

## Compliance audit program

### PPL1, PPL2, PPL4 and PPL5 – Camden Gas Project

AGL Upstream Investments Pty Ltd

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# 1. Introduction

## 1.1. Background

The Camden gas project comprised 5 petroleum production leases (PPL) as summarised in Table 1.

Table 1 Summary of petroleum production leases in the Camden gas project

Production Lease No.	Granted to	Date granted	Current lease holder	Comment
PPL1 (1991)	Sydney Gas (Camden) Operations Pty Ltd	2 September 2002	AGL Upstream Investments Pty Ltd	Title current in 2024
PPL2 (1991)	Sydney Gas (Camden) Operations Pty Ltd	10 October 2002	AGL Upstream Investments Pty Ltd	Title current in 2024
PPL4 (1991)	Sydney Gas (Camden) Operations Pty Ltd	6 October 2004	AGL Upstream Investments Pty Ltd	Title current in 2024
PPL5 (1991)	AGL Gas Production (Camden) Pty Ltd and Sydney Gas (Camden) Operations Pty Ltd	28 February 2007	AGL Upstream Investments Pty Ltd	Title current in 2024
PPL6 (1991)	AGL Gas Production (Camden) Pty Ltd and Sydney Gas (Camden) Operations Pty Ltd	29 May 2008	AGL Upstream Investments Pty Ltd	Relinquished in October 2024

All titles were transferred to AGL Upstream Investments Pty Ltd (AGL) in November 2010.

Collectively, the production leases were known as the Camden gas project. Across the project, 144 production wells were drilled, which produced gas for treatment at the Rosalind Park gas plant before being transported through a high-pressure sales pipeline to the Moomba-Sydney gas pipeline.

In February 2016, AGL announced it would progressively decommission wells and rehabilitate sites within the Camden gas project before ceasing production in 2023. Production ceased in August 2023. Of the 144 wells installed, there were only 6 well heads remaining in November 2024. Rehabilitation was completed and sites relinquished for many sites, with rehabilitation in progress or at monitoring stage for the remaining well sites where wellheads were removed.

The Rosalind Park gas plant was removed from the site and the area rehabilitated. It was noted the gas plant site, and the sales pipeline were excluded from PPL4 under the grant instrument. These sites were not included as part of the audit.

As part of the compliance audit program, an audit of the decommissioning and rehabilitation activities associated with the petroleum production operations on PPL1, PPL2, PPL4 and PPL5 was undertaken on 20 and 21 November 2024 by the Resources Regulator within the Department of Primary Industries and Regional Development and NSW Environment Protection Agency (EPA) as the lead regulator for petroleum.

## 1.2. Audit objectives

The objectives of the audit were to:

- undertake a compliance audit of the AGL Upstream Investments Pty Ltd petroleum production activities against the requirements of the *Petroleum (Onshore) Act 1991* and the conditions of the production leases issued pursuant to that Act.
- assess the operational performance of the production activities and the ability of the titleholder and/or operator to implement management systems and controls to provide for sustainable management and rehabilitation of the operations.

## 1.3. Audit scope

The scope of the audit included:

- the production activities associated with PPL1, PPL2, PPL 4, and PPL5 including rehabilitation of plugged and abandoned holes/wells on each title
- a review of documents and records pertaining to the production operations for the period commencing 20 November 2022 and ending 21 November 2024.

## 1.4. Audit criteria

The audit criteria against which compliance was assessed included:

- *Petroleum (Onshore) Act 1991*
- Petroleum (Onshore) Regulation 2016
- Conditions attached to PPL1 (granted 2 September 2002, renewal pending)
- Conditions attached to PPL2 (granted 10 October 2002, renewal pending)
- Conditions attached to PPL4 (granted 6 October 2004, renewal pending)
- Conditions attached to PPL5 (granted 28 February 2007)
- Note: conditions attached to each of the 4 PPLs were varied upon transfer dated 11 November 2010 – all titles operate on a standard set of conditions. These conditions were varied by an Instrument of Variation for each title dated 13 June 2023.
- Petroleum Operations Plan – Camden Gas Project – for the period 1 July 2023 to 30 June 2027, as approved 3 October 2023 (MAAG0016084)
- Code of practice for Construction, operation and decommissioning of petroleum wells (February 2023)
- Exploration reporting: A guide for reporting on exploration and prospecting in New South Wales (Version 3, October 2021 and Version 4, January 2022)

## 1.5. Publishing and disclosure of information

This audit report was published on the Regulator's website consistent with:

- Section 113M of the *Petroleum (Onshore) Act 1991*
- Resources Regulator's [Compliance publication policy](#)
- *Government Information (Public Access) Act 2009*.

## 2. Audit methods

The audit process involved interviewing site personnel, a review of documentation and samples of records provided by the lease holder and/or operator to determine the level of compliance of the operations and assess the status of the operational performance. The audit process and methodology are described in more detail in the sections below.

### 2.1. Opening meeting

An opening meeting was held onsite on 20 November 2024. The audit team, which included representatives from the Resources Regulator and the EPA, were introduced, and the scope of their responsibilities was conveyed to the auditees. The objectives and scope of the audit were outlined. The methods to be used by the team to conduct the audit were explained, including the interview of personnel, review of documentation, examination of records and a site inspection to assess specific compliance requirements.

### 2.2. Site interviews and inspections

#### 2.2.1. Data collection and verification

Where possible, documents and data provided during the audit process were reviewed electronically on the day. Several documents were unable to be reviewed on the day and were provided following the remote audit.

All information obtained during the audit process was verified by the audit team where possible. For example, statements made by site personnel were verified by viewing documentation and records, including site photographs, where possible. Where suitable verification could not be provided, this has been identified in the audit findings as not determined.

#### 2.2.2. Site inspections

A site inspection was undertaken of the following sites in PPL4 and PPL5:

##### PPL4

- Spring Farm 7 – workover rig was onsite plugging well
- Elizabeth Macarthur 5 – well was plugged, cut and capped and final rehabilitation in progress
- Glenlee 6 – well suspended and awaiting workover rig to be plugged and decommissioned
- Glenlee 9 – well suspended and awaiting workover rig to be plugged and decommissioned
- Menangle Park 16 and Menangle Park 25 – both wells on the same site, wells were plugged, cut, capped and final rehabilitation in progress
- Menangle Park 11 and Menangle Park 22 – both wells on the same site, wells were plugged, cut, capped and final rehabilitation completed
- Menangle Park 12 and Menangle Park 23 – both wells on the same site, wells were plugged, cut, capped and final rehabilitation completed

- Sugarloaf 2 - well was plugged, cut and capped and final rehabilitation in progress
- Menangle Park gas gathering line decommissioning – pipeline removed or left in situ as requested by landholder
- Rosalind Park gas gathering line decommissioning - pipeline removed or left in situ as requested by landholder

#### PPL5

- Menangle Park 1, Menangle Park 2 and Menangle Park 3 – all on the same site, wells were plugged and in 6 months monitoring period before being cut and capped, ready for final rehabilitation works to commence
- Menangle Park 9 – co-located with MP1, 2 and 3 above, well was ready to be cut and capped, and would be rehabilitated with MP1, 2 and 3.

## 2.3. Closing meeting

A closing meeting was held on site on 21 November 2024. The objectives of this meeting were to discuss any outstanding matters, present preliminary findings and outline the process for finalising the audit report.

## 2.4. Compliance assessment definitions

The reporting of results from the compliance audit was determined based on the definitions presented below in Table 2.

Table 2 Compliance assessment definitions

Assessment	Criteria
<b>Compliance</b>	Sufficient and appropriate evidence is available to demonstrate the particular requirement has been complied with.
<b>Non-compliance</b>	<p>Clear evidence has been collected to demonstrate the particular requirement has not been complied with. There are three subcategories of non-compliance reflecting the severity and level of risk associated with the non-compliance:</p> <p>NC1 – the absence of planning or implementation of a required operational element which has the potential to result in a significant risk.</p> <p>NC2 – an isolated lapse or absence of control in the implementation of an operational element which is unlikely to result in a significant risk.</p> <p>NC3 – an administrative or reporting non-compliance which does not have a direct environmental or safety significance.</p> <p>Note: The identification of a non-compliance in this audit may or may not constitute a breach of, or offence under, the <i>Petroleum (Onshore) Act 1991</i>. Non-compliances identified in this audit report may be further investigated by the Regulator and regulatory actions may be undertaken.</p>
<b>Observation of concern</b>	Where an auditee may be compliant at the time of the audit but there are issues that exist that could result in the potential for future non-compliance if not addressed.

Assessment	Criteria
	Observation of concern was also used where an issue may not have particular compliance requirements, but which was not conducive to good management or best practice.
<b>Suggestion for improvement</b>	Where changes in processes or activities inspected or evaluated at the time of the audit could deliver improvement in relation to risk minimisation, sustainable outcomes and management practices.
<b>Not determined</b>	<p>The necessary evidence has not been collected to enable an assessment of compliance to be made within the scope of the audit.</p> <p>Reasons why the audit team could not collect the required information include:</p> <ul style="list-style-type: none"> <li>insufficient information on the file relating to the period covered by the audit or insufficient evidence collected to reach a conclusion</li> <li>the wording on the criteria (approval condition) meant that no evidence could be gathered, or it was too difficult to gather the evidence.</li> </ul> <p>A 'not determined' assessment was also made where the condition was outside the scope of the audit.</p>
<b>Not applicable</b>	<p>The circumstances of the authorisation or lease holder have changed and are no longer relevant (e.g. no longer mining, mining equipment and plant has been removed).</p> <p>An invoking element in the criteria was not activated within the scope of the audit.</p>

## 2.5. Reporting

Following completion of the audit, the audit checklists were completed, and audit notes were reviewed to compile a list of outstanding matters to be noted in the audit report. This report was prepared to provide an overview of the operational performance of the sites in relation to the decommissioning activities and identify any non-compliances or observations of concern noted by the auditors during the documentation review and interviews.

The draft audit report was forwarded to AGL for comment. Consideration was given to the representations made during the finalisation of the audit report as discussed in the audit findings.

## 3. Audit findings

### 3.1. Work program

Section 14 (1) of the *Petroleum (Onshore) Act 1991* required an application for a petroleum title to be accompanied by a proposed work program that:

- indicates the nature and extent of operations to be carried out
- sets out commitments relating to the conduct of those operations (such as the timing of the operations)
- provides for the carrying out of activities (such as community consultation and environmental management and rehabilitation) in connection with those operations.

Section 14 (2) identified the requirements for a work program for a petroleum production lease (PPL) was satisfied by providing a current development consent under the *Environmental Planning and Assessment Act 1979* for those petroleum production operations.

The 10 development consents relating to the Camden Gas Project were documented in section 1.3 and Appendix G of the approved Petroleum Operations Plan (POP). Sections 2 and 3 of the POP outlined the areas of operation and project phasing and described the environmental management and rehabilitation of the project.

### 3.2. Petroleum operations plan

Condition 2 of PPL1, PPL2, PPL4 and PPL5 required petroleum production operations to be carried out in accordance with an approved petroleum operations plan (POP).

AGL prepared a petroleum operations plan for the Camden Gas Project that was submitted to the Regulator for approval in May 2023. The POP described the ongoing production-related activities for the Camden gas project, focussing on the environmental management and rehabilitation of the 144 wells and associated infrastructure. The POP was approved by the Regulator in October 2023.

Section 3.3 of the POP stated *“the preferred method of final rehabilitation of the gas gathering system would be to purge with air and water to remove remaining gas, and then, unless otherwise agreed by the landowner, leave the valuable infrastructure in position for future beneficial use (by the landowner) and to prevent any further environmental disturbance. All gas gathering line marker posts would be removed from the surface. This method would be subject to consultation with the landowner.”*

An example of beneficial reuse of the gas gathering infrastructure was observed at the Elizabeth Macarthur Agricultural Institute (EMAI) where several wells were drilled and a gas gathering network was in place. After consultation with the EMAI, the gas gathering lines were left in situ after being purged to allow the EMAI to reuse the network as a water distribution system. The marker signs were removed but the marker posts remained on site at the request of the EMAI to identify the locations of the lines now used for water distribution. A signed written agreement between AGL and EMAI to leave the gas gathering lines and marker posts was sighted.

Examples of the different stages of well and infrastructure decommissioning and rehabilitation were viewed during the audit. Of the 144 wells installed during the project, only 6 remain suspended

with wellheads in place. The other 138 wells have either been rehabilitated and relinquished or are in various stages of the rehabilitation process.

The POP described the different rehabilitation models that were to be used to rehabilitate well sites depending on the final land use proposed. Examples of each rehabilitation model were viewed by the audit team during the site inspection.

### 3.3. Environmental management

Condition 1 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the project.

No evidence of environmental harm was observed at any of the sites inspected during the audit. AGL identified and assessed the environmental risks associated with its operations and documented this assessment in a risk register. An environmental management plan and associated subplans were developed to address the risks identified.

AGL implemented a ground disturbance permitting process for its operations, examples of which were reviewed by the audit team for a selection of wells inspected during the audit.

For example, the ground disturbance permit dated October 2024 for decommissioning and rehabilitation works at MP16 and MP25 included:

- a description of the works to be completed
- the assessments and approvals required to complete the works
- a risk assessment which identified the proximity to the Nepean River as a key risk.

The ground disturbance permit was reviewed by the AGL environmental advisors and conditions attached to the permit to address the risks identified. For example, the existing silt fence between the works and the river was to be maintained, and topsoil imported for the rehabilitation works was required to be virgin excavated natural material (VENM). During the site inspection, the sediment fence was observed to be in place, with AGL staff indicating the sediment fence was replaced rather than retained due to the age and condition of the existing fence. Topsoil was imported to the site and certification was obtained from the supplier to confirm it met the requirements for VENM.

### 3.4. Commercial production, well drilling and assessment

Condition 13 of PPL1, PPL2 PPL4 and PPL5 required the lease holder to notify the Director-General when commercial production commences. Production commenced in 2001, beyond the scope of the audit. Production operations ceased in August 2023.

Condition 15 of the PPLs required a daily report to the Director-General while a drilling activity was taking place. A weekly progress report was also required. No drilling activities were undertaken on any of the PPLs during the audit scope period. Condition 15 was not triggered, and reports were not required.

Condition 16 of the PPLs required the submission of a monthly report outlining the gas flow rates and gas composition for each well connected to the gathering system, and the total gas flow to the Rosalind Park gas plant. Monthly production reports were submitted to NSW Resources while the

Camden gas project was operational. Reports were available in department records for the audit scope period from November 2022 until August 2023 when commercial production operations ceased. Reports were not required after the cessation of production operations.

## 3.5. Decommissioning

### 3.5.1. Notification of activities

Section 72 of the *Petroleum (Onshore) Act 1991* set out the prescribed distances within which the written consent of the owner of the property (or in the case of a dwelling, the written consent of its occupant) was required for any prospecting or mining operations. The prescribed distances were:

- within 200 metres of a dwelling-house which is the principal place of residence of the person occupying it
- within 50 metres of a garden, vineyard or orchard
- land on which any significant improvement exists, other than an improvement constructed or used for mining or prospecting operations.

When the wells were installed, there were generally no dwellings or other infrastructure within the prescribed distances. AGL had agreements in place with the original owners when the wells were drilled but residential development has since encroached on some wells to the point where decommissioning activities have taken place within the prescribed distances. As outlined below in relation to condition 8 of the leases, AGL notified residents of the decommissioning activities. A review of the minutes of the Community Consultative Committee confirmed AGL provided the committee representatives with quarterly project updates, including current and planned well decommissioning activities. Informative signage was observed at the well entry gates of the well decommissioning activities inspected during the audit. During the well decommissioning activities throughout the audit period, AGL said it did not receive any community complaints or enquiries for further information. However, the written consent of any landowner or occupant within the prescribed distances was not obtained before the start of the decommissioning works. This was a non-compliance against section 72 of the Act and was raised as non-compliance 1. The non-compliance was an administrative non-compliance and was ranked NC3. The Regulator considered the circumstances of the case and resolved to take no further action in relation to the non-compliance.

Condition 8 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to provide reasonable notice of disturbing activities to potentially affected parties prior to the commencement of activities on site. Where necessary, the lease holder must accommodate reasonable requests for limited rescheduling of activities.

AGL implemented a notification process for the well decommissioning activities. For example, for the decommissioning of wells Spring Farm 1, 3, 7, 8 and 9, a notification letter was prepared and letter box dropped to over 400 residents in the Spring Farm area in August 2024. Evidence was also available to demonstrate AGL had rescheduled decommissioning activities to accommodate landholder requests.

Condition 14 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to inform the authority in control of any utilities where any activities had the potential to impact those utilities in any way. AGL staff said utilities were generally not impacted by the decommissioning activities, but discussions were held with Jemena in relation to a gas pipeline to confirm no impacts.

### 3.5.2. Gathering pipelines

Condition 7 of PPL1, PPL2 PPL4 and PPL5 required (among other things) gas gathering lines not be abandoned except in a manner approved by the Director-General. It was noted the process for decommissioning of the gas gathering lines was described in the POP approved by the Regulator in October 2023. It was understood a high-risk activity notification under the work health and safety legislation was not required for the abandonment of the gas gathering lines.

As described in the POP, the low-pressure gas gathering lines were left in the ground unless removal was specifically requested by the landowner.

### 3.5.3. Gas wells

The lease conditions for PPL1, PPL2, PPL4 and PPL5 were amended by an instrument of variation dated June 2023 which replaced conditions 6, 9, 10 and 12 with one condition requiring the lease holder to design, construct, operate, maintain and decommission all petroleum wells in accordance with the Code of practice for construction, operation and decommissioning of petroleum wells published by Department of Regional NSW in February 2023 (2023 code).

It was noted some wells were abandoned under the previous code of practice for coal seam gas: well integrity (2012) (2012 code), because application to abandon those wells was made and approved under 2012 code. Given the stage of the project, the audit focussed on the sections of the codes of practice related to decommissioning. The requirements for well decommissioning were covered in section 2.12 of the 2023 code, and section 4.9 of the 2012 code.

It was noted wells to be decommissioned required a high risk activity (HRA) notification to be submitted to the Regulator under the Work Health and Safety (Mines and Petroleum Sites) Regulation 2022.

Several examples of suspended and decommissioned wells were inspected during the audit (Figure 1, Figure 2 and Figure 3). A workover rig was in operation for plugging and decommissioning activities at well site Spring Farm 07 (Figure 4). A detailed assessment of compliance against the code requirements was completed for two of the wells inspected.

Figure 1: Suspended well Glenlee 6 – to be plugged and decommissioned in 2025



Figure 2: Suspended well Glenlee 9 – to be plugged and decommissioned in 2025



Figure 3: Wells Menangle Park 1, 2, 3 and 9 - all wells plugged and decommissioned awaiting cut and cap



Figure 4: Workover rig on well site Sugarloaf 7 - plugging and decommissioning in progress



Well MP12 was decommissioned under the 2023 code. Evidence was available during the audit to confirm compliance with the mandatory requirements. For example:

- A casing vent flow test was conducted and was documented in attachment 6 of the decommissioning report for the well. AGL had a documented procedure for the vent flow test.
- The absence of pressure/flow was confirmed. The well had no history of annular pressure and as such cut and cap was undertaken after the workover rig completed cementing the well. It was noted there were some other wells in the Camden Gas Project that required 6 monthly additional wellhead monitoring post final remedial cementing given the presence of annular pressure prior to decommissioning.
- Downhole equipment that could be practicably removed from the well was removed as detailed in the daily report.

- The well was sealed and filled in a manner that prevented leak of fluids; that is a bridge plug was set inside the casing, with the casing plugged with cement back to surface. This was documented in the daily work reports and a cement evaluation log for the well supported the isolation of the production casing annulus.
- Cement was used as the primary sealing material. The cement type was tested in accordance with API RP 10B-2 and ISO 10426-2. The cement lab test report was included in Attachment 7 of the decommissioning report. The lab test report was noted to be from 2017. A newer lab test dated 2022 was supplied by AGL upon request from the auditor. As suggestion for improvement one, AGL should consider including the most up to date, relevant cement lab test as an attachment in the well decommissioning report.
- Cement was not placed in plugs of more than 200 metres in length. This was stipulated in the decommissioning work program for the well and confirmed in the daily work reports.
- The well was topped up with cement to surface, evidence of this was included in the daily work reports as well as in Attachment 2 of the well decommissioning report.
- Cement was placed such that there was a continuous barrier greater than 30 metres adjacent to the cap rock overlying the target coal seam. Supporting evidence for this was noted from the daily work reports as well as the cement evaluation log included as Attachment 8 in the well decommissioning report.
- Two adjacent cement barriers were present across all aquifers above the Bulli Coal Seam (uppermost hydrocarbon zone), as confirmed in the daily work reports and cement evaluation log for the well.
- The production casing was cemented to surface from a bridge plug set down towards the production casing shoe. As documented in the daily work reports, the lower most plug was tagged with 6000 lbs of string weight. This plug was pressure tested to 923 psi. Copies of pressure tests were included as Attachment 5 of the well decommissioning report.
- Given that the well was cemented from the top of the installed bridge plug to surface, cement plug height (either being too high or low) was not an issue.
- The blow out preventors (BOPs) were removed after the cement plug above the bridge plug had been verified.
- The wellhead was removed, and the casing cut 1.5 metres below surface. A steel wellhead marker plate was installed with the name, total well depth, spud date and decommissioning date on it. Evidence of this was noted in Attachment 2 of the well decommissioning report.
- Records of the decommissioning process were kept, and these were used during the audit process to verify compliance.

Well MP16 was decommissioned under the 2012 code. Evidence was available during the audit to confirm compliance with the requirements of the code. For example:

- Approval was granted for the abandonment on 30 August 2021.
- The well was sealed with cement from total depth to surface. The annulus seal was supported with a cement evaluation log, included as Attachment 8 in the well decommissioning report.

- Cement was used as the primary sealing material. The cement type had been tested in accordance with API RP 10B-2. The cement lab test report was included in Attachment 7 of the decommissioning report. The lab test report was noted to be from 2017. A newer lab test dated 2022 was supplied by AGL upon request from the auditor (see suggestion for improvement 1).
- Cement plugs were pumped in lengths greater than 200 metres, however this was in a cased hole and was acceptable under the 2012 code. The first plug across the surface casing was not tested however, it was noted in AGL's approved decommissioning application that *"AGL notes that the requirement to perform pressure test of the first cement plug across the surface casing shoe only applies where the surface casing is the last level of casing before open hole, whereas if there is production casing then the requirement is to pressure test the first cement plug to cover the open hole or uppermost perforation. That is, in either case, the first cement plug that covers open hole or uppermost perforation will be pressure tested to ensure integrity of the cement plug in sealing the well."* This is adhered to the intention of the code in section 4.3(f) and aligns with 4.3(g).
- As documented in the daily work reports the BOPs were not removed until the cement plug above the perforations was verified.
- The wellhead was removed, and the casing cut 1.5 metres below surface. A steel wellhead marker plate was installed with the name, total well depth, spud date and decommissioning date on it. Evidence of this was noted in Attachment 2 of the well decommissioning report.
- Records of the decommissioning process were kept, and these were used during the audit process to verify compliance.

### 3.6. Rehabilitation

Condition 5 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to rehabilitate all disturbed land to the satisfaction of the Director-General. Environmental management and rehabilitation requirements were included in the planning consents, the environment protection licence and the AGL environmental management system. An environmental management plan was prepared for the Camden gas project which was supplemented with a suite of sub-plans for specific issues. This included a rehabilitation and landscape management sub-plan.

An overview of the rehabilitation process was included in section 3 of the POP. Rehabilitation works typically included:

- removing plant, equipment and fenced compounds from well surface locations and gas gathering systems
- filling in excavated areas and trenches
- sealing, plugging and abandonment of wells
- lightly ripping disturbed areas
- rehabilitation, contouring, resspreading stored topsoil, and revegetating disturbed areas.

Different rehabilitation models were used depending on the rehabilitation objective and final land use for each well site. Examples of rehabilitation of sites using the different rehabilitation models were inspected during the audit as shown in Figures 5 to 10.

In areas where the gas gathering systems were removed, rehabilitation was completed using a rural pasture rehabilitation model. Sections of pipeline removal on the Menangle Park and Rosalind Park gas gathering systems were inspected during the audit as shown in Figures 11 and 12. A rural pasture rehabilitation model was used in each case.

Figure 5: Well site SL2 - well was cut and capped and final landform shaping was in progress



Figure 6: Well site SL2 - grassed topsoil stockpiles waiting to be respread on final landform



Figure 7: Well sites MP11 and MP22 - rehabilitation completed using an industrial rehabilitation model



Figure 8: Well sites MP16 and MP25 - rehabilitation in progress using a rural pasture rehabilitation model



Figure 9: Well sites MP12 and MP23 - rehabilitation completed using a rural pasture rehabilitation model



Figure 10: Well site EM5 - rehabilitation in progress using a native tree rehabilitation model



Figure 11: A section of the Rosalind Park gas gathering system where pipelines were removed, and the area rehabilitated



Figure 12: A section of the Menangle Park gas gathering system where pipelines were removed, and the area rehabilitated



Rehabilitation objectives and completion criteria were documented in Appendix F of the POP. The AGL rehabilitation and landscape management sub-plan included an audit tool which was used to monitor the progress of rehabilitation at each well site. Quarterly walk-over rehabilitation inspections were completed, and any issues of concern were documented for further action.

The rehabilitation and relinquishment reports prepared at the completion of rehabilitation contained a checklist which assessed the rehabilitation against the relevant completion criteria, depending on the rehabilitation model used. Monitoring photos and plug and abandonment reports were provided as part of the relinquishment reports. Examples of relinquishment reports were reviewed during the audit including reports for wells Elizabeth Macarthur 19, Kay Park 5, Mount Taurus 3, and Rosalind Park wells 2, 3 and 6.

All well relinquishment requests received by the Regulator were referred to the EPA. EPA officers undertook inspections of the rehabilitated areas to confirm completion criteria were achieved.

### 3.7. Security deposit

Condition 18 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to lodge a security deposit for the purpose of ensuring the fulfilment of obligations under the lease. AGL held a group security deposit that covered obligations for PPL1, PPL2, PPL4, PPL5 and PPL6.

During operations, the security deposit required was \$26,269,000, which department records confirm was held by the Regulator. AGL was progressively decommissioning and rehabilitating wells since the 2016 announcement to cease operations in 2023. Rehabilitation and relinquishment reports were progressively submitted to the Regulator for approval once the rehabilitation objectives and completion criteria were achieved for each site. This progressive relinquishment saw the security deposit decrease over time as each relinquishment was approved. The security deposit required for the remaining wells yet to be relinquished is \$16,240,000. Department records confirmed this amount was held by the Regulator.

### 3.8. Overlapping coal mining titles

Condition 11 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to undertake operations with regard to identifying, managing and minimising the impact of activities on the potential mineability of coal seams. The department may also request all geological data in relation to the drilling of petroleum wells in the area.

Condition 19 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to make reasonable attempts to enter into a co-operation agreement with the holder(s) of any overlapping coal titles.

AGL said steel casing in vertical wells or deviated wells was milled out across the coal seams, but milling was not undertaken for horizontal wells. Liaison with NSW Geological Survey was undertaken for the northern coal allocation area and detailed information was provided, including co-ordinates for any steel casing remaining.

A review of NSW Resources data indicated mining leases ML1832, ML1847 and ML1874, held by Illawarra Coal Holdings Pty Ltd (Illawarra Coal), overlapped with PPL4. AGL negotiated a co-operation deed with Illawarra Coal with the latest version of this deed dated March 2022. The deed was observed to contain information on:

- the location and types of wells in the area
- survey co-ordinates for all holes
- details of where steel casing was removed or left in situ for relevant wells.

AGL and Illawarra Coal held quarterly meetings to discuss concurrent operations.

### 3.9. Reporting

#### 3.9.1. Annual geoscientific reporting

Section 97C of the *Petroleum (Onshore) Act 1991* and clause 21 of the Petroleum (Onshore) Regulation 2016 required the lease holder to submit an annual report within one calendar month following grant anniversary date. The annual report was required to include:

- full particulars of all surveys and other operations and activities carried out during the preceding 12-month period
- details of expenditure on operations and activities carried out during the preceding 12-month period
- the results and conclusions of such surveys and any other operations
- the operations proposed to be conducted during the next 12-month period.

PPL1, PPL2, PPL4 and PPL5 were granted at different times and would generally have different reporting dates. AGL negotiated an agreed annual reporting period of 1 September to 31 August with reports due by 1 October each year. A combined report was submitted for all 5 leases each year during the audit scope period as follows:

- Camden Gas Project – Annual (Geoscientific) Report including PPLs 1, 2, 4, 5 and 6 – report dated 6 September 2023.
- Camden Gas Project – Annual (Geoscientific) Report – PPL1, 2, 4, 5 and 6 – report dated 25 September 2024.

The reports generally followed the NSW Resources guideline ‘Onshore petroleum reporting and data submission - A guide to geoscientific reporting and data submission of onshore petroleum exploration and production in New South Wales’.

### 3.9.2. Partial relinquishment and final reporting

Section 97C of the *Petroleum (Onshore) Act 1991* and clause 23 of the Petroleum (Onshore) Regulation 2016 required the lease holder to prepare and submit a partial relinquishment report where the lease holder’s title was partially cancelled. Clause 24 required the preparation of a final report for a petroleum title where that title expired or was cancelled. In both cases, partial relinquishment and final reports were required to be submitted within one calendar month of the cancellation or expiry.

AGL was progressively decommissioning and rehabilitating production wells across the petroleum production leases. Areas of PPL1, PPL2, PPL4 and PPL5 were relinquished and cancelled by AGL during the audit scope period. Partial relinquishment reports were prepared and submitted as follows:

- Petroleum production lease (PPL) 5 – Partial relinquishment report – dated 9 December 2022.
- Petroleum production lease (PPL) 2 – Partial relinquishment report – dated 5 November 2024.
- Petroleum production lease (PPL) 1 – Partial relinquishment report – dated 5 November 2024.

Department records identified there was a partial cancellation of PPL1 in 2023, and 2 partial cancellations of PPL4 – one in 2023 and one in 2024. All 3 partial cancellations were for cancellation of the subsurface below 20 metres in selected areas of each PPL. There was no relinquishment of surface title associated with these partial cancellations and no reduction in surface area. No partial relinquishment reports were required for these part cancellations.

PPL6 was fully relinquished by AGL in October 2024. A final report for PPL6 was prepared and submitted to NSW Resources in November 2024.

The reports generally followed the NSW Resources guideline ‘Onshore petroleum reporting and data submission - A guide to geoscientific reporting and data submission of onshore petroleum exploration and production in New South Wales’.

### 3.9.3. Annual environmental management reporting

Condition 3 of PPL1, PPL2, PPL4 and PPL5 required the lease holder to prepare and submit an environmental management report annually. Reports were required to report against compliance with the POP and report progress in respect of rehabilitation completion criteria.

AGL had an agreed reporting period of 1 July to 30 June for all PPLs and a combined report was submitted each year for the Camden gas project as follows:

- Annual environmental performance report 2022-2023 – Camden Gas Project – submitted 28 August 2023.
- Annual environmental performance report 2023-2024 – Camden Gas Project – submitted 27 August 2024.

Review of the annual reports confirmed the requirements of the POP were addressed in section 5 of each report. The progress of decommissioning and rehabilitation was discussed in section 6 of each report.

## 3.10. Core and sample storage

Section 97G of the *Petroleum (Onshore) Act 1991* and Clause 29 of the Petroleum (Onshore) Regulation 2016 required the holder of an authority to, so far as is reasonably practicable, collect, retain and preserve:

- all drill cores remaining after sampling
- characteristic samples of the rock or strata encountered in any drill holes.

All core and samples collected were required to be labelled, stored and managed in a manner that preserved the integrity of the core or samples.

No new drilling was undertaken on PPL1, PPL2, PPL4 or PPL5 during the audit scope period. Drilling was last undertaken in 2013. Core and samples were collected during drilling operations and were offered to the department’s Londonderry Core Library. Core and sample storage was not inspected during the audit.

## 3.11. Record keeping

Sections 97D and 97E of the *Petroleum (Onshore) Act 1991* related to the creation and maintenance of records required under the Act, the regulations, or a condition of title. Records must be kept in a legible form for production to any inspector and must be maintained for a period of 4 years after the expiry or cancellation of the title.

Records reviewed during the audit demonstrated AGL was creating and maintaining records as required by the licence conditions. It was noted relevant documents and records were readily retrievable upon request.

Examples of records and documents reviewed included:

- Land access agreements
- GIS system
- AGL risk register
- Petroleum operations plan
- Environmental management plan and subplans
- Notification letters to residents advising of decommissioning activities
- Daily completion/workover reports
- Co-operation deed between AGL and Illawarra Coal Holdings Pty Ltd
- Monthly production reports (up to cessation of production in August 2023)
- Plug and abandonment reports
- Rehabilitation and relinquishment reports
- Annual geoscientific reports
- Partial relinquishment reports
- Final report (for PPL6)
- Ground disturbance permitting records
- SAP compliance system and SAP MyHSE systems
- Contractor management records (e.g. authority to mobilise forms).

## 4. Compliance management

### 4.1. Identifying compliance obligations

Identifying compliance obligations is a critical step in the development of an effective compliance management system. Compliance obligations for a project can include:

- regulatory requirements (for example, the *Petroleum (Onshore) Act 1991*)
- conditions imposed on the grant, renewal, or transfer of petroleum production leases
- specific commitments made by the organisation (for example, commitments made in the approved petroleum operations plan).

Once identified, compliance obligations should be reviewed periodically to identify any changes in those obligations (for example, changes in legislation).

AGL staff interviewed during the audit had a very good knowledge of the compliance requirements for the Camden gas project. The project team managing the decommissioning project included subject matter experts for each phase of the project. For example, the Subsurface Manager was very familiar with the requirements of the code of practice for decommissioning wells.

AGL was using the SAP Compliance software to identify, record and manage its compliance obligations. For example, reporting dates were entered into the SAP Compliance system which issued reminders in advance of the due dates to allow reports to be prepared and submitted on time.

Comprehensive and robust systems and processes were in place to manage the compliance obligations, and evidence was provided to the audit team to demonstrate implementation of these systems and processes.

### 4.2. Contractor management

Contractors are often used to undertake specialist tasks, for example, rehabilitation. Whilst the responsibility for compliance or the implementation of environmental controls is often passed to the contractor, the lease holder will retain accountability for compliance with its lease conditions and other compliance obligations. It is important that the lease holder exercises management control of its contractors by specifying contract requirements, providing oversight of contracted works, and evaluating the performance of the contractor during the contracted works.

AGL had systems in place to manage the work contracted to others. For minor or less complex works, an authority to mobilise process was implemented. The authority to mobilise form was completed by AGL to identify any specific requirements and then signed by the contractor to acknowledge those requirements before mobilising to site.

For more complex tasks or tasks with a longer timeframe, a detailed contract was developed which specified environmental, safety, and other compliance requirements to be met by the contractor. This was used in conjunction with the authority to mobilise process to manage the contracted works.

For both minor and more complex works done by contractors, AGL staff were on site to oversee and supervise the contracted works.

## 4.3. Inspections, monitoring and evaluation

An effective inspection, monitoring and evaluation process is required to:

- monitor the implementation of the risk controls
- evaluate the effectiveness of those controls based on an assessment of inspection and monitoring data
- implement an adaptive management approach if monitoring shows that controls may be ineffective.

Effective inspection and monitoring systems were observed to be in place for the decommissioning phase of the Camden gas project. AGL developed a series of inspection checklists and audit tools to document its inspection and monitoring programs. Examples of checklists and processes reviewed during the audit included:

- ground disturbance permitting process
- rehabilitation and landscape management audit tool
- quarterly rehabilitation inspection reports.

Formal evaluation of inspection and monitoring results were not always documented but lessons learnt were informally recorded and distributed to other AGL teams where appropriate. For example, issues associated with the plugging and decommissioning of Glenlee 4, and the lessons learned, were captured by the subsurface manager and discussed with other AGL operations, such as the Queensland operations.

In the rehabilitation process for some wells, it was identified there was a lack of topsoil resources to successfully complete the rehabilitation activities. From identification of this issue, AGL sourced suppliers for topsoil to be imported to the sites. This is an example of adaptive management, where rehabilitation processes were refined to ensure the rehabilitation objectives and completion criteria could be achieved.

As suggestion for improvement 2, AGL should consider the development of a formalised process for capturing lessons learnt, so that this information can be distributed and lessons learnt implemented on other AGL projects.

## 5. Audit conclusions

From the evidence reviewed during the audit, it was concluded the production, decommissioning and rehabilitation operations undertaken by AGL on PPL1, PPL2, PPL4 and PPL5 were well managed. Evidence was available to demonstrate comprehensive and robust systems and processes were developed to identify and manage compliance requirements. Records were maintained as required to demonstrate compliance.

AGL were compliant with the requirements of the production leases, the petroleum production operations plan, and the code of practice, for the elements reviewed during the audit. One non-compliance was identified during the audit as summarised in Table 3.

Two suggestions for improvement were identified as summarised in Table 4.

Table 3: Summary of non-compliances

Non-compliance No.	Description of Issue	Recommendation
1 (NC3)	AGL notified residents of the decommissioning activities. However, the written consent of any landowner or occupant within the prescribed distances was not obtained before the start of the decommissioning works. This was a non-compliance against section 72 of the Act.	No further action

Table 4: Summary of suggestions for improvement

Suggestion for Improvement No.	Description of Issue
1	AGL should consider including the most up to date, relevant cement lab test as an attachment in the well decommissioning report.
2	AGL should consider the development of a formalised process for capturing lessons learnt, so that this information can be distributed and lessons learnt implemented on other AGL projects.