around the work area.	Site inspection and interviews with Santos personnel.	Stormwater diversion bunds in place at these well lease pads.	Compliant
	Diversion bunds will be installed and maintained for the Dewhurst 30 and 31 lease areas.	Site inspection and interviews with Santos personnel.	Stormwater diversion bunds in place at these well lease pads.	Compliant
	Drilling fluids will be contained in surface tanks which will be regularly inspected and maintained.	Site inspection and interviews with Santos personnel.	Santos has not drilled any new wells subject to Development Consent since it was issued on 18 July 2014.	Not Triggered
	Water that drains to the cellar pit will be circulated with the drilling fluid throughout the drilling process.	Site inspection and interviews with Santos personnel.	Santos has not drilled any new wells subject to Development Consent since it was issued on 18 July 2014.	Not Triggered

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Should any formation fluid rise through the well, it will be captured in the waste fluid tank and will be removed to a licensed waste facility that is able to accept liquid waste for disposal or treatment.	Site inspection and interviews with Santos personnel.	Santos has not drilled any new wells subject to Development Consent since it was issued on 18 July 2014.	Not Triggered
	Drilling fluids will be transported to and from site by an appropriately licensed contractor.	Site inspection and interviews with Santos personnel.	Santos has not drilled any new wells subject to Development Consent since it was issued on 18 July 2014.	Not Triggered
	Fuel and lubricants will be stored onsite only when necessary and maintained offsite whenever possible.	Site inspection and interviews with Santos personnel.	No construction activity taking place during the audit and currently there are no fuels and chemicals present on any of the leases other than two small 6,000 litre double skinned diesel storage containers one at DWH 28 and the other at DWH 29. This diesel is used to fuel a standby generator when the gas flow is interrupted due to maintenance.	Compliant
	Wastewater generated through general site activities will be removed by an appropriately licensed contractor for disposal at a licensed facility or treated to an appropriate quality prior to discharging.	Site inspection and interviews with Santos personnel.	The only waste water being generated at the time of the audit is produced water from the Dewhurst 26-29 pilot wells. This water is collected in a 22,000 litre above ground water storage tank at Dewhurst 28 before being transferred by pipeline to the Leewood water facility via Bibblewindi water facility. Other liquid wastes are collected by Namoi Waste transport and disposed of at Leewood.	Compliant
	All areas storing or handling fuel, fuel using equipment, and chemicals will be bunded in accordance with Australian Standard 1940–2004; The Storage and Handling of Flammable and Combustible Liquids or other relevant guidelines.	Site inspection and interviews with Santos personnel.	Two 6,000 litre double skinned diesel storage containers are located at DWH 28 and DWH 29. Each of these tanks comply with AS1940.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Weather forecast will be monitored and in the event that prolonged, severe wet weather or flooding is predicted, works will cease and plant, machinery and any chemicals will be secured and banded.	Site inspection and interviews with Santos personnel. Viewed weather station PC interface.	Weather observations are monitored via a weather station installed by Santos. <i>Example – Southern gas flow line construction was due to commence on the Tuesday, but was delayed to the Friday due to forecast rain.</i>	Compliant
	A minimum freeboard of 300 mm will be maintained for any tanks containing liquid waste.	Site inspection and interviews with Santos personnel.	No liquid waste is stored at any of the Dewhurst well leases other than produced water in an above ground storage transfer tank at Dewhurst 28. This tank is fitted with a high-level alarm system to ensure there is a 300mm minimum freeboard in the tank. Any overflow from this tank will be discharged to a lined bund that the tank sits within. All level alarms are connected to Santos' SCADA telemetry system and monitored 24 hours a day.	Compliant
	Operation			
	The surface infrastructure at the lease areas will be regularly inspected.	Site inspection and interviews with Santos personnel.	Daily inspections of operating surface infrastructure are carried out by operator maintainers. This is backed up with SCADA information to highlight risk areas.	Compliant
	The surface water monitoring program will be implemented.	Site inspection and interviews with Santos personnel.	Santos has undertaken a baseline water monitoring program for surface waters in PEL 238 (which includes the Dewhurst development area) over a 2-year period finishing at the end of 2014. Santos advises water quality monitoring is on-going, particularly additional opportunistic monitoring. e.g. for Bohena Creek which last flowed on 15/09/16.	Compliant
Biodiversity	Micro-siting of lease areas and service corridors locations will be undertaken at Dewhurst 30 and 31 during detailed	Site inspection and interviews with Santos personnel.	Santos advises that at DWH 30 and 31 a pre-clearing survey and clearing supervision were	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	design and pre-clearance survey stage to minimise impacts on the ecological communities and species.		carried out by Eco Logical Australia in 2014 in accordance with the Biodiversity Management Plan.	
	Clearing of hollow-bearing trees will be avoided where possible.	Not applicable	No clearing was taking place at the time of the audit. Santos advises that an ecologist was on site during clearing at DWH 30 and 31.	Not Triggered
	While clearing or disturbance to vegetation occurs, a fauna spotter/catcher will be onsite to supervise works.	Not applicable	No clearing was taking place at the time of the audit. Santos advises that an ecologist was on site during clearing at DWH 30 and 31.	Not Triggered
	Hollow logs removed from the disturbance areas are to be relocated to habitats adjacent to the lease areas under supervision from the fauna/spotter catcher. Fauna sensitive clearing techniques will be implemented, including vibrating the bucket on large trees (particularly hollow-bearing trees) prior to clearing, and dismantling large trees.	Not applicable	No clearing was taking place at the time of the audit. Santos advises that an ecologist was on site during clearing at DWH 30 and 31.	Not Triggered
	The site boundary will be clearly demarcated to ensure that plant and vehicles keep within the approved area of disturbance.	Not applicable	Santos advises that the site was surveyed and marker tape used to delineate the lease boundary(ies)	Not Triggered
	The two pilot sites will be rehabilitated in accordance with Section 4.5 of the EIS.	Not applicable	The two pilot sites are still operational and full rehabilitation will not take place until the wells are decommissioned.	Not Triggered
	Construction and operational vehicles/plant will only travel on the designated access tracks. Site speed limits will be imposed to reduce the potential of fauna strike and to reduce dust generation.	Site inspection and interviews with Santos personnel.	Dedicated roads and tracks are used to access the well sites and Santos imposes a 60 km speed limit on State Forest roads and a 40 km limit on access tracks on contractors and employee vehicles when using these roads and tracks	Compliant
	Prior to earthworks, noxious weeds present onsite will be removed or treated with herbicide to help prevent or reduce their spread.	Site inspection and interviews with Santos personnel.	Santos advises that the DWH 30 and 31 leases pad sites were inspected for the presence of weeds before the sites were cleared and none were found.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
			No significant weed infestations were found during the site inspection.	
	Weed management measures will be undertaken.	Site inspection and interviews with Santos personnel.	Santos advises that the well lease sites are inspected quarterly for weeds and remedial action taken as needed in accordance with their Pest and Plant Management Strategy.	Compliant
	Weed monitoring will occur throughout all phases of the proposed activity. Weed removal will be carried out as necessary.	Site inspection and interviews with Santos personnel.	Santos advises that the well lease sites are inspected quarterly for weeds and remedial action taken as needed in accordance with their Pest and Plant Management Strategy.	Compliant
Air Quality	Dust will be suppressed as required by spraying water along the access tracks and lease areas.	Noted during site inspection (photo in Appendix D)	Water trucks were employed to water roads and tracks during construction of the Southern gas flow line.	Compliant
	Site speed limits will be imposed to minimise dust generated by vehicle movements.	Site inspection and interviews with Santos personnel.	Santos imposes speed limits of 60km/hr on FCNSW roads and 40km/hr on their access tracks.	Compliant
	Loose, dust generating materials will be covered when transported to and from site.	Site inspection and interviews with Santos personnel.	Santos advised that during the construction of DWH 30 and 31 truckloads were covered as appropriate to the materials being transported to prevent the escape and loss of material.	Not Triggered
	Vehicles, plant and equipment will be regularly maintained to ensure they are in good operating condition.	Site inspection and interviews with Santos personnel.	Vehicles are properly serviced and maintained with the maintenance schedule kept in a Santos Oracle database (maintenance planner)	Compliant
	Vehicles, plant and machinery will be turned off when not in use rather than left idling.	Site inspection and interviews with Santos personnel.	Santos advises that it is standard practice to turn vehicles plant and equipment off when not in use except in some isolated cases on extreme hot days air conditioning might be used in vehicles to prevent or relieve employee heat stress.	Compliant
	Rehabilitation works, including landform establishment, will occur within six months of abandonment.	Site inspection and interviews with Santos personnel.	None of the Dewhurst development wells have been abandoned.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
			However, all of the well lease pads are stabilised and partially rehabilitated to varying degrees and the lease pads are not a significant source of emission of windblown dust.	
Greenhouse Gases	Construction			
	Retain timber and woody debris cleared during site preparation (excluding merchantable timber identified by NSW Forestry Corporation) for use in rehabilitation to assist in re-establishing carbon sink.	Site inspection and interviews with Santos personnel.	Timber and woody debris from the clearing of DWH 30 and 31 is currently stored at the former DWH 4 site and used on site.	Compliant
	Energy efficient equipment and processes will be used where possible.	Site inspection and interviews with Santos personnel.	Santos Ltd has an EHSMS Energy Efficiency Standard to assist business units to achieve energy efficiency improvements.	Compliant
	Water based drilling fluids will be used.	Not applicable	No drilling has occurred since the Dewhurst Development Consent was issued on 18 July 2014	Not Triggered
	Appropriate monitoring of emissions and consumables will be undertaken for legislative reporting requirements (such as to inform National Greenhouse and Energy Reporting Scheme (NGERS) calculations).	Site inspection and interviews with Santos personnel.	Santos Ltd as the parent company reports annually to NGERS on emissions and consumables. This annual report contains the required information for the overall Narrabri Gas project of which the Dewhurst development forms a part.	Compliant
	Operation			
	Regular monitoring and maintenance of equipment and pipes will occur to identify any leaks to minimise fugitive emissions.	Site inspection and interviews with Santos personnel. Leak Detection and Repair Program	Santos undertakes its own Leak Detection and Repair Program using various technologies for the whole Narrabri Gas project area which includes the Dewhurst development project area. No gas leaks were detected at any of the Dewhurst wells related to this Development Consent in the 2018 audit.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	A fugitive emissions monitoring program will be implemented in the EandA Program area.	Site inspection and interviews with Santos personnel. Leak Detection and Repair Program	Santos undertakes its own Leak Detection and Repair Program using various technologies for the whole Narrabri Gas project area which includes the Dewhurst development project area.	Compliant
	Appropriate monitoring of emissions and consumables will be undertaken for legislative reporting requirements (such as to inform NGERS calculations).	Site inspection and interviews with Santos personnel.	The annual report to NGERS contains the required information from the overall Narrabri Gas project of which the Dewhurst development forms a part.	Compliant
Noise	Forestry NSW, the private landowner at Dewhurst 13-18H and the next two nearest sensitive receivers will be notified prior to the proposed activity commencing.	Not applicable	There has been no activity at DWH 13-18H since the Development Consent was issued.	Not Triggered
	During construction, feasible and reasonable work practices will be implemented with the aim to achieve LA_{eq} 40 dB(A) noise levels during recommended standard construction hours and LA_{eq} 35 dB(A) outside of these times.	Not applicable	Construction has only taken place at DWH 30 and 31 since the Development Consent was issued and as the nearest private landholder or sensitive receiver to the DWH 30 and 31 sites is around 10 km away there would have been no adverse noise impacts during the construction of these lease pads.	Not Triggered
	During operation, in the event that the residence located 500 m south of the Dewhurst 13-18H Pilot (RR4) is to be re-occupied, monitoring will be undertaken to confirm operational noise levels at this location. If noise monitoring determines that levels are above noise criteria, an agreement will be negotiated with the landowner, or further.	Not applicable	No activity has occurred at DWH 13-18H since the issuing of the Development Consent	Not Triggered
Traffic and Transport	Vehicles will not travel at speeds greater than 80 km per hour along unsealed roads (including within the forest) unless otherwise signed.	IVMS Controls and monitoring system.	Santos imposes speed limits of 60km/hr on FCNSW roads and 40km/hr on their access tracks.	Compliant
	Heavy vehicle activity passing through residential areas will be confined to standard construction hours (7.00 am to 6.00 pm Monday to Friday, 8.00 am to 1.00 pm Saturday).	IVMS Controls and monitoring system.	All Santos vehicles are fitted with In Vehicle Monitoring System (IVMS) which monitors speed, location (amongst other parameters)	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	All site staff and delivery drivers will receive the appropriate induction (consistent with Santos policies), which will include driver protocols and identification of any local hazards.	Site inspection and interviews with Santos personnel.	Santos advises that all contractors are required to have work inductions and are subject to audits. Verified with auditor having to complete 4 site inductions prior to attending site.	Compliant
	An in-vehicle monitoring system (IVMS) will be fitted to all Santos vehicles.	IVMS Controls and monitoring system. IVMS weekly report: 14-20/11/18	All Santos vehicles are fitted with In Vehicle Monitoring System (IVMS) which monitors speed, location, braking, acceleration, seatbelt, driving time, engine idle,	Compliant
	Construction vehicle movements will be restricted to designated routes to/ from site via the Newell Highway.	Site inspection and interviews with Santos personnel. EMS Traffic Management Sub-Plan	No well construction taking place at the time of the audit, Santos advised that the route used for access to DWH 30 and 31 was the Newell Hwy, X line road and Tighes Gully Road. Construction of the southern gas flow line taking place at the time of the audit, and vehicles keeping to main access roads.	Compliant
	Construction vehicle activity will be managed and controlled in the vicinity of the two pilot sites.	Site inspection and interviews with Santos personnel.	No well construction taking place at the time of the audit, Santos advised that during the construction of the DWH 30 and 31 lease pads traffic controllers were employed at roads at each end of the construction area.	Not Triggered
	Any damage to roads caused by construction activities will be repaired at Santos cost in accordance with the Permit to Occupy or land access agreement.	Site inspection and interviews with Santos personnel.	Santos maintains the roads, and keeps them to an appropriate standard and to the satisfaction of FCNSW. Regular meetings are held with FCNSW as well as a weekly email update.	Compliant
Waste	Management of drilling fluids and drill cuttings in accordance with principles outlined in Sections 4.3.7.5 and 4.3.7.6.	Not applicable	Santos has not drilled any new wells subject to Development Consent since the approval was issued on 18 July 2014. Santos advises that drilling wastes are taken off site for disposal at a lawful facility.	Not Triggered

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Management of waste, including its transport, will comply with the POEO Act and POEO (Waste) Regulation.	Site inspection and interviews with Santos personnel. Waste and Resource Management Sub Plan, Rev 02, Reviewed June 2016	Santos has developed and implements a Waste Management Plan in accordance with Santos Ltd' corporate standard EHS04 that applies to all business units and has adopted the waste management hierarchy. Waste is classified under the NSW Waste Classification Guideline prior to removal off lease. All waste is transported back to the Narrabri Operations Centre. Drill cutting are transferred to landfill.	Compliant
	The Waste Management Plan will be implemented, that will be based on the waste reduction hierarchy of avoid, reduce, reuse, recycle, recover, treat and dispose.	Waste and Resource Management Sub Plan, Rev 02, Reviewed June 2016	Refer comments above.	Compliant
	General site waste will be segregated according to their classifications under the <i>Waste Classification Guidelines</i> (DECCW, 2009) and stored in bins or skips within a designated waste transfer point within the lease area prior to transportation for disposal.	Site inspection and interviews with Santos personnel. Not applicable	No general waste being generated and there is no need for bins or skips at any of the lease pads.	Not Triggered
	Regulated waste will be collected by licensed contractors for off-site disposal. General and recyclable waste will be transported to local council landfill and recycling facilities.	Site inspection and interviews with Santos personnel. Not applicable	No regulated waste being generated and consequently there has been no need to dispose of regulated waste since the approval was issued	Not Triggered
	Following completion of cementing, excess fluids and cement slurries will be segregated in steel waste tanks and removed and disposed of by a licensed waste disposal company.	Not applicable	Santos has not drilled any new wells subject to Development Consent since the approval was issued on 18 July 2014	Not Triggered
	Sewage waste will be removed from site by a licensed contractor for treatment and disposal, as required.	Not applicable	Santos has not drilled any new wells subject to Development Consent since the approval was issued on 18 July 2014	Not Triggered

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	The type and volume of all waste removed from site will be recorded.	Site inspection and interviews with Santos personnel Waste and Resource Management Sub Plan, Rev 02, Reviewed June 2016	Santos advises that very little if any waste was generated and removed from the site in the construction of DWH 30 and 31. Any felled vegetation was mulched and used for on site rehabilitation purposes. All waste are transported back to the Narrabri Operations Centre. Drill cutting are transferred to landfill.	Compliant
	All staff and contractors will be made aware of waste management procedures during the site induction and through toolbox talks.	Site inspection and interviews with Santos personnel	Santos carry out a comprehensive induction process for all new personnel to site including waste management.	Compliant
	Chemical, fuel and oil containers will be managed according to the SDS or manufacturers' directions to avoid potential impacts to the environment or human health.	Site inspection and interviews with Santos personnel.	Santos advises that this is reinforced to staff and contractors through pre-start discussions and induction processes.	Compliant
Hazards	Construction			
	Site safety protocols, incident management and emergency procedures will be implemented during the construction and drilling works.	Site inspection and interviews with Santos personnel.	Santos has developed and implements an Incident Management Plan along with a Field Emergency Response Procedures which is reinforced to staff and contractors through pre-start discussions and induction processes. Santos also periodically also undertakes simulated emergency management response exercises. These exercises for key stakeholders which includes Government Emergency Services and regulatory bodies. 1x practical, and 3x desktop per year	Compliant
	The two pilot sites will be kept in a clean and tidy manner during site preparation, drilling activities and operation of the pilot wells.	Site inspection and interviews with Santos personnel. Photos Appendix D	All well sites during the audit were clean and tidy.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Chemicals and potentially hazardous substances will be used and stored according to regulatory requirements including the <i>Work Health and Safety Act 2011</i> .	Site inspection and interviews with Santos personnel.	No chemicals are being stored in the Dewhurst development area at the time of the audit.	Not Triggered
	Any dangerous goods will be transported according to regulatory requirements under the <i>Dangerous Goods (Road and Rail Transport) Act 2008</i> .	Site inspection and interviews with Santos personnel.	No dangerous goods being transported to these sites at the time of the audit	Not Triggered
	Chemical, fuel and oil containers will be managed according to the SDS or manufacturers' directions to avoid potential impacts to the environment or human health.	Site inspection and interviews with Santos personnel.	No chemicals or fuels and oils currently being stored at any of the well sites other than 6,000 litres of diesel held in a double lined storage tank at Dewhurst 28.	Compliant
	Operation			
	The flare at Dewhurst 14 will be designed to limit the risk of ignition. Acceptable radiation limits for various locations at the flare site will be determined based on the <i>American Petroleum Institute (API) 521 Standard</i> (API, 2007) and <i>AS 60079.10.1 – Classification of Areas – Explosive Gas Atmospheres</i> .	Site inspection and interviews with Santos personnel.	The flare at Dewhurst 14 has not yet been installed.	Not Triggered
	Within the sterile zone, a HDPE liner will be laid, covered with approximately 300 mm of compacted soil and blue metal aggregate.	Site inspection and interviews with Santos personnel.	The flare at DWH 28 is located on a sterile zone constructed in accordance with relevant standards.	Compliant
	Where feasible best practice bushfire risk management will be implemented.	Bushfire Management Plan 7099-650-PLA-0011	Santos has developed and implements a Bushfire Management Plan	Compliant
	All statutory obligations for bushfire management will be met.	Bushfire Management Plan 7099-650-PLA-0011	Santos has developed and implements a Bushfire Management Plan	Compliant
	An education program for staff and contractors regarding the risks from bushfires in consultation and collaboration with relevant stakeholders will be implemented.	Bushfire Management Plan 7099-650-PLA-0011 Ron Anderson serial#16744 exp:19/7/21	Santos advises that the Bushfire Management Plan is reinforced to staff and contractors through pre- start discussions and induction processes.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
			All staff have to undergo bushfire awareness training every 2 years.	
Social and Economic	Consultation activities will occur in accordance with Chapter 5 of the EIS.	Site inspection and interviews with Santos personnel. PEL 238_Annual Consultation Report_2018_Final	A community consultation plan has been prepared and is being implemented	Compliant
	Continued contribution to the local sponsorship program.	PEL 238_Annual Consultation Report_2018_Final	Santos sponsors a range of sporting, cultural and other community bodies within the Narrabri Local Government area	Compliant
Other	Project staff and contractors will be made aware of their statutory obligations to protect Aboriginal cultural heritage objects under the NPW Act, through the site induction and toolbox talks.	Site inspection and interviews with Santos personnel. Santos induction	Santos advises that the cultural heritage awareness is reinforced to staff and contractors through pre-start discussions and induction processes. Verified with auditor having to complete 4 site inductions prior to attending site.	Compliant
	All works will be undertaken to comply with Part 6 of the NPW Act.	Site inspection and interviews with Santos personnel.	Pre-disturbance cultural heritage scouts for DWH 26-31 have been undertaken and no aboriginal places, sites or objects were identified. Santos advises that the cultural heritage awareness is reinforced to staff and contractors through pre- start discussions and induction processes.	Compliant
	If any previously unidentified Aboriginal cultural heritage objects are identified during works, then such in the immediate area will cease, the area will be cordoned off and the OEH Enviroline 131 555 will be contacted. A suitably qualified archaeologist will be contacted so that the site can	Site inspection and interviews with Santos personnel. Preclearing Scout Report DHW26-31 and flow line, RPS, 15/11/12	Santos advised that no aboriginal cultural heritage objects have been found in the Dewhurst development area during construction work at DWH 30 and 31.	Compliant

REFERENCE	COMMITMENT	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	be assessed and managed in accordance with relevant legislative and policy requirements.			
	In the event that skeletal remains are uncovered, then works in the immediate area will cease, the area will be cordoned off and the NSW Police will be contacted. Should the NSW Police determine that the material is not recent, the OEH Enviroline 131 555 and relevant Aboriginal stakeholders will be contacted to determine an action plan for the management of the skeletal remains prior to works re- commencing.	Site inspection and interviews with Santos personnel.	Santos advises that no skeletal remains have been found during construction work.	Compliant
	If any previously unidentified potential non-Aboriginal cultural heritage material is identified during construction or drilling, then works in the immediate area will cease, the area will be cordoned off and the OEH Heritage Branch will be contacted. A suitably qualified archaeologist will be contacted so that the site can be assessed and managed.	Site inspection and interviews with Santos personnel.	Santos advised that no non-Aboriginal cultural heritage objects have been found in the Dewhurst development area during construction work at DWH 30 and 31	Compliant
END				

Petroleum Exploration Licence PEL 238

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
Notation	Conditions 1-3, 6-7, 9-23, 25-27, 29-37, 47-54 and 56 of this exploration licence are identified as conditions relating to environmental management.	Not applicable	This is just a statement/advisory note made in the Petroleum Exploration Licence (PEL 238) at the commencement of the conditions schedule	Not Triggered
Condition 1	The licence holder may conduct Category 1 prospecting operations on the exploration licence area subject to the conditions of this licence. Note. The licence holder must comply with the requirements of the Act and other relevant legislation. Category 1 prospecting operations: a) must be of minimal environmental impact; b) cannot be carried out in critical habitat of an endangered species, population or ecological community (identified under the Threatened Species Conservation Act 1995 or the Fisheries Management Act 1994); and c) cannot be carried out in a wilderness area (identified under the Wilderness Act 1987).	Not applicable	Santos carries out Category 3 prospecting operations as provided for in Condition 2 below.	Not Triggered
Condition 2	The licence holder must obtain approval from the Minister prior to carrying out any of the following prospecting operations on the exploration licence area: a) Category 2 prospecting operations; and b) Category 3 prospecting operations.	Site inspection and interviews with Santos personnel.	The former Office of Coal Seam Gas approved the carrying out of Category 3 prospecting operations for Dewhurst (DWH) 30 and 31 gas wells on 29/10/2014. Similar authorisation for the Dewhurst 8 Lateral Production Pilot (ie DWH 22-29) was granted to Eastern Star Gas on 21 July 2009 and there has been a Variation to the former Work Program for DWH 22- 29 approved on 14/08/2015.	Compliant
Condition 3	The licence holder must comply with the conditions of an approval under condition 2 when carrying out those prospecting operations.	Site inspection and interviews with Santos personnel.	As per condition 2.	Compliant
Condition 4	The licence holder must inform the relevant Local Aboriginal Land Council of the grant or renewal of this exploration licence within 28 days of the grant or renewal.	Interview with Santos personnel.	PEL 238 was last renewed on 15 February 2013 and the relevant Local Government Land Councils Narrabri, Baradine, Coonabarabran, Red Chief,	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Exempted Areas <i>Note: a) Under section 70 of the Act, the licence holder must not commence prospecting operations in an exempted area without the prior written consent of the Minister. The Minister's consent may be granted subject to conditions. "Exempted areas" are lands set aside for public purposes. They include travelling stock reserves, road reserves, water supply reserves, State forests, public reserves and permanent commons. Under section 70 of the Act, the "exercise of rights" under an exploration licence is subject to the consent of the Minister. The "exercise of rights" includes the right to conduct prospecting operations.</i> <i>b) Applications for the Minister's consent to exercise rights under this exploration licence in an exempted area must:</i> <i>i. include formal confirmation of any requirements of the controlling body for the exempted area; and</i> <i>ii. be submitted to the Titles Unit.</i>		Wee Waa and Pilliga were notified on 10 -11 October 2013. The above events occurred before the issuing of the Development Consent on 18 July 2014 and as such does not fall within the audit scope.	
Condition 5	No condition	-	-	-
Condition 6	Unless otherwise approved by the Minister, the licence holder must comply with the requirements set out in the following Codes, as amended or replaced from time to time: a) the NSW Code of Practice for Coal Seam Gas Exploration (NSW Trade and Investment, 2012); b) the NSW Code of Practice for Coal Seam Gas Well Integrity (NSW Trade and Investment, 2012); and c) the NSW Code of Practice for Coal Seam Gas Fracture Stimulation (NSW Trade and Investment, 2012). Note: Copies of the Codes are available from www.resources.nsw.gov.au.	Not applicable	No wells have been drilled in the Dewhurst development area since the Development Consent was issued on 18 July 2014. None of the Dewhurst wells have been hydraulically fractured.	Not Triggered
Condition 7	In the event of any inconsistency between the Codes identified in condition 6 and the conditions of this exploration licence, the Codes prevail except where an approval has been given by the	Not applicable	Outside the scope of the audit.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	Minister under condition 2 and the conditions of that approval are complied with.			
Condition 8	The licence holder must engage with the community in relation to the planning for and conduct of prospecting operations authorised under this exploration licence. The consultation must be undertaken in accordance with the Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas (NSW Trade and Investment, 2012) as amended or replaced from time to time. An annual report on Community Consultation must be submitted to the Department within 28 days of the anniversary of this licence being granted, together with evidence that community consultation has been undertaken in accordance with the Guideline. Note: Copies of the Guideline are available from www.resources.nsw.gov.au	Site inspection and interviews with Santos personnel. PEL 238_Annual Consultation Report_2018_Final Acknowledgement letter 26/09/18, DOC:18/717352 FILE: 11/3542/001	Santos has developed and implements a comprehensive Community Consultation Plan for the overall Narrabri Gas Project. As part of this Plan a specific community consultation plan has been developed for the Dewhurst extension project area. A PEL 238 Community Consultation Report for reporting period 1 September 2017 to 31 August 2018 was submitted to Department on 24 Sept 2018 within 28 days of the anniversary date.	Compliant
Condition 9	The licence holder must ensure that a copy of this exploration licence and any relevant documentation relating to the conduct of prospecting operations is: - accessible on the site of active prospecting operations authorised by this exploration licence; and - made available to all supervisors or other persons concerned in the day to day management of prospecting operations authorised by this exploration licence. Note: For the purposes of this condition, relevant documentation includes, but is not limited to: - access arrangements required under Part 4A of the Act; - exempted area consents required under section 70 of the Act; - approvals under condition 2 of this exploration licence, and any document specified as forming part of that approval, such as a Review of Environmental Factors;	Not applicable Site inspection and interviews with Santos personnel.	No construction activity was taking place at the time of the audit. Santos advised that they have discussed the practicality of complying with this condition with the former Office of Coal Seam Gas and that agreement has been reached that these documents can be retained at their Narrabri Operations Centre where employees begin and end their working day.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	d) the approved Groundwater Monitoring and Modelling Plan under condition 13 of this exploration licence; e) the approved Produced Water Management Plan under condition 14 of this exploration licence; f) the approved Work Program under Schedule 3 of this exploration licence; and g) any approval, plan, program or similar document required to comply with the Codes of Practice under condition 6 of this exploration licence.			
Condition 10	The licence holder must implement all reasonably practicable measures to prevent and/or minimise harm to the environment that may result from the conduct of prospecting operations under this exploration licence.	Site inspection and interviews with Santos personnel. Project Environmental Management Plan (PEMP), June 2018, and associated sub plans, June 2016	No environmental harm was observed outside the work areas where petroleum activities are authorised. Santos has developed and implements a Project Environmental Management Plan (PEMP) specifically for the Dewhurst development which outlines measures and procedures for the effective management of environmental issues and risks associated with the development.	Compliant
Condition 11	The licence holder must prevent erosion and pollution of watercourses resulting from the conduct of prospecting operations by implementing effective erosion and sediment control measures	Site inspection and interviews with Santos personnel. ESCP for each well sites.	No construction was taking place at the time of the audit. However, all of lease pads including DWH 30 and 31 are stabilised with effective sedimentation and erosion control measures in place and there was no evidence of sediment run off having taken place off the lease pads.	Compliant
Condition 12	The planning, design and construction of erosion and sediment control measures must be conducted in accordance with Managing Urban Stormwater: Soils and Construction (DECC 2007), as amended or replaced from time to time.	Site inspection and interviews with Santos personnel. ESCP for each well sites.	Santos has had consultants Strategic Environment and Engineering (SEEC) develop a template for sediment and erosion control measures to be implemented for activities associated with the Dewhurst development area and which are in accordance with best practice guidelines as per the "Blue Book".	Compliant
Condition 13	Prior to conducting prospecting operations involving the construction and use of boreholes or petroleum wells, the licence holder must:	Site inspection and interviews with Santos personnel.	Santos has prepared a Groundwater Monitoring and Modelling Program for the Narrabri Gas Fields dated December 2012 and which was approved by	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	a) Prepare a Groundwater Monitoring and Modelling Plan in consultation with the NSW Office of Water; b) Ensure that the Groundwater Monitoring and Modelling Plan: i. describes methods for identifying aquifers, their depths, behaviour, containing layers and connectivity with surrounding aquifers or surface water systems; ii. describes methods for collection of data relevant to the type, quantity and quality of water contained within aquifer systems likely to be encountered during prospecting operations; iii. provides for the future development of a conceptual model of regional groundwater behaviour; iv. provides for the future development of a calibrated computer model of regional groundwater behaviour, to enable the impacts of any proposed production operations to be assessed; v. describes how records of all data collected will be maintained; vi. describes the staging process for implementation of the plan; and vii. is prepared in accordance with any additional requirements prescribed by the Director- General. c) Have the Groundwater Monitoring and Modelling Plan approved by the Minister; and d) Implement and comply with the approved Groundwater Monitoring and Modelling Plan. Note. The Groundwater Monitoring and Modelling Plan is required to ensure: a) there is sufficient groundwater data available to assess future operations against the Aquifer Interference Policy (NSW Office of Water, 2012), as amended or replaced from time to time; and b) 2 years of baseline data is available prior to submitting an application for any future production operations. The scope and level of detail required in the Groundwater Monitoring and Modelling Plan is intended to reflect the scale,		the Office of Coal Seam Gas on 9 July 2013. The program is being implemented. Santos in late 2014 also commenced a program of monitoring the water quality from DPI Water (formerly NSW Office of Water) water bores within PEL238. These additional monitoring results will supplement existing DPI Water data and which will inform and enhance the results of Santos' approved GMMP. The GMMP applies only to existing exploration and pilot activities at that time and does not address any new prospecting activities involving the construction and use of boreholes and petroleum wells.	

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	timing and potential impact of proposed prospecting or any future production operations. An application may be made to the Department at any time to vary an approved Groundwater Monitoring and Modelling Plan.			
Condition 14	<i>Prior to conducting prospecting operations with the potential to generate more than 3 mega litres per year of produced water (as a result of cumulative prospecting operations within the exploration licence area), the licence holder must:</i> <i>a) Prepare a Produced Water Management Plan in consultation with the NSW Office of Water and the Environment Protection Authority;</i> <i>b) Ensure that the Produced Water Management Plan describes:</i> <i>i. the expected sources and estimated quantity of the produced water;</i> <i>ii. the proposed containment and treatment measures for the produced water;</i> <i>iii. the proposed beneficial reuse or disposal methods for the produced water;</i> <i>iv. the controls to be implemented to prevent and/or minimise pollution;</i> <i>v. how records of all relevant parameters for the quality, quantity, transport and disposal of all water will be maintained;</i> <i>vi. describes the staging process for implementation of the plan; and</i> <i>vii. is prepared in accordance with any additional requirements prescribed by the Director- General.</i> <i>c) Have the Produced Water Management Plan approved by the Minister; and</i> <i>d) Implement and comply with the approved Produced Water Management Plan.</i> <i>Note:</i> <i>a) Discharge to receiving waters may require licensing under the Protection of the Environment Operations Act 1997.</i>	Site inspection and interviews with Santos personnel.	Santos has developed a Produced Water Management Plan in accordance with the requirements of this condition and the Plan was initially approved by the Department of Industry (Division of Resources and Energy (DRE)) on the 19 March 2013 and is being implemented. A revised plan was approved on 26 June 2017.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	b) <i>A water access licence under the Water Management Act 2000 may be required for petroleum prospecting operations taking more than 3 mega litres of water from groundwater sources per year. A licence may be required under the Water Act 1912 where that Act applies.</i>			
Condition 15	Except where approved under condition 2 or a Produced Water Management Plan under condition 14, produced water must not be discharged to land.	Site inspection and interviews with Santos personnel.	Produced water is being extracted from Dewhurst 26-29 wells and this water is transferred by pipeline to the Leewood Water Storage Facility. There were no discharges to land at the time of the audit.	Compliant
Condition 16	The licence holder must comply with Policy TI-0-120 - Ban on use of BTEX compounds in CSG activities policy (NSW Trade and Investment, 2012), as amended or replaced from time to time. Note. Additional conditions regulating chemical additives may be imposed on prospecting operations under approvals issued under condition 2 of this exploration licence. The NSW Code of Practice for Coal Seam Gas Fracture Stimulation also contains relevant requirements.	Site inspection and interviews with Santos personnel.	No drilling being carried out during the audit and Santos advises that no BTEX compounds are used in well drilling operations.	Compliant
Condition 17	The licence holder must ensure that all chemicals, fuels and oils, excluding those contained within plant and equipment and those for personal use, are: a) stored and handled in accordance with the relevant Material Safety Data Sheet and Australian Standards for the material; b) stored in appropriate containers that are in good condition and labelled to clearly identify the stored product; and c) kept in a facility or area which is capable of containing at least 100% of the largest container capacity stored within that area; unless otherwise approved by the Minister.	Site inspection and interviews with Santos personnel.	The only listed petroleum product or chemicals being stored and used in the Dewhurst development area is diesel which is stored in two small 6,000 litre double skinned storage containers one at DWH 28 and the other at DWH 29. This diesel is used to fuel the generator if gas from the well is interrupted.	Compliant
Condition 18	The licence holder must ensure that adequate spill prevention and oil absorbent materials required to manage spills and leaks for all chemicals, fuels and oils on site are readily available at all times where prospecting operations are being carried out. Equipment	Site inspection and interviews with Santos personnel.	Spill kits are kept at DWH 28 and in vehicles.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	and/or materials to capture drips and spills must be used during transfer of chemicals, fuels and oils, and when maintaining oil or fuel filled components.			
Condition 19	The licence holder must carry out operations in accordance with the requirements of the Interim Construction Noise Guidelines (DECC, 2009), as amended or replaced from time to time. Unless otherwise approved by the Minister, the licence holder must ensure that: a) noise levels during standard working hours do not exceed the Rating Background Level (RBL) +10dB at any residence or other sensitive receiver (as defined in the Interim Construction Noise Guidelines). b) noise levels outside of standard working hours do not exceed the RBL +5dB.	Site inspection and interviews with Santos personnel.	At the time of the audit only Dewhurst wells 26-29 were operational and noise levels (not measured) were relatively low and as the closest residence to any of these wells is approximately 10 kilometres away the operational noise criteria would not be exceeded.	Compliant
Condition 20	The noise limits identified in condition 19 will not apply where the licence holder has negotiated a written agreement with: a) the relevant landholder; or b) in the case of a prospecting operation that will result in an exceedance of the criteria at a dwelling or other sensitive receiver, the resident of that dwelling or occupier of the sensitive receiver; c) to allow different limits and the licence holder complies with those limits.	Site inspection and interviews with Santos personnel.	There has been no need to trigger this condition. Santos advise that there has been no noise complaints made about their operations and also that their activities will comply with the noise criteria as there is a large separation distance between the development and the nearest noise sensitive receptor.	Not Triggered
Condition 21	The licence holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the exploration licence area except as authorised under condition 1 or approved under condition 2 of this exploration licence. Such clearing must be to the minimum extent necessary to facilitate the conduct of those prospecting operations. Note: The Native Vegetation Act 2003 does not apply to clearing of native vegetation authorised under the Petroleum (Onshore) Act 1991. Additional approvals may be required before using timber from Crown land.	Site inspection and interviews with Santos personnel.	The Dewhurst development area is within the Pilliga State Forest and the activity is also carried out under the conditions of an Occupation Permit and land disturbance and vegetation clearing has been limited to well leases pads and access tracks which are approved prospecting activities.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
Condition 22	The licence holder must take all reasonably practicable precautions against causing an outbreak of fire.	Bushfire Management Plan 7099-650-PLA-0011	Santos has prepared and implements a Bushfire Management Plan to prevent the risk of bushfires and to be able to respond in the event of a bushfire occurring. Firefighting trailer was available at the flare.	Compliant
Condition 23	The licence holder must not burn off any grass, foliage or herbage without the consent of the landholder and the local fire authority.	Bushfire Management Plan 7099-650-PLA-0011 Site inspection and interviews with Santos personnel.	No burning or evidence of past burning observed during the field visit	Compliant
Condition 24	The licence holder must ensure that prospecting operations do not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility without the prior written approval of the infrastructure owner and subject to any conditions that may be stipulated by the infrastructure owner.	Site inspection and interviews with Santos personnel.	Santos advised that prospecting activities in the Dewhurst development area have not interfered with or impaired any infrastructure within the area.	Compliant
Condition 25	The licence holder must permit the passage of stock through the exploration licence area and must conduct operations in a manner so as not to cause danger to travelling stock.	Site inspection and interviews with Santos personnel.	No stock was found to be present in the State Forest in the vicinity of the wells.	Not Triggered
Condition 26	The licence holder must not interfere with or prevent the access of stock to any watering places or approaches to such watering places without the approval of the landholder.	Site inspection and interviews with Santos personnel.	No stock was found to be present in the State Forest in the vicinity of the wells.	Not Triggered
Condition 27	Prospecting operations must not interfere with the use of any public road or prevent access along any other road or track without the prior written approval of the relevant roads authority (as defined under the <i>Roads Act 1993</i>) or, in the case of any other road or track, the landholders and/or residents relying on that road or track for access. Note: A consent under section 138 of the <i>Roads Act 1993</i> may be required for works on public roads	Site inspection and interviews with Santos personnel.	Santos advised that, before any heavy machinery such as drilling rigs travel on FCNSW roads in the State Forest, FCNSW is notified and the matter discussed and if necessary mutually agreeable arrangements are put in place to deal with any issues that may arise.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
Condition 28	The licence holder must pay to the relevant roads authority, the reasonable costs incurred in fixing any damage to any public roads resulting from prospecting operations carried out under the exploration licence. If no agreement on reasonable costs can be negotiated by the parties, the matter must be referred to the Director-General for resolution.	Site inspection and interviews with Santos personnel.	Santos has an arrangement with FNSW to maintain the roads within the State Forest which it uses as access routes and there has been no cause so far to activate this condition.	Compliant
Condition 29	Except where approved under condition 2, the licence holder must ensure that: a) Existing roads and tracks must be used in preference to constructing new roads and tracks; b) The planning, design, construction and maintenance of roads must be conducted in accordance with Managing Urban Stormwater: Soils and Construction, Volume 2C, Unsealed Roads (DECC 2007), as amended or replaced from time to time; c) The planning, design, construction and maintenance of tracks must be conducted in accordance with Managing Urban Stormwater: Soils and Construction, Volume 2C, Unsealed Roads (DECC 2007), as amended or replaced from time to time; d) All river crossings must be constructed in accordance with requirements of the Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (DPI 1999), as amended or replaced from time to time; and e) All crossings of permanent and intermittent water lands and wetlands must be constructed in accordance with requirements of the Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (DPI 1999), as amended or replaced from time to time, and Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003).	Site inspection and interviews with Santos personnel.	The siting and planning requirements for access roads and tracks is mainly contained in the EIS. For the Dewhurst development existing forestry roads are used with short access tracks generally less than 200 metres long constructed to provide access to the well lease sites from the forestry roads or other existing roads. The access tracks have been properly constructed and are stable and there was no evidence erosion.	Compliant
Condition 30	The licence holder must restrict the use of any road or track during wet weather to prevent damage to that road or track unless the road or track has been designed and constructed for use in wet weather.	Site inspection and interviews with Santos personnel. Tool-box	Santos' advises that during wet weather rain events Santos' Narrabri Operations Centre Supervisor conducts an early morning assessment of roads and tracks required to be used that day to determine whether the roads can be used or not.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
			Informal discussions are held with FNSW officers as part of day to day operations with FNSW having the final say.	
Condition 31	The licence holder must ensure that all topsoil removed in the course of prospecting operations is stockpiled for later use in rehabilitating those operations.	Site inspection and interviews with Santos personnel.	Top soil is stockpiled at both Dewhurst 30 and 31 well lease pads as part of creating these lease pads for which construction concluded on 25 November 2014	Compliant
Condition 32	The licence holder must: a) Notify the NSW Office of Water at least 28 days prior to commencement of drilling operations; The notification can be made contemporaneously with the lodgement of an application for approval under condition 2 of this exploration licence. b) Construct, maintain and decommission all boreholes and petroleum wells in accordance with standards equivalent to or exceeding the Minimum Construction Requirements for Water Bores in Australia (NUDLC 2012), as amended or replaced from time to time. c) Ensure that the construction, operation, maintenance and decommissioning of boreholes and petroleum wells does not significantly cause or enhance: (i) hydraulic connection between aquifers; (ii) contamination or cross-contamination of aquifers; (iii) the escape of natural or noxious gases; (iv) the uncontrolled surface discharge of groundwater; (v) collapse of the surrounding surface; or (vi) hazards to persons, stock and wildlife; d) Install blowout prevention equipment in accordance with the Schedule of Onshore Petroleum Exploration and Production Safety Requirements (DMR 1992), as amended or replaced from time to time; e) Implement controls to manage any risks associated with natural or noxious gases, both during and after drilling; f) Contain all drill cuttings, fluids and groundwater returned to the surface as part of the drilling process in above-ground tanks or in-ground sumps pending re-circulation	Site inspection and interviews with Santos personnel.	No drilling has occurred since the Dewhurst Development Consent was issued on 18 July 2014. For those wells drilled prior to the issuing of the Development Consent Well Completion Reports for each of the wells have been prepared and submitted to DRE.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	or disposal. In- ground sumps must be lined with an impermeable barrier where there is a potential risk of contamination from drill cuttings or fluids; g) Survey all cored boreholes and petroleum wells to 0.5 metre accuracy, with the survey to be carried out by a surveyor registered with the Board of Surveying and Spatial Information under the <i>Surveying and Spatial Information Act 2002</i>; h) Remove equipment and logging tools from the borehole or petroleum well prior to plugging and abandonment of the borehole or petroleum well, unless otherwise approved by the Minister; and i) Once a borehole or petroleum well ceases to be used, the borehole or petroleum well must be completely filled with cement grout during drill rod withdrawal and plugged, unless otherwise approved by the Minister.			
Condition 33	At the completion of testing and prior to plug and abandonment of a borehole or petroleum well, the licence holder must ensure that steel casing is removed from the vertical interval(s) encompassing all coal seam(s) unless otherwise approved by the Minister. Downhole geophysical tools and/or cameras must be used to confirm the removal or absence of steel casing throughout the prescribed Interval. All logs and information pertinent to the steel casing must be provided to the Department. Note: Under the Code, a well cannot be abandoned or suspended without prior Departmental approval).	Not applicable	None of the petroleum wells or water bores have been abandoned and are still required as part of prospecting activities for the Dewhurst development	Not Triggered
Condition 34	Within 3 months of the abandonment of any borehole or petroleum well, the licence holder must provide the Department with details of: a) the location details identified in condition 32(g); b) the date grouting of the borehole or petroleum well was completed, the material used in the grouting process and the method of grouting used; c) evidence of gas leak testing and results; d) rehabilitation actions proposed to be undertaken on the site; and	Not applicable	None of the petroleum wells or water bores have been abandoned and are still required as part of prospecting activities for the Dewhurst development	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	e) details of any metallic equipment or material abandoned in the borehole or petroleum well. Note. The Code of Practice for Coal Seam Gas Well Integrity also contains relevant drilling requirements for coal seam gas wells			
Condition 35	The licence holder must report any blowout associated with prospecting operations to the Department: a) immediately; and b) provide a written report within 24 hours. <i>Note. a) The licence holder should have regard to any Departmental guidelines related to the drilling, operation and abandonment of boreholes and petroleum wells.</i> <i>b) The Code of Practice for Coal Seam Gas Well Integrity applies to the drilling of coal seam gas wells. Where there is a conflict between the requirements set out in the Code of Practice for Coal Seam Gas Well Integrity and these conditions, the Code has precedence.</i>	Site inspection and interviews with Santos personnel.	No drilling has occurred since the Dewhurst Development Consent was issued on 18 July 2014. Blowouts are associated with the drilling of wells.	Not Triggered
Condition 36	The licence holder must ensure that: a) the sites of prospecting operations are maintained in a clean and tidy condition at all times; b) all waste, including contaminated residues, must be collected, segregated and securely deposited in properly constructed containers and disposed lawfully; c) drilling by-products contaminated by chemicals, oils or fuels must be collected and remediated or disposed lawfully; and d) all drill cuttings and drilling fluids not being reused in drilling operations are disposed lawfully. Note. Alternative reuse of drill cuttings and treated fluids may be approved by the Minister under condition 2 of this exploration licence.	Site inspection and interviews with Santos personnel.	All well lease pads for the Dewhurst development are in a clean and tidy state with no wastes including drilling products or fluids or cuttings present on the lease pads.	Compliant
Condition 37	The licence holder must maintain records of: a) all waste generated as a result of prospecting operations under this exploration licence; and	Site inspection and interviews with Santos personnel.	Santos advises that wastes (other than produced water) are collected by third party waste disposal	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	b) the means of disposal of all waste. <i>Note. Waste is regulated under the Protection of the Environment Operations Act 1997 and the NSW Waste Regulations. Contact the Local Council or the Environment Protection Authority for details of those requirements.</i>		contractors, Namoi Waste, and transferred to licensed facilities for recycling or disposal. Details of each waste load type and the disposal facility are recorded on the contractor's dockets/invoice and electronic copies of which are kept on Santos' SharePoint system.	
Condition 38	The licence holder must notify the Department at least 28 days prior to the proposed commencement of any prospecting operation involving any drilling, blasting or other potentially hazardous operation. This notification must be made in the form approved by the Director-General.	Not applicable	No drilling has occurred since the Dewhurst Development Consent was issued on 18 July 2014.	Not Triggered
Condition 39	The licence holder must carry out and supervise operations in a manner that ensures the safety of all employees and contractors.	Site inspection and interviews with Santos personnel. SMP 0011-050-SMP-0001 Rev1, 31/01/18	Santos has prepared and implements a Safety Management System for the purpose of ensuring the safety of employees and contractors. This plan aligns with Santos Ltd, Corporate Santos Management System.	Compliant
Condition 40	The licence holder must carry out operations in a manner that ensures the safety of landholders and members of the public, stock and wildlife in the vicinity of the operations. <i>Note. Under section 128 of the Petroleum (Onshore) Act 1991, the licence holder must carry out all petroleum prospecting operations and operations for the recovery of petroleum in the title area in accordance with the provisions of the Work Health and Safety Act 2011.</i> <i>For coal seam gas wells, the licence holder must also put in place measures to control hazards which comply with the Code of Practice for Coal Seam Gas Well Integrity. These measures include, but are not limited to, the development of a Safety Management Plan and the installation of specific well head Infrastructure</i>	Site inspection and interviews with Santos personnel. Project Environmental Management Plan (PEMP), June 2018, and associated sub plans	Santos in its, Project Environmental Management Plan (PEMP) for the Dewhurst development has developed and implements a Hazard and Risk Management Sub Plan designed to manage hazards and risks of the development so as to prevent or minimise harm to the environment and to protect the safety and well-being of employees and the community. Santos has also prepared and implements a Traffic Management Plan and Drivers Code of Conduct for DWH 30 and 31. The Drivers Code of Conduct was forwarded to RMS for their review and comment in October 2014. Santos has a 60km/hour speed limit on Forestry Roads for the purpose of road safety and to prevent or minimise wildlife strikes.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
			Well sites are fenced with locked access gates and there is no public access.	
Condition 41	The licence holder must ensure that prospecting operations are conducted, or directly supervised, by a Technical Manager, being: a) a person with tertiary qualifications in geoscience, petroleum or mining engineering; or b) a person having other qualifications or exploration experience approved by the Minister.	Letter to Dept of Trade and Investment, Div of Resources and Energy – 11/10/16	The Technical Manager nominated by Santos is Edward Klettke, Subsurface manager.	Compliant
Condition 42	The licence holder must advise the Minister of the name and contact details of the Technical Manager(s) prior to the commencement of any prospecting operations and within ten (10) working days of any changes to the nominated Technical Manager or their contact details.	Letter to Dept of Trade and Investment, Div of Resources and Energy – 11/10/16	The Div of Resources and Energy was notified of the Technical Manager details on 11/10/16 and there have been no changes since then.	Compliant
Condition 43	Unless otherwise approved by the Minister, the licence holder must implement and complete the work program specified in Schedule 3 of this exploration licence. Note. Clause 9 of the <i>Petroleum (Onshore) Regulation 2007</i> states that it is a condition of every petroleum title that the holder of the exploration licence will carry out the operations, and only the operations, described in the work program specified in Schedule 3 of this exploration licence. Under Clause 10 of the <i>Petroleum (Onshore) Regulation 2007</i>, the work program may be varied upon application to and approval of the Minister.	Email of application – 01/07/16	Schedule 3 work program expired on 02/08/16. Santos applied for this to be renewed on 01/07/16 and this is still under consideration.	Compliant
Condition 44	The licence holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping authorisations for Group 8 or 9 minerals under the Mining Act 1992. The cooperation agreement should address but not be limited to: a) access arrangements; b) operational interaction arrangements; c) dispute resolution; d) information exchange; e) location of prospecting operations; f) timing of drilling;	Site inspection and interviews with Santos personnel.	PEL 238 is overlapped by four mining tenements. Three of these are exploration tenements, and of these two are held by the Crown. Santos has advised that all planned work by Santos in PEL238 will take place in areas that are not overlapped by these mining tenures.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	g) potential resource extraction conflicts; and h) integrated rehabilitation activities. <i>Note. Group 8 minerals are geothermal energy. Group 9 minerals are coal and oil shale.</i>			
Condition 45	The Minister's prior written approval is required prior to: a) any change in the effective control of the licence holder; or, b) any foreign acquisition of substantial control in the licence holder.	Email of application – 01/07/16	PEL 238 is held by SANTOS NSW PTY LTD and ENERGY AUSTRALIA NARRABRI GAS PTY LTD. The licence was due for renewal on 2 August 2016. Santos applied for a renewed on 01/07/16 and this is still under consideration.	Compliant
Condition 46	For the purposes of condition 45: a) There is a "change in effective control" where, after the imposition of this condition, any person: i. acquires the capacity to appoint or control at least 50% of the number of directors of the licence holder's board; ii. becomes entitled to exercise (directly or indirectly) greater than 50% of the votes entitled to be cast at any general meeting of the licence holder; or, iii. holds more than 50% of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence holder. b) There is a "foreign acquisition of substantial control" where, after the imposition of this condition, a person: i. acquires the capacity to appoint or control at least 15% of the number of directors of the licence holder's board; ii. becomes entitled to exercise (directly or indirectly) greater than 15% of the votes entitled to be cast at any general meeting of the licence holder; iii. holds more than 15% of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence holder; AND the person is: i. a natural person not ordinarily resident in Australia; ii. a corporation in which a natural person not ordinarily resident in Australia or a "foreign corporation" (meaning	Not applicable	No changes in effective control have occurred.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	one that is incorporated outside Australia) holds a total interest of 15% or more; iii. a corporation in which 2 or more persons, each of whom is either a natural person not ordinarily resident in Australia or a foreign corporation, hold a total interest of 40% or more; iv. the trustee of a trust estate, in which a natural person not ordinarily resident in Australia or a foreign corporation, holds a total interest of 15% or more; or, v. the trustee of a trust estate in which 2 or more persons, each of whom is either a natural person not ordinarily resident in Australia or a foreign corporation, holds a total interest of 40% or more.			
Condition 47	All disturbance resulting from prospecting operations carried out under this exploration licence must be rehabilitated by the licence holder to the satisfaction of the Minister.	Not applicable	Santos has developed and implements a Rehabilitation Completion Criteria/Plan as required under the conditions of the Development Consent issued under the <i>Environmental Planning and Assessment Act 1979</i>. Disturbed areas are progressively rehabilitated depending on the ongoing operational need for the disturbed areas. The intention of this condition of PEL 238 issued by the Office of Coal Seam Gas would appear to require Ministerial sign off on the final rehabilitation once the CSG wells have been plugged and abandoned. None of the wells in Dewhurst development area as defined under the Development Consent have been abandoned.	Not Triggered
Condition 48	In rehabilitating the disturbance, the licence holder must ensure that: a) all machinery, buildings and other infrastructure are removed from the area; b) the area is left in a clean, tidy and stable condition; c) there is no adverse environmental effect outside the disturbed area;	Site inspection and interviews with Santos personnel.	All of the well lease pads that comprise the Dewhurst development are clean, tidy and stabilised and there is no evidence of sediment run off impacting outside the lease boundaries. Refer also to the comments above about progressive rehabilitation and well abandonment.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	d) the land is properly drained and protected from soil erosion; e) the land is not a potential source of pollution; f) the land is compatible with the surrounding land and land use requirements; g) the landforms, soils, hydrology and flora require no greater maintenance than that in, or on, the surrounding land; h) the land does not pose a threat to public safety; and i) in cases where vegetation has been removed or damaged: i. where the previous vegetation was native, species used for revegetation are endemic to the area; or ii. where the previous vegetation was not native, species used for revegetation are appropriate to the area; and iii. any revegetation is of an appropriate density and diversity			
Condition 49	The licence holder must ensure that all river crossings are rehabilitated such that the natural flow of water is unimpeded and stream bank stability is maintained to prevent erosion.	Site inspection and interviews with Santos personnel.	River/creek road access crossings within the Pilliga state Forest are ForestryNSW roads. Santos under its Forestry Occupation Permit has an obligation to maintain and repair any damage to the Forestry roads used to gain access to the development areas.	Not Triggered
Condition 50	The licence holder must comply with any relevant guidelines issued by the Director-General in the rehabilitation of disturbance resulting from prospecting operations under this exploration licence.	Site inspection and interviews with Santos personnel.	DRE has developed an Exploration Code of Practice which came into effect on 1 July 2015 and in the Code it states it does not apply until the next renewal date of PEL 238.	Not Triggered
Condition 51	All rehabilitation of disturbance resulting from prospecting operations under this exploration licence must be completed before the expiry of this exploration licence or as soon as practicable following cancellation of this exploration licence.	Site inspection and interviews with Santos personnel.	The Dewhurst development activities are ongoing and there is a current petroleum exploration licence in place (PEL 238).	Not Triggered
Condition 52	Boreholes or petroleum wells that have been abandoned as a result of previous mining or prospecting operations, and which have been opened up or used by the licence holder are subject to the conditions of this exploration licence as if the boreholes or	Site inspection and interviews with Santos personnel.	For the Dewhurst development area none of the existing boreholes or petroleum wells have been abandoned.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	petroleum wells were constructed by the holder of this exploration licence.			
Condition 53	The licence holder must submit an Environmental Management Report to the Department: a) The report must be prepared according any relevant Director-General's requirements for environmental and rehabilitation reporting. b) The report must be lodged: i. prior to expiry where a renewal of this licence is sought; or ii. immediately following the expiry or earlier cancellation of the exploration licence. c) The report must be prepared to the satisfaction of the Director-General and include information on all disturbance resulting from prospecting operations and rehabilitation carried out within the exploration licence area.	PEL238 Environmental Management Report, 01/08/16 Site inspection and interviews with Santos personnel.	Santos advised that the Environmental Management Report was submitted on 02/08/16.	Compliant
Condition 54	The licence holder must, in addition to the requirements under section 148 of the Protection of the Environment Operations Act 1997: a) Notify the Department of all: i. pollution incidents causing or threatening material harm to the environment; ii. breaches of the conditions of this exploration licence; and iii. breaches of environmental protection legislation (as defined in the Protection of the Environment Administration Act 1991), arising in connection with prospecting operations under this exploration licence. b) The notification must be given immediately, i.e. promptly and without delay, after the licence holder becomes aware of the incident, breach or complaint. Note. Refer to www.resources.nsw.gov.au/environment for notification contact details. c) Submit an Environmental Incident and Complaints Report to the Department within seven (7) days of all: i. pollution incidents causing or threatening material harm to the environment;	Site inspection and interviews with Santos personnel.	Santos has advised that there have been no pollution incidents or breaches of the conditions of PEL 238 or environmental protection legislation since 18 July 2014; the issue date of the Dewhurst Development Consent.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	ii. breaches of the conditions of this exploration licence; iii. breaches of environmental protection legislation (as defined in the Protection of the Environment Administration Act 1991); and iv. complaints from landholders or the public alleging environmental harm or a breach of conditions of this exploration licence or of environmental protection legislation, arising in connection with prospecting operations under this exploration licence. d) The Environmental Incident and Complaints Report must include: i. the details of the exploration licence; ii. contact details for the licence holder, complainant and landholder; iii. a map showing the area of concern; iv. a description of the nature of the incident or complaint, likely causes and consequences; v. a timetable showing actions taken or planned to address the incident or complaint; and vi. a summary of all previous incidents or complaints relating to prospecting operations under this exploration licence. Note. The licence holder should have regard to any relevant Director-General's guidelines in the preparation of an Environmental Incident and Complaints Report. Refer to www.resources.nsw.gov.au/environment for further details			
Condition 55	Reports required under section 131 of the Petroleum (Onshore) Act 1991 and Part 3 of the Petroleum (Onshore) Regulation 2007 must be prepared in accordance with the New Guidelines for Digital Data Submission and Reporting of Onshore Petroleum Exploration in New South Wales (NSW Trade and Investment - Division of Resources and Energy, February 2012), as amended or replaced from time to time.	Site inspection and interviews with Santos personnel.	Santos advised that "Exploration and Environmental Reports Online Lodgement (EROL) is routinely used for the lodgement of such documents. 24/09/18 – submitted PEL238 Annual Report.	Compliant
Condition 56	The licence holder must provide and maintain a security deposit of \$1,657,000 to secure funding for the fulfilment of obligations of all or any kind under the Act in respect of the licence, including	ANZ Bank email 10/05/18	The Department currently hold a security deposit of \$5,590,400 for PEL 238	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	obligations that may arise in the future. The security deposit must be maintained until the obligations are fulfilled.			
Condition 57	The security deposit is to be provided by way of a cash deposit (with no entitlement to any interest thereon) or in such other form as may be approved by the Minister.	ANZ Bank email 10/05/18	The Department currently hold a security deposit of \$5,590,400 for PEL 238	Compliant
Condition 58	SCHEDULE 3 WORK PROGRAM Years 1 and 2 • 4 Coreholes/Wells • Lateral Production Pilots • Technical Studies • 120 kilometres New Seismic • Indicative Expenditure of \$14,500,000	Not applicable	Schedule 3 work program expired on 02/08/16. Santos applied for this to be renewed on 01/07/16 and this is still under consideration.	Not Triggered

END

Environment Protection Licence 20350

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
A1.1	This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition. <u>Scheduled Activity and Fee Based Activity:</u> Petroleum exploration, assessment and production <u>Scale:</u> > 0.50 - 6 PJ annual production capacity.	Site inspection and interviews with Santos personnel.	Dewhurst wells 26-29 were the only operating wells in the Dewhurst development area at the time of the audit and which commenced operating in June 2015. Santos advised that the quantity of gas produced from these wells in the last 12 months was 1.63 PJ. EPL 20350 (including the activity scale) has been issued for all of the activities carried out in the Narrabri Gas Field of which the Dewhurst development area forms only a part.	Compliant
A1.2	This licence does not authorise the above scheduled activities where approval for these activities is also required under the <i>Environmental Planning and Assessment Act or the Petroleum (Onshore) Act</i> , and approval has not been granted.	Site inspection and interviews with Santos personnel.	The relevant approvals required under the Acts listed in the condition have been obtained	Compliant
A2.1	The licence applies to the following premises: NARRABRI GAS FIELD, XLINE ROAD, NARRABRI, NSW 2390 etc...	Not applicable	No change to address.	Compliant
A2.2	In relation to A2.1, the premises includes wells sites, trunk lines, any associated water storages, water treatment facilities, utilisation areas, temporary work areas and infrastructure associated with the gas gathering system, gas well and trunk lines that are associated with the wells shown on the maps listed in condition A2.1	Not applicable	This is an authorising/definition condition for the meaning of premises.	Not Triggered
A2.3	For the purposes of this licence, the premises also includes the immediate areas in a 10 metre radius of all infrastructure in connection to the operation of the gas wells as described in condition A2.1. All well sites described in condition A2.1 and A2.2 have a nominal area of 100m x 100m and are surrounded by fencing.	Not applicable	This is an authorising/definition condition for the meaning of premises. The size of the well leases pads is nominally 100m x100m as surveyed and are fenced.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
A2.4	Any maps referred to in this section and included as part of this licence indicate the activity that is authorised by this licence to be undertaken at each well site.	Not applicable	This is an authorising/definition condition for the meaning of premises.	Not Triggered
A3.1	This licence applies to all other activities carried on at the premises, including: <u>Ancillary Activity:</u> Construction, commissioning and operation of the Leewood Phase 2 Water and Brine Treatment Plant and associated infrastructure. Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence	Site inspection and interviews with Santos personnel.	An application to vary the original environmental protection licence to include the DWH 30 and 31 Extension was made to the EPA on the 24 September 2014 and was subsequently approved by the EPA on the 29 October 2014.	Compliant
A3.2	The works specified in A3.1 for the Leewood Phase 2 Project must be carried out at the location(s) and in accordance with the Leewood Produced Water Treatment Plant and Beneficial Project approval issued by the NSW Department of Industry, Skills and Regional Development with reference number <CV15/245#3 dated 18 August 2015 and the following documents: 1. "Leewood Produced Water Treatment Plant and Beneficial Reuse Project – Review of Environmental Factors" dated 5 June 2015 2. Letter titled "Leewood produced water Treatment and Beneficial reuse Project Review of Environmental Factors – provision of Additional Information and Response to Comments and Recommendations" dated 5 June 2015	Site inspection and interviews with Santos personnel.	On 8 February 2018, Santos received a Section 193 notice, issued under the Protection of the Environment Operations Act 1997 for information and records in relation to a Water Use Approval at Leewood. Santos ceased irrigating at Leewood on 8 February 2018, with treated water from the Water Treatment Plant being recirculated back to the Leewood ponds, and mixed with produced water The treatment plant was not in operation at the time of the audit.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	3. Letter titled “Leewood produced water treatment and beneficial reuse project review of Environmental Factors – Provision of Additional information and response to comments and recommendation” dated 12 June 2015 4. Letter titled “Leewood produced water treatment and Beneficial reuse” dated 28 July 2015.			
A4.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to “the licence application” includes a reference to: The applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and The licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.	Site inspection and interviews with Santos personnel.	As far as can be determined and at the time of the audit, the activity is being carried out generally in accordance with the licence application.	Compliant
P1.1	Location of monitoring/discharge points and areas The following points referred to the table in condition P1.1 are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.	Site inspection and interviews with Santos personnel.	The purpose of this condition is to identify the location of air monitoring and compliance points. For the Dewhurst development it would be EPA Identification No 4 (Dewhurst well 28 Flare) Currently only the flare at Dewhurst well 28 is operational.	Not Triggered
P1.2	The following utilisation areas referred to in the table in condition P1.3 are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.	Site inspection and interviews with Santos personnel.	The purpose of this condition is to identify the location of monitoring and compliance points for the release of solids or liquids to land. For the Dewhurst development the relevant EPA Identification No's would be 7, 8, 9, 10, 11, 12, 13, 14, 15, 22 and 23.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
P1.3	The following points referred to in the table in condition P1.3 are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	Site inspection and interviews with Santos personnel.	This condition identifies the location of monitoring and Compliant points for the discharge of pollutants to waters. There are no authorised release points for the discharge of pollutants to waters in the Dewhurst development area.	Not Triggered
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	Site inspection and interviews with Santos personnel.	No incidents of water pollution have occurred since the Development Consent was issued on 14 July 2014.	Compliant
L2.1	Load Limits The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table in condition L2.2. Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.	Site inspection and interviews with Santos personnel.	No specific load limits are stated in condition L2.2	Not Triggered
L2.2	The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol. Assessable pollutants for this licence are: Benzene (Air), Benzo(a)pyrene (equivalent) (Air), Fine particles (Air), Hydrogen Sulphide (Air), Nitrogen Oxides (Air), Sulfur Oxides (Air) and Volatile Organic Compounds (Air).	Annual Return – Lic# 20350 01-May-2017 to 30-Apr-2018	The assessable pollutant load calculations have been provided in the annual return submitted to the EPA.	Compliant
L3.1	Waste The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.	Site inspection and interviews with Santos personnel.	No waste is accepted by Santos.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
L3.2	This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.	Site inspection and interviews with Santos personnel.	No waste is accepted by Santos.	Compliant
L4.1	Operational activities noise limits. Noise generated at the premises must not exceed 35 dBA (LAeq (15 minute)) at any residential sensitive receptor not subject to a private negotiated agreement	Site inspection and interviews with Santos personnel.	At the time of the audit only DWH 26-29 were operational and noise levels (not measured) were relatively low and as the closest residence to any of these wells is approximately 10 kilometres away the operational noise criteria would not be exceeded. Santos also advised that no noise complaints have been received.	Compliant
L4.2	For the purpose of Condition 4.1: a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays; b) Evening is defined as the period from 6pm to 10pm; and c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.	Not applicable	This condition is simply a definition of day evening and night. Refer also comments above in L4.1	Not Triggered
L4.3	To determine Compliant: a) With the Leq(15 minute) noise limits in condition L4.2, the noise measurement equipment must be located: i. Approximately on the property boundary, where any dwelling is situated 30m or less from the property boundary closest to the premises; or ii. Within 30m of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30m from the property boundary closest to the premises; or where applicable iii. Within approximately 50m of the boundary of a National Park or a Nature Reserve.	Not applicable	Refer to L4.1	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	b) With the noise limits in condition L4.2, the noise measurements equipment must be located: i. At the most affected point at a location where there is no dwelling at the location; or ii. At the most affected point within an area at a location prescribed by condition L4.2.			
L4.4	A non-Compliant of condition L42 will still occur where noise generated from the premises in excess of the appropriate limit is measured: • at a location other than an area prescribed by condition L4.2; and/or • at a point other than the most affected point at a location.	Not applicable	Refer comments above in L4.1	Not Triggered
L4.5	The noise limits set out in condition L42 apply under all meteorological conditions except for the following: a) Wind speeds greater than 3metres/second at 10 metres above ground level; or b) Stability category F temperature inversion conditions and wind speeds greater than 2metres/second at 10 metres above the ground level; or c) Stability category G temperature inversion conditions.	Not applicable	Refer comments above in L4.1	Not Triggered
L4.6	For the purposes of condition L4.5: a) Data recorded by a meteorological station (at a location to be negotiated with the EPA) must be used to determine meteorological conditions; and b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.	Not applicable	Refer comments above in L4.1 A weather station is located at Santos' Leewood property and historical weather data is available.	Not Triggered
L4.7	For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.	Not applicable	Refer comments above in L4.1	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
L5.1	Construction Activities: <u>Standard construction hours</u> Unless otherwise specified by any other condition of this licence, all construction activities are: a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday; b) restricted to between the hours of 8:00am and 1:00pm Saturday; and c) not to be undertaken on Sundays or Public Holidays	Site inspection and interviews with Santos personnel.	No well construction activity was taking place at the time of the audit. Santos advised that the construction work for DWH 30 and 31 lease pads was carried out during standard hours except for three Saturdays where work continued until to about 6:00 pm. The latter was in accordance with the exceptions to the standard construction hours as provided for in Condition L4.2 The construction of the southern gas flow line was only being conducted during day light hours.	Not Triggered
L5.2	Exceptions to standard construction hours The following activities may be carried out outside of the hours permitted by Condition L5.1: a) Construction work that causes LAeq(15minute) noise levels that are no more than 5dB above rating background level at any residence not subject to a private negotiated agreement, in accordance with the Interim Construction Noise Guideline (DECC, 2009); b) The delivery of plant, equipment and materials which is required to be delivered outside of the standard construction hours by Police and/or other authorised authorities; and c) Emergency work to avoid loss of life, damage to property and/or environmental harm. The licensee must on becoming aware of the need to undertake emergency work – notify the NSW Environment Protection Authority Environment Line on 131 555.	Site inspection and interviews with Santos personnel.	No construction activity was taking place at the time of the audit. Santos advised that the construction work for DWH 30 and 31 lease pads was carried out during standard hours except for three Saturdays where work continued until to about 6:00 pm. The latter was in accordance with the exceptions to the standard construction hours as provided for in Condition L4.2 The construction of the southern gas flow line was only being conducted during day light hours.	Not Triggered
L6.1	No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997. Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises	Site inspection and interviews with Santos personnel.	No offensive odours from the development site detected outside approved work activity areas	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.			
O1.1	OPERATING CONDITIONS: Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Site inspection and interviews with Santos personnel.	There was little to no activity being carried out in the Dewhurst development area at the time of the audit. The only waste being generated was the produced water from DWH wells 26 -29 and this is initially collected in an above ground storage tank at DWH 28 and subsequently transferred by underground pipeline to the Leewood water storage facility. There was no evidence of spillages and leakage of produced water and this water handling and transfer appears to be done in a competent manner. Operators are Cert III trained.	Compliant
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Site inspection and interviews with Santos personnel.	Surface plant and equipment infrastructure appeared to be well operated and maintained with no evidence of leaks and spillages and no adverse environmental impacts occurring outside leases boundaries. Santos advised that plant and equipment is regularly serviced and maintained and records kept and that operator training is also regularly carried out. Operators are Cert III trained.	Compliant
O3.1	All areas in or on the premises must be maintained in a condition that prevents or minimises the emission into the air of dust.	Site inspection and interviews with Santos personnel.	There was little or no activity being carried out in the Dewhurst development area at the time of the audit. All of the Dewhurst well leases pads are stable and partly rehabilitated and there was no evidence of windblown dust at any of the lease pads or from access tracks or roads.	Compliant
O3.2	Any activity in or on the premises must be carried out by such practicable means as to prevent or minimise the emission into the air of dust.	Site inspection and interviews with Santos personnel. PEMP, June 2018	There was little or no activity being carried out in the Dewhurst development area at the time of the audit. Santos advised that measures routinely use to control dust are in their Project Environmental Management	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
		Air Quality Management Sub Plan, Rev 2 June 2016	Plan (Air Quality Management Sub Plan) which they implement. Use of blue metal around pad, use of mulch around rehabilitation areas and minimise the exposed area around the pad.	
O3.3	Any plant in or on the premises must be operated by such practicable means as to prevent or minimise the emission of dust into the air.	Site inspection and interviews with Santos personnel.	There was little or no activity being carried out in the Dewhurst development area at the time of the audit. Santos advised that measures routinely used to control dust are in their Project Environmental Management Plan (Air Quality Management Sub Plan) which they implement.	Not Triggered
O4.1	An Emergency Response Plan must be developed which documents the procedures to deal with all types of incidents (eg spill, explosions or fire) that may occur at the premises or outside of the premises (eg during transfer) which are likely to cause harm to the environment.	Site inspection and interviews with Santos personnel.	Santos has developed and implements an Incident Management Plan along with Field Emergency Response Procedures which are reinforced to staff and contractors through pre- start discussions and induction processes.	Compliant
O5.1	The licensee must ensure that waste identified for recycling is stored separately from other waste.	Site inspection and interviews with Santos personnel.	There was little or no activity being carried out in the Dewhurst development area at the time of the audit and no waste being generated other than produced water from Dewhurst 26-29 wells. Santos has developed and implements a Waste Management Plan that adopts the waste management hierarchy principles. No waste is storage at any of the well pads with all waste material removed from site and disposed/sorted at Narrabri Operations Centre.	Not Triggered
O5.2	The licensee must ensure that any liquid and/or non-liquid waste at the premises is assessed and classified in accordance with the DECC Waste Classification Guidelines as in force from time to time.	Site inspection and interviews with Santos personnel.	Santos implements a Waste Management Plan which requires a waste inventory and waste type to be categorised.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
O5.3	Waste must be classified in accordance with the EPA Waste Classification Guidelines as in force from time to time prior to dispatching from the premises.	Waste and Resource Management Sub Plan, Rev 02, Reviewed June 2016 Site inspection and interviews with Santos personnel.	Santos advised that all operational wastes are collected at the Narrabri Operations Centre for sorting in accordance with the classification, apart from produced water which is transported directly to Leewood. Auditor viewed waste segregation bins at the Narrabri Operations Centre.	
O5.4	All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.	Site inspection and interviews with Santos personnel.	At the time of the audit there was only one above ground tank being used and this was at DWH 28 and is used to collect produced water from the DWH 26- 29 wells before the water is transferred to the Leewood Facility. This tank can hold 22,000 litres and is bunded and the latter holds 110% capacity of the tank. Petroleum products stored and used in the Dewhurst development area is diesel which is stored in two small 6,000 litre double skinned storage containers one at DWH 28 and the other at DWH 29. These tanks comply with AS1940.	Compliant
O6.1	A Soil and Water Management Plan (SWMP) must be prepared and implemented in accordance with the requirements outlined in Managing Urban Stormwater: Soils and Construction, Vol 1, 4th Edition (Landcom, 2004) within 3 months from the issue date of this licence.	Soil and Surface Water Management Sub Plan, Rev 02, Reviewed June 2016 Site inspection and interviews with Santos personnel.	Santos as part of their Project Environmental Management Plan implements a Soil and Surface Water Management Sub Plan. The Sub Plan includes mitigation measures and requires site specific Erosion and Sediment Control Plans to be prepared and implemented for each lease area and these were sighted during the audit.	Compliant
O6.2	The SWMP must include, but is not limited to, the following: a) a discussion around the management of existing and future sediment basins, specifically, how these will be managed to prevent pollution, and b) a description of the measures taken to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters for the duration of the licence.	Soil and Surface Water Management Sub Plan, Rev 02, Reviewed June 2016	Refer O6.1 above	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
O6.3	The SWMP should also refer to relevant Volume 2 guidance including but not limited to Managing Urban Stormwater: Soils and Construction – Volume 2a Installation of Services and Managing Urban Stormwater: Soils and Construction – Vol 2c Unsealed Roads.	Soil and Surface Water Management Sub Plan, Rev 02, Reviewed June 2016 – SSWMP-1	Confirmed that the Soil and Surface Water Management Sub Plan contains action with regards to the preparation of Erosion and Sediment Control Plans in accordance with the Blue Book.	Compliant
O6.4	The SWMP must be updated to reflect the proposed irrigation of treated water at the premises, prior to irrigation occurring.	Soil and Surface Water Management Sub Plan, Rev 02, Reviewed June 2016 Produced Water Management Plan - PEL238 PAL2 PPL3, May 2017	The Produced Water Management Plan, PEL238 PAL2 PPL3, May 2017 contains an outline of the produced water production and management system employed by Santos. Soil and Surface Water Management Sub Plan, Rev 02, provides a cross reference to the Produced Water Management Plan (section 1.2.3) and should be read in conjunction with the approved plans	Compliant
O6.5	The licensee must manually operate the high point vents and low point drains on the water and gas gathering piping networks at the premises.	Site inspection and interviews with Santos personnel.	Drain valves for high point vents and low point drains are locked and only opened manually.	Compliant
O6.6	The quantity of treated water applied to the utilisation area(s) must not exceed the capacity of the utilisation area(s) to effectively utilise the water. For the purpose of this condition, “effectively utilise” includes the use of the water for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic loads and the applied organic material without causing harm to the environment.	Produced Water Management Plan - PEL238 PAL2 PPL3, May 2017 Site inspection and interviews with Santos personnel.	The irrigation activities operate under an Irrigation Management Plan (IMP) that includes soil and groundwater monitoring probes within the irrigation area. At the time of the audit, the irrigation area was not operational.	Compliant
O6.7	Treated water application to the utilisation area(s) must not occur in a manner that causes surface run-off from the utilisation area(s).	Site inspection and interviews with Santos personnel.	The irrigation activities operate under an Irrigation Management Plan (IMP) that includes soil and groundwater monitoring probes within the irrigation area. At the time of the audit, the irrigation area was not operational, and hadn’t been operational since 06/02/18.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Site inspection and interviews with Santos personnel.	Monitoring results data is kept in Santos' data base (EQUIS).	Compliant
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Site inspection and interviews with Santos personnel.	Monitoring results data is kept in Santos' data base (EQUIS) and Santos advised that this monitoring information can be made available to an authorised EPA officer on request	Compliant
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Site inspection and interviews with Santos personnel.	Monitoring results data is kept in Santos' data base (EQUIS) and Santos advised that the information listed in this condition is captured in the database.	Compliant
M2.1	For each monitoring/discharge point or utilisation area specified in condition M2.2 (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	Site inspection and interviews with Santos personnel.	All monitoring has been carried out in accordance with the requirement of the conditions.	Compliant
M2.2	Water and/ or Land Monitoring Requirements <i>Refer to the licence for these monitoring requirements as they are too extensive to list in this spreadsheet</i>	Site inspection and interviews with Santos personnel.	This condition identifies monitoring points, pollutants to be monitored, monitoring frequency and sampling method. Verified that monitoring results/data is kept in Santos' data base (EQUIS) and Santos advised that the information listed in this condition is captured in the database. Report submitted on 29/06/18	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
M2.4	The monitoring frequency specified for monitoring point 77 (LWWTPDM1) commences upon the completion of the commissioning stage for the Water and Brine Treatment Plant as outlined in document titled “Energy NSW – Leewood Phase 2 – Water Treatment Plan” dated 19 November 2015.	Site inspection and interviews with Santos personnel.	Verified that results from monitoring point 77 is included in the annual return.	Compliant
M5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Site inspection and interviews with Santos personnel.	Santos advised that they have not received any complaints from activities carried out in the Dewhurst development area. Santos keeps a record of a complaints in an online data base called <i>Consultation Manager</i>. There is a similar requirement in the conditions of the Development Consent issued under the <i>Environmental Planning and Assessment Act 1979</i> to have a complaints register that has to be updated monthly and made publicly available in the event of a complaint. Santos provide a monthly update via the project website as to the number of complaints received.	Not Triggered
M5.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Site inspection and interviews with Santos personnel.	Santos advised that they have not received any complaints from activities carried out in the Dewhurst development area. Verified that the information required to be kept (a) to (f) is kept in <i>Consultation Manager</i>.	Compliant
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Site inspection and interviews with Santos personnel.	Santos advised that they have not received any complaints from activities carried out in the Dewhurst development area.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them	Site inspection and interviews with Santos personnel.	Santos advised that they have not received any complaints from activities carried out in the Dewhurst development area.	Not Triggered
M6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	1800 071 276 narrabrigasproject.com.au	Verified that the 1800 number is active. In 2017/18 a total of nine calls have been received to the 1800 number.	Compliant
M6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Site inspection and interviews with Santos personnel. narrabrigasproject.com.au	Verified that the 1800 number is located on the project website under contacts > complaints line The 1800 number is also printed at the bottom of all project fact sheets.	Compliant
M6.3	The preceding two conditions do not apply until: the date of the issue of this licence.	1800 071 276 narrabrigasproject.com.au	Santos verified that the 1800 number is active.	Compliant
M7.1	For each discharge point or utilisation area specified below, the licensee must monitor: a) the volume of liquids discharged to water or applied to the area; b) the mass of solids applied to the area; c) the mass of pollutants emitted to the air; d) at the frequency and using the method and units of measure, specified in the condition. POINT 69,70,71,72,73,74,75,76 Frequency: Continuous Unit of Measure: Megalitres Sampling Method: Level sensor and continuous logger	Not applicable	The discharge points listed in the condition relate to the Bibblewindi, Leewood and Tintfield water storage facilities and which are outside the Dewhurst development area.	Not Triggered
M8.1	The licensee must operate a Leak Detection And Repair (LDAR) Program for all relevant components of plant and equipment in order to detect gas leaks.	Well integrity and control plan (0011-289-IMP-0001, Rev1)	Santos has developed and implements a Leak Detection and Repair Program using various technologies for the whole Narrabri Gas project area	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
		Verified use of leak detection camera. Site inspection and interviews with Santos personnel.	which includes the Dewhurst development project area. No gas leaks were detected at any of the Dewhurst wells related to this Development Consent in this audit.	
M8.2	The Leak Detection and LDAR with a method that is to be negotiated between the licensee and the EPA by 30 July 2014.	Site inspection and interviews with Santos personnel.	Santos advised that it has prepared a draft Leak Detection and Repair Program which it currently implements. Santos advised that the program methodology has been agreed with the Department, however the frequency as still being discussed.	Not Triggered
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliant, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliant – Licence Conditions, 4. a Statement of Compliant – Load based fee, 5. a Statement of Compliant – Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliant – Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliant – Environmental Management Systems and Practices. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.	c	The anniversary date of this EPL is 1 May each year which is also the reporting period end date for information required to be provided in the Annual Return. The Annual Return for the 2017/18 reporting period was submitted to the EPA on 29/06/18	Compliant
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.	Annual Return – Lic# 20350 01-May-2017 to 30-Apr-2018	There were no exceptions needed from the required reporting period	Not Triggered
R1.3	Where this licence is transferred from the licensee to a new licensee:	Not applicable	This circumstance of the licence having to be transferred has not yet arisen.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. Note: An application to transfer a licence must be made in the approved form for this purpose.			
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or in relation to the revocation of the licence - the date from which notice revoking the licence operates.	Not applicable	The licence is still current.	Not Triggered
R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Site inspection and interviews with Santos personnel.	Reporting period 01/05/17 to 30/04/18, report was hand delivered to Goulburn Street Office on 25/06/18.	Compliant
R1.6	Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify: a) the assessable pollutants for which the actual load could not be calculated; and b) the relevant circumstances that were beyond the control of the licensee	Site inspection and interviews with Santos personnel.	Reporting period 01/05/17 to 30/04/18, report was hand delivered to Goulburn Street Office on 25/06/18.	Compliant

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
R1.7	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Site inspection and interviews with Santos personnel.	Verified that all Annual Returns are kept on Santos' internal "ComTrack" data base.	Compliant
R1.8	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Annual Return – Lic# 20350 01-May-2017 to 30-Apr-2018	Annual Return certified and signed 18/06/2018	Compliant
R2.1	Notification of environmental harm Notifications must be made by telephoning the Environment Line service on 131 555. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	Not applicable	Santos advised that there have been no incidents that have caused or threatened material environmental harm and hence there has been no need to notify the EPA	Not Triggered
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Not applicable	Santos advised that there have been no incidents that have caused or threatened material environmental harm and hence there has been no need to notify the EPA	Not Triggered
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies),	Site inspection and interviews with Santos personnel.	Santos advised that no such requests have been received from the EPA	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
	the authorised officer may request a written report of the event.			
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	Not applicable	Santos advised that no such requests have been received from the EPA	Not Triggered
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and any other relevant matters.	Not applicable	Santos advised that no such requests have been received from the EPA at the time of the inspection	Not Triggered
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Not applicable	Santos advised that no such requests have been received from the EPA	Not Triggered
R4.1	The licensee must submit to the EPA updated spatial information with the Annual Return when there have been infrastructure changes to the licence as identified in condition A2.1. The information must be provided in an ESRI geodatabase or shapefile format or any ESRI compatible dataset in GDA94.	Not applicable	No changes have occurred to date.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
R4.2	The licensee must supply with the Annual Return a Groundwater Monitoring Report for groundwater monitoring points identified by this licence which provides: a) an analysis and interpretation of monitoring results and b) actions to correct any identified adverse trends.	Site inspection and interviews with Santos personnel.	Groundwater monitoring report was included the 2017/18 Annual Return submitted on 25/06/18.	Compliant
R4.3	The licensee must submit a brief summary report on the Leak Detection and Repair (LDAR) program with the annual return. The summary report must include, but may not be limited to: a) The total number of components inspected, as well as the number and percentage of minor, major and significant leaking components found by component types; b) The type of components and the scale of the leak for any equipment where leaks are found; c) The emission level of leaking equipment and emission level of re-check after leak was repaired; d) The repair responses and times as listed in the table below <i>NB To determine the scale of any leak and remedial action requirements refer to the Table in condition R4.3</i>	Site inspection and interviews with Santos personnel.	A Leak Detection and Repair Program summary report was included the 2017/18 Annual Return submitted on 25/06/18.	Compliant
G1.1	A copy of this licence must be kept at the mobile plant to which the licence applies	Site inspection and interviews with Santos personnel.	No drilling activity carried out at the time of the audit. Santos advised that copies of the licence are kept on drilling rigs and at the Narrabri Operations Centre.	Not Triggered
G1.2	A copy of this licence must be kept at the premises to which the licence applies	Site inspection and interviews with Santos personnel.	Santos advised that copies of the licence are kept on drilling rigs and at the Narrabri Operations Centre.	Compliant
G1.3	The licence must be produced to any authorised officer of the EPA who asks to see it.	Site inspection and interviews with Santos personnel.	Santos advised that copies of the licence will be made available to any authorised officer that requested a copy.	Not Triggered

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
G1.4	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Site inspection and interviews with Santos personnel.	Santos advised that copies of the licence are available to any employee or agent of the licensee that requests a copy.	Not Triggered
E1.1	The licensee must implement the following Liner Integrity Monitoring Program for the Tintsville Water Management Facility. 1) Operate the ponds in a 'duty' and 'standby' format until 31 December 2019 as described in the table below. 2) Inspect the liner of the standby pond by the deadlines specified in the table below. 3) The inspections must be conducted by a qualified third party. 4) The licensee must provide a minimum of seven (7) days' notice to the EPA before each transfer event. 5) Any perforations observed during the liner inspection program must be reported to the EPA before the close of business (5pm) on the day that they are observed. 6) The water level in the duty pond must also be recorded. 7) A report must be prepared and provided to the EPA within four weeks of the deadlines specified in the table below. The report must include the following: a) A summary of the findings of the liner inspection b) Photos of all identified defects c) Map showing locations of all defects d) Verification documentation for all repairs e) An assessment of the likelihood of identified defects resulting in leakage and extent of any leakage f) Historical operational use during the past reporting period including data detailing any additions or extractions from the pond for the preceding 12 months.	Site inspection and interviews with Santos personnel.	Santos advised that an inspection and report are in progress for the Tintsville Water Management Facility with the report due to be submitted by 13/01/19	Not Triggered.

REFERENCE	CONDITION	EVIDENCE	FINDINGS / RECOMMENDATION	COMPLIANCE STATUS
E1.2	By 15 December 2019, Santos will either; transfer the produced water to Leewood and take the Tintfield ponds out of service; OR have upgrade the ponds in Compliant with the NSW Government's Exploration Code of Practice: Produced water management, storage and transfer, including installing a double liner with sumps and real time leak detection.	Site inspection and interviews with Santos personnel.	Santos advised that all water from Tintfield ponds has been transferred to Leewood for disposal.	Complaint

END

Appendix B Planning Secretary audit team approval



Planning & Environment

Mr Ron Anderson
Principal Advisor Compliance
Santos NSW (Eastern) Pty Ltd
300 Yarrie Lake Road
NARRABRI NSW 2390

Contact: Heidi Watters
Phone: 02 6575 3401
Email: compliance@planning.nsw.gov.au
Our Ref: SSD 6038 (#1136)

Dear Ron

Dewhurst Gas Exploration Pilot Expansion (SSD 6038) – 2018 Independent Environmental Audit – Auditor endorsement

Reference is made to correspondence dated 11 September 2018 seeking the Secretary's endorsement for the auditor to undertake an Independent Environmental Audit (IEA) as required by Schedule 5 condition 8 of SSD 6038 (the consent) for the Dewhurst Gas Exploration Pilot Expansion.

Having considered the qualifications and experience of Mr Damien Taylor of SMEC, the Secretary endorses the appointment of Mr Taylor to undertake the IEA in accordance with Schedule 5 condition 8 of the approval.

In addition to the scope provided to the Department, the IEA shall be undertaken in accordance with Schedule 5 condition 8 of the consent, *AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing* and with consideration of the Department's *Independent Audit Post Approval Requirements* (June 2018).

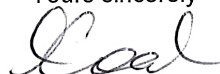
The IEA report is to:

- Include a summary of consultation with the Department and other agencies and stakeholders including the Community Consultative Committee;
- Only use the compliance status descriptors "compliant", "non-compliant" or "not triggered". The terms "partial compliance", "partial non-compliance", "not verified" or "administrative non-compliance" or other similar terms shall not be used; and
- Recommend actions to address each non-compliance identified and any additional opportunities for improvement.

As per Schedule 5 condition 9 of the consent, within six weeks of completing the IEA site inspection, or as otherwise agreed by the Secretary, Santos is to submit a copy of the IEA report to the Secretary, together with a response to any auditor recommendations (RAR). The RAR must include a target date (DD/MM/YYYY) for implementation for each action. Please submit the IEA report and RAR to compliance@planning.nsw.gov.au.

Should you need to discuss the above, please contact Heidi Watters, Senior Compliance Officer on the details provided above.

Yours sincerely

 19/9/18

Leah Cook
Team Leader Compliance
as nominee of the Secretary

Department of Planning and Environment
Level 1, Suite 14, 1 Civic Avenue, Singleton NSW 2330 | PO Box 3145 Singleton 2330 | T 02 6570 3400 | compliance@planning.nsw.gov.au
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Appendix C Independent Auditor Declaration

Project Name	Dewhurst Gas Exploration Pilot Expansion Project
Consent Number	SSD-6038
Description of Project	Petroleum exploration, assessment and production. The development includes the operation of the Dewhurst 13-18H Pilot and the Dewhurst 26-29 Pilot, including the Dewhurst 13-18H Extension and Dewhurst 30 and 31 Extension.
Project Address	Narrabri Gas Field, X-Line Road NARRABRI NSW 2390
Proponent	Santos NSW (Eastern) Pty Ltd
Title of Audit	Independent Environmental Audit
Date	09 January 2019

I declare that I have undertaken the Independent Audit and prepared the contents of the attached Independent Audit Report and to the best of my knowledge:

- the audit has been undertaken in accordance with relevant condition(s) of consent and the Independent Audit Post Approval Requirements (Department 2018);
- the findings of the audit are reported truthfully, accurately and completely;
- I have exercised due diligence and professional judgement in conducting the audit;
- I have acted professionally, objectively and in an unbiased manner;
- I am not related to any proponent, owner or operator of the project neither as an employer, business partner, employee, or by sharing a common employer, having a contractual arrangement outside the audit, or by relationship as spouse, partner, sibling, parent, or child;
- I do not have any pecuniary interest in the audited project, including where there is a reasonable likelihood or expectation of financial gain or loss to me or spouse, partner, sibling, parent, or child;
- neither I nor my employer have provided consultancy services for the audited project that were subject to this audit except as otherwise declared to the Department prior to the audit; and
- I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from payment for auditing services) from any proponent, owner or operator of the project, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Notes:

- (b) Under section 10.6 of the *Environmental Planning and Assessment Act 1979* a person must not include false or misleading information (or provide information for inclusion in) in a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is false or misleading in a material respect. The proponent of an approved project must not fail to include information in (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is materially relevant to the monitoring or audit. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000; and
- (c) The *Crimes Act 1900* contains other offences relating to false and misleading information: section 307B (giving false or misleading information – maximum penalty 2 years imprisonment or 200 penalty units, or both)

Name of Auditor	Damien Taylor
Signature	
Qualification	Bachelor of Science (Env) EMS Auditor, Exemplar Global, Certificate No. 105674 exp.15/02/2019
Company	SMEC (Australia) Pty Ltd
Company Address	Level 6, 480 St Pauls Terrace, FORTITUDE VALLEY QLD 4006

Appendix D Site inspection photographs



Photo 1:
Dewhurst 18H - disused well head and pad



Photo 2:
Dewhurst 18H – rehabilitation



Photo 3:
Dewhurst 17H - disused well head and pad



Photo 4:
Dewhurst 17H – rehabilitation



Photo 5:
Dewhurst 16 - disused well head and pad



Photo 6:
Dewhurst 16 – rehabilitation



Photo 7:
Dewhurst 15 - disused well head and pad



Photo 8:
Dewhurst 15 – access track and rehabilitation



Photo 9:
Dewhurst 14 – disused well head and pad



Photo 10:
Dewhurst 14 – groundwater monitoring x3 and telemetry
(screen at 213.794-219.794 mbTOC, 263.806-269.806 mbTOC, 63.854-69.854 mbTOC)



Photo 11:
Dewhurst 13 – disused well head and pad



Photo 12:
Dewhurst 13 – rehabilitation



Photo 13:
Dewhurst 26 – access track to well head and facilities



Photo 14:
Dewhurst 26 – rehabilitation



Photo 15:
Dewhurst 26 – Air quality monitoring station



Photo 16:
Dewhurst 26 – well head and facilities



Photo 17:
Dewhurst 27 – well head and facilities



Photo 18:
Dewhurst 27 – Rehabilitation, telemetry and CCTV



Photo 19:
Dewhurst 28 – Well head, flare and facilities



Photo 20:
Dewhurst 28 - 22,000 L produced water balance tank



Photo 21:
Dewhurst 28 – 22,000 L produced water balance tank



Photo 22:
Dewhurst 28 – Produced water balance tank, level sensors.



Photo 23:
Dewhurst 29 – Well head and facilities



Photo 24:
Dewhurst 29 – Gas and diesel generators (left/right respectively). 6,000 L diesel storage (white tank) with spill kit adjacent (yellow 240 L wheelie bin)



Photo 25:
Dewhurst 30 – Cleared pad with cellar installed



Photo 26:
Dewhurst 30 – drilling mud storage (hasn't been used)



Photo 27:
Dewhurst 31 – Cleared pad with cellar installed



Photo 28:
Dewhurst 31 – drilling mud storage (hasn't been used) and rehabilitation surrounding dam.



Photo 29:
Tighes Gully Road, Piliga State Forest - Construction of southern gas flow line



Photo 30:
Tighes Gully Road, Piliga State Forest - Active dust mitigation around construction area of southern gas flow line construction

END

**local people
global experience**

SMEC is recognised for providing technical excellence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.