



Figure 6: Location of KP06 well

### 3 STATUTORY CONTEXT

#### Section 75W

The proposed changes associated with the four modification applications would not change the purpose of the development for which the existing development consents and project approval were originally granted, namely gas extraction and gathering. The proposed modifications involve making minor changes to the location of gas gathering lines, constructing an access road to one well location and changing the subterranean nature of an approved gas gathering well. The Department is satisfied that the proposed changes can be properly characterised as modifications to the existing development consents and project approval, and can be assessed and approved under section 75W of the EP&A Act.

#### Approval Authority

The Minister was the consent authority or approval authority for the original development applications and project application. Consequently, the Minister is the consent authority or approval authority for the four modification applications. However, the Deputy Director-General, Development Assessment and Systems Performance may determine the application under the former Minister's delegation of 25 January 2010.

#### 4 CONSULTATION

The Department is not required to notify or exhibit applications under section 75W of the EP&A Act. Given the minor nature of the proposed modifications, the Department decided not to exhibit the four proposals. However, the Department has consulted with relevant government agencies, Campbelltown City Council and key stakeholders. Only one submission objected to the proposals, however others raised concerns and requested that specific conditions are included in any resulting notices of modification. A summary of issues raised during consultation is listed below.

*Table 2: Summary of submissions*

<b>Agency</b>	<b>Comments or issues raised</b>
<i>Campbelltown City Council (CCC)</i>	<ul style="list-style-type: none"> <li>• CCC raised concerns about the potential impacts on two Aboriginal archaeological sites from the proposed relocation of the gas gathering line between wells MP03 and MP05.</li> <li>• CCC also raised concerns about the potential impacts of the proposed gas gathering system between MP22 and SL02 on the heritage listed Sugarloaf farm.</li> <li>• For both proposed modifications involving gas gathering lines, CCC recommended that AGL install and maintain adequate erosion and sediment control measures prior to the commencement of works. CCC also recommended that AGL minimise vegetation clearing and undertake targeted Cumberland Land Snail surveys in areas of Cumberland Plain Woodland.</li> </ul>
<i>Department of Environment, Climate Change and Water (DECCW, now the Office of Environment and Heritage)</i>	<ul style="list-style-type: none"> <li>• In relation to the proposed relocation of the gas gathering line between MP03 and MP05, DECCW mentioned that there is the potential for impacts to Aboriginal heritage and threatened species, which must be managed appropriately.</li> </ul>
<i>NSW Office of Water (NOW, now part of the Department of Primary Industries)</i>	<ul style="list-style-type: none"> <li>• NOW had no objection to any of the proposed modifications, however it requested that water quality is protected and that riparian vegetation is subject to minimal disturbance.</li> <li>• NOW also requested that AGL be required to prepare a contingency strategy for events that have the potential to pollute surface water and groundwater sources, including trigger mechanisms and remediation actions.</li> <li>• In relation to the proposed construction and operation of an access road to MP03, NOW recommended conditions of approval to ensure that the proposed bed level crossing is constructed in accordance with appropriate NOW guidelines.</li> </ul>
<i>Road and Traffic Authority (RTA)</i>	<ul style="list-style-type: none"> <li>• For both proposed modifications involving gas gathering lines, RTA indicated that AGL must obtain consent under section 138 of the <i>Roads Act 1993</i> for the underboring of the Hume Highway and Menangle Road prior to commencing construction. RTA also recommended that any underboring be a minimum of 3 m in depth for the full width of the road corridors, and that underboring take place a minimum of 20 m from the road shoulder.</li> <li>• In relation to the proposed relocation of the gas gathering line between MP03 and MP05, RTA requested further consultation relating to the specifications of underboring near the Jim Affleck Bridge and proposed Spring Farm Link Road.</li> </ul>
<i>Botanic Gardens Trust</i>	<ul style="list-style-type: none"> <li>• The Botanic Gardens Trust objected to the proposed relocation of the gas gathering line between MP03 and MP05 as it would involve underboring a section of land at the southern end of the Australian Botanic Garden, Mount Annan. AGL and the Trust have been in ongoing consultation over the past year, and the two parties are currently finalising a land access agreement that will address the concerns raised by the Trust.</li> <li>• The key areas of concern include the potential impacts on planned infrastructure within the Botanic Garden, such as a cycleway and a playground, the potential introduction of pests, weeds or fungal pathogens, and the potential for ponding and erosion. The Trust also raised concerns about other potential impacts on flora, fauna and heritage features.</li> </ul>
<i>Heritage Branch (now part of the Office of Environment and Heritage)</i>	<ul style="list-style-type: none"> <li>• The Department's Heritage Branch considered that the existing European Heritage and Aboriginal Cultural Heritage Management Sub Plans are appropriate for dealing with potential heritage impacts from the modifications.</li> </ul>
<i>Sydney Catchment Authority (SCA)</i>	<ul style="list-style-type: none"> <li>• In relation to the proposed relocation of the gas gathering line between MP03 and MP05, SCA recommended conditions requiring mitigation measures to prevent structural damage to its Upper Canal metropolitan water supply infrastructure and consultation with SCA before underboring takes place.</li> </ul>
<i>Department of Industry and Investment (DII, now the Office of Energy and Resources)</i>	<ul style="list-style-type: none"> <li>• For both proposed modifications involving gas gathering lines, DII recommended that AGL be required to progressively rehabilitate the sites as soon as possible during operations, and prepare a Rehabilitation Plan outlining criteria for measuring and demonstrating success.</li> </ul>
<i>Integral Energy</i>	<ul style="list-style-type: none"> <li>• Integral Energy has no objections to the proposed modifications.</li> </ul>
<i>University of Western Sydney (UWS)</i>	<ul style="list-style-type: none"> <li>• UWS has no objections to the proposed modifications.</li> </ul>
<i>Landcom</i>	<ul style="list-style-type: none"> <li>• Landcom has no objections to the proposed modifications.</li> </ul>

## **5 ASSESSMENT**

### **5.1 Surface water**

The proposed gas gathering line between MP03 and MP05 would cross the Upper Canal water supply corridor by underboring. The Upper Canal is a critical public infrastructure item managed by SCA. It transfers raw bulk water from the Upper Nepean Dams to Prospect Reservoir and water filtration plant. SCA has no objections to the proposed gas gathering line but recommended conditions of approval relating to appropriate standards for construction, mitigation and monitoring of the underboring activities beneath the Upper Canal. The Department has taken these recommendations into account and proposes conditions requiring that underboring of the Upper Canal is undertaken to the satisfaction of SCA and must be monitored to ensure that the works proceed at a reduced force or load if vibration levels exceed 2.4 millimetres per second (mm/s), and must halt if vibration levels exceed 3 mm/s.

Although the proposed gas gathering routes do not cross any watercourses, the proposed access road includes a bed level crossing of a small tributary of the Bow Bowing Creek to the north of MP03. The Department has previously approved a Soil and Water Management Plan (SWMP) for the CGP that includes management and mitigation measures relating to soil erosion and sediment control. The approved SWMP also includes provisions relating to the construction of bed level crossings. AGL has committed to implement the measures listed under this SWMP, such as the installation of a filter fence on either side of the works and preventing stockpiling of soil within 5 m of the tributary.

NOW also recommended a condition of approval relating to the construction of this bed level crossing. The Department has taken this recommendation into account and proposes a condition requiring that design and construction of any watercourse crossing must be undertaken by a suitably qualified person in accordance with NOW's new *Guidelines for Watercourse Crossings* (2010).

Both NOW and the Department are satisfied that any potential impacts on surface water from the proposed modifications can be effectively managed and mitigated in accordance with the SWMP and the proposed conditions of approval.

### **5.2 Aboriginal heritage**

Biosis Research undertook site inspections for both the proposed relocation of the gas gathering route between MP03 and MP05, and the proposed construction of an access road to MP03. The site inspections involved participants from the Tharawal Local Aboriginal Land Council (LALC) and Cubbitch Barta Native Title Claimants Aboriginal Corporation (NTCAC).

The site inspection of the proposed access road identified one Aboriginal cultural heritage site (featuring two silcrete flaked artefacts) located within a disturbed area of the proposed road corridor. During the site inspection these artefacts were relocated to a location approximately 20 m away. This relocation was undertaken with approval of the Tharawal LALC and Cubbitch Barta NTCAC, and in accordance with the approved Aboriginal Cultural Heritage Management Plan (ACHMP).

The site inspection of the proposed gas gathering corridor identified two items of Aboriginal cultural heritage value at a site located within the proposed corridor on an already disturbed access track. The Aboriginal heritage assessment by Biosis Research recommended that both of these artefacts be collected and relocated prior to construction of the proposed gas gathering line in accordance with the ACHMP. The Tharawal LALC and Cubbitch Barta NTCAC have agreed with this recommendation. The Department is satisfied that the recommended collection and relocation would effectively manage the impacts of the proposed modification on the two Aboriginal cultural sites that have been identified.

Various other Aboriginal archaeological sites have previously been recorded in the vicinity of the proposed modifications, but they are located outside the proposed disturbance areas. Under the proposed modifications, these other sites would not be impacted.

### **5.3 Flora Impacts**

The Cumberland Plain Woodland (CPW) vegetation community was found within the proposed gas gathering corridor between MP03 and MP05 and within the proposed access road corridor to MP03. This vegetation community is identified as an Endangered Ecological Community (EEC) under the *Threatened Species Conservation Act 1995* (TSC Act) and is listed as endangered under the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The flora assessment for the proposed gas gathering route between MP03 and MP05 found that impacts to the CPW community would be minimal, since only a very small area (approximately 0.20 hectares)

would be impacted. The proposal would involve no removal of mature trees and removal of only a small number of juvenile trees.

The flora assessment for the proposed access road found that impacts to CPW would be minimal as the area of CPW is small, regenerating and has little or no understorey. Furthermore, the proposed access road would not require removal of any native trees. Consequently, the Department is satisfied that the impacts to CPW as a result of the modifications would be effectively managed through the mitigation measures outlined in the modification EAs and within the controls of the existing approval.

A survey of the proposed disturbance areas found no flora species listed as threatened under either the TSC Act or the EPBC Act. However, one threatened flora species (*Pimelea spicata*), previously recorded within a 10 km radius of MP03, was considered to have a moderate likelihood of occurrence. The fauna and flora assessment by Biosis Research considered it unlikely that the proposed development would have a significant impact on the species, due to the small size and degraded state of the site.

The proposed gas gathering corridor between MP22 and SL02 was surveyed as part of the existing project approval. The area has previously been heavily cleared and there were no species listed as threatened or endangered recorded. Consequently, the impacts on flora are not likely to be significant.

In summary, the Department is satisfied that potential impacts to EECs and threatened species are very small and can be adequately managed via AGL's proposed mitigation and the conditions of approval.

#### **5.4 The Australian Botanic Garden, Mount Annan**

The proposed gas gathering route between MP03 and MP05 would be located adjacent to the Australian Botanic Garden, Mount Annan, and would involve some underboring beneath an access track along the Garden's southern boundary.

The Botanic Gardens Trust originally objected to the proposed relocation of the gas gathering line due to a range of concerns including potential impacts on planned infrastructure within the Garden, and the potential introduction of pests, weeds or fungal pathogens. However, AGL and the Trust have been in ongoing consultation over the past year in relation to these concerns. The Department has recently spoken with a senior representative of the BGT and understands that negotiations are proceeding satisfactorily. The two parties are currently finalising a legal agreement regarding AGL's access to the Garden, which will address each of the concerns raised by BGT.

One of the key concerns raised by the Botanic Gardens Trust is the potential impact of this underboring on future infrastructure within the Botanic Garden, including a proposed playground and a possible cycleway. The Trust also raised concern about the potential disturbance of one CPW tree. AGL and the Trust have been in regular discussions about the proposed alignment of the gas gathering line. AGL has agreed to locate the gas gathering line so that it avoids the CPW tree, and minimises the impacts on future Garden infrastructure. The Department has proposed a condition of approval that requires any underboring works of the Garden to be done in consultation with, and to the satisfaction of, the Trust.

The Trust also raised concerns about the potential introduction of weeds (such as Chilean Needle Grass), or fungal and other pathogens (such as *Turpentine arboretum*). The survey conducted by Biosis Research did not record any Chilean Needle Grass or *Turpentine arboretum* in the proposed disturbance area. AGL has also confirmed that all vehicles entering the Gardens would be washed down in accordance with the approved EMS.

The Department has addressed the other issues raised by the Trust, including potential impacts relating to erosion, flora, fauna and heritage, in other relevant sections of this report.

In summary, the Department is satisfied that the potential impacts of the proposed modifications on the Garden are not significant and can be effectively managed through the existing EMS and management plans, and through consultation with the Trust (as required by the proposed conditions of approval).

In addition, the Trust has recommended that the "*Guidelines for developments adjoining land and water managed by the DECCW*" should be considered for the proposed gas gathering line, as the Garden is a division of DECCW. The Department agrees with the Trust and has proposed a condition requiring AGL to consider these guidelines in the design and construction of the proposed gas gathering line.

#### **5.5 Other impacts**

The Department's assessment of other environmental issues is summarised in Table 3 below.

**Table 3: Assessment of Other Key Issues**

Issue	Impact and Considerations	Conclusion and Recommendation
<p>Transport</p>	<p><i>Underboring</i></p> <ul style="list-style-type: none"> <li>The proposed gas gathering lines involve underboring of Menangle Road and the Hume Highway (ie the F5 or South Western Freeway). The RTA has requested that AGL be required to: <ul style="list-style-type: none"> <li>obtain the relevant consents under the <i>Roads Act 1993</i> for underboring of Menangle Road and the Hume Highway;</li> <li>underbore to the RTA's specifications;</li> <li>submit a Traffic Management Plan to the RTA for review and comment; and</li> <li>obtain a road occupancy licence if any temporary shoulder, land or road closure is required.</li> </ul> </li> </ul> <p>The Department considers that, rather than fully expressing the detail of these requirements in conditions of approval, the conditions should instead specify that construction of the underbores should be done in consultation with, and to the satisfaction of, the RTA.</p> <ul style="list-style-type: none"> <li>The RTA has also raised concerns regarding underboring in the vicinity of a future link road proposed between Menangle Road and the Hume Highway, and also underboring in the vicinity of the Jim Affleck Bridge. Again, the Department considers that the final alignment and construction methods for the underboring in the vicinity of the proposed link road and the bridge should be done in consultation with, and to the satisfaction of, the RTA.</li> </ul> <p><i>Construction of Gas Gathering Lines and Access Roads</i></p> <ul style="list-style-type: none"> <li>The proposed construction activities for the gas gathering lines require machinery and heavy vehicles. However, machinery would be maintained on site for the duration of the construction period, resulting in just two movements for each heavy vehicle.</li> <li>The proposed construction activities for the access road would occur in the area west of Goldsmith Avenue and the adjacent University of Western Sydney playing field car park. These areas do not experience high levels of traffic and the proposed activities are not likely to increase the risk of traffic incidents. The proposed access road to MP03 would be used only infrequently for maintenance.</li> <li>The Department is satisfied that traffic movements related to proposed construction activities for both the gas gathering lines and the access road can be appropriately managed under the existing CGP Traffic Management Plan.</li> </ul>	<ul style="list-style-type: none"> <li>The Department is satisfied that potential transport impacts are minor and can be readily managed. It has recommended revisions to existing conditions to ensure this outcome.</li> </ul>
<p>Noise</p>	<p><i>KP06 SIS Well Construction</i></p> <ul style="list-style-type: none"> <li>The KP06 well was originally conceived as an SIS well, in a modification approved in July 2007 (Mod 1), but was changed to a directional well by a further modification in December 2008 (Mod 3). The current application essentially seeks to reverse this change.</li> <li>The currently-approved directional well would require a drilling duration of approximately one week, whereas the proposed SIS well would require a drilling duration of approximately four weeks (24/7).</li> <li>The 2007 Mod 1 application included a noise assessment conducted by Wilkinson Murray, which is referred to in the current modification application. This assessment concluded that, for well construction, the relevant noise criteria would not be exceeded during daytime (7 am to 6 pm) or evening (6 to 10 pm). However, night time operations (10 pm to 7 am) would exceed the criteria, unless further mitigation measures were implemented.</li> <li>AGL has therefore committed to using only one of the two mud pumps during night time operations and to orienting the mud pumps away from potentially-affected receivers. Under this scenario, noise levels are likely to exceed night time criteria for receivers located up to 350 m away. However, the closest potential residential receiver to KP06 is approximately 600 m from the well, and so no construction exceedances are anticipated.</li> <li>No exceedances are anticipated during pumping operations at the well. However, AGL has already committed to a range of further mitigation measures if operational noise criteria are exceeded, as outlined in the existing Noise Management Sub Plan (NMSP). These include: <ul style="list-style-type: none"> <li>adjusting pipe and fitting diameters to reduce air velocities;</li> <li>cladding well-head pipe work and fittings; and</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The Department is satisfied that noise impacts as a result of the proposed modifications would not be significant and can be adequately managed via AGL's proposed mitigation measures and the existing conditions of approval.</li> </ul>

Issue	Impact and Considerations	Conclusion and Recommendation
	<ul style="list-style-type: none"> <li>- installation of unobtrusive temporary noise barriers, if required.</li> <li>• The Department is satisfied that the noise impacts from the proposed changes to the KP06 well are not likely to be significant and that mitigation of any impacts can be managed appropriately through the proposed noise mitigation measures and the existing NMSP. The Department also notes that the drilling and operation of an SIS well has previously been approved at the KP06 well site.</li> </ul> <p><i>Construction of Gas Gathering Lines and Access Roads</i></p> <ul style="list-style-type: none"> <li>• Construction of the two proposed gas gathering lines is expected to be completed within a period of five weeks. The noisiest machine used is the trenching machine, which moves at a rate of 400 m per day. The relevant noise criteria are predicted to be exceeded within 70 m of construction activities, however no residences are located within 200 m of the proposed lines. Consequently, the noise generated through construction is transient, short term, occurs only during construction and is not predicted to exceed criteria at any residential receiver.</li> <li>• Construction of the proposed access road to MP03 is expected to be completed within two weeks. The nature of the construction activities would be relatively minor and no adverse noise impacts would be expected as the closest residential receiver is approximately 400 m away. Furthermore, construction activities would only be undertaken between 7 am and 6 pm during weekdays and 8 am and 1 pm on Saturdays, in accordance with the existing NMSP.</li> </ul>	
<i>Non-Aboriginal heritage</i>	<ul style="list-style-type: none"> <li>• The key non-Aboriginal heritage concern is the State-listed Sugarloaf Farm, which is located in the vicinity of the SL02 well. The main homestead of the farm has retained much of its original setting and has a high level of heritage significance.</li> <li>• During the proposed construction activities for the gas gathering line between MP22 and SL02, some equipment would be visible from the Sugarloaf Farm homestead. However on completion, no works would be visible from the homestead. The Department is satisfied that the construction activities would be short term in duration and would not result in any residual impacts when completed.</li> <li>• There are also four non-Aboriginal heritage items located in the vicinity of the MP03 well, including one State-listed item and three locally-listed items. However, the MP03 well is located at least half a kilometre away from the closest locally-listed item and over two kilometres from the State-listed item. The Department is therefore satisfied that there would be no significant impacts on these items.</li> <li>• AGL has also committed to include the proposed gas gathering lines and access road into its existing European Heritage Management Sub Plan (EHMSP).</li> </ul>	<ul style="list-style-type: none"> <li>• The Heritage Branch and the Department are satisfied that any potential impacts from the proposed activities would be effectively managed and mitigation in accordance with the EHMSP.</li> </ul>
<i>Fauna impacts</i>	<ul style="list-style-type: none"> <li>• The proposed disturbance areas generally consist of highly modified and disturbed habitat.</li> <li>• No fauna species listed under either the TSC Act or the EPBC Act were actually identified in field surveys in the proposed gas gathering and access road corridors. However, surveys conducted by Biosis Research and Garry Worth identified a total of 29 threatened fauna species with "potential habitat" within the proposed gas gathering and road access corridors, primarily birds and bats. Related fauna assessments found that none of these species are likely to use the proposed disturbance areas other than on a temporary basis and, given the availability of similar habitats in the local area, are unlikely to be dependent upon it.</li> <li>• CCC has requested that AGL undertake targeted surveys for the Cumberland Land Snail surveys in areas of Cumberland Plain Woodland, to ensure the species is not present. The Department has previously included a condition of approval that limits impacts on the Cumberland Land Snail to "negligible" levels.</li> </ul>	<ul style="list-style-type: none"> <li>• The Department is satisfied that potential impacts to threatened fauna are minimal and can be adequately managed via AGL's proposed mitigation measures and the conditions of approval.</li> </ul>
<i>Air quality</i>	<ul style="list-style-type: none"> <li>• AGL proposes to use compacted shale for the access road, which would reduce the dust impacts that occur under the current access arrangements. The Department is satisfied that any short-term air quality impacts from construction would not be significant and would be appropriately managed through the relevant measures contained in the EMS.</li> </ul>	<ul style="list-style-type: none"> <li>• No further action is proposed.</li> </ul>

**6 RECOMMENDED CONDITIONS**

The Department has drafted recommended conditions for the four modification applications. Because only two development consents and one project approval require modification, only three notices of modification have been prepared. AGL has reviewed and accepted these conditions.


**7 CONCLUSION**


The Department has assessed the proposed modifications in accordance with the relevant requirements of the EP&A Act, including the objects of the Act and the principles of ecologically sustainable development, and is satisfied that they are in the public interest and should be approved.

**8 RECOMMENDATION**

It is RECOMMENDED that the Deputy Director-General, Development Assessment and Systems Performance, as delegate of the Minister:

- **consider** the findings and recommendations of this report;
- **determine** that the proposed modifications fall within the scope of section 75W of the EP&A Act;
- **approve** the four applications under section 75W, subject to conditions; and
- **sign** the three notices of modification in Appendix A.

  
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Chris Wilson 15.4.11  
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