

Notice of Modification

Section 75W of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning and Infrastructure, the Planning Assessment Commission of New South Wales (the Commission) modifies the project approval referred to in schedule 1, subject to the conditions in schedule 2.

Member of the Commission

Member of the Commission

Sydney

2011

SCHEDULE 1

The project approval (MP 07_0103) granted by the Minister for Planning for the Apex Gas Project on 23 September 2009.

SCHEDULE 2

1. Under the heading "DEFINITIONS", delete the definitions for "DECCW" and "DII", and insert in alphabetical order the following:

DRE	Division of Resources and Energy, within the Department of Trade and Investment, Regional Infrastructure and Services
EA – Mod 1	Environmental Assessment, titled <i>Illawarra Coal Seam Gas Exploration Drilling and Gas Monitoring Program – Proposed Additional Borehole Site A119</i> , dated January 2011
OEH	Office of Environment and Heritage
2. Under the heading "DEFINITIONS", insert "and Infrastructure" after "Department of Planning".
3. Delete all references to "DECCW" and replace with "OEH".
4. Delete all references to "DII" and replace with "DRE".
5. In condition 2 of Schedule 2, delete all words after "EA" (except the notes); and insert:
 - (b) EA – Mod 1;
 - (c) statement of commitments; and
 - (d) conditions of this approval.
6. In condition 5 of Schedule 3, delete paragraphs (c) and (d), and insert:
 - (c) include measures to minimise impacts on surface water quality, including but not limited to:
 - using baffle tanks to contain all drilling fluids during drilling operations;
 - ensuring that adequate spill control equipment and materials will be available at drill sites; and
 - a contingency plan to address groundwater brought to the surface that exceeds the capacity of onsite detention structures;
 - (d) include measures to minimise impacts on groundwater quality, including the potential for cross-contamination of aquifers; and

7. After condition 6 of Schedule 3, insert the following:

Casing of Wells

- 6A. The Proponent must ensure that all exploration wells:
- (a) are cased with steel to at least 10% of the total depth of the hole and across the full width of the Hawkesbury Sandstone geological layer;
 - (b) have all casing fully cemented from casing shoe to surface, leaving no open annuluses;
 - (c) have a blow-out prevention device on the wellhead secured to the steel casing; and
 - (d) are sealed with cement from the total depth to the surface when exploration is completed and the well is no longer required;
- in order to protect the integrity of any underground aquifers, prevent gas escape and maintain groundwater quality.

8. After the heading “**BIODIVERSITY AND REHABILITATION**”, insert the following:

Performance Measures – Natural and Heritage Features

- 6B. The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 2A, to the satisfaction of the Director-General.

Table 2A: Performance Measures

Biodiversity	
Forest Gully Upland Swamp	Negligible environmental consequences
Threatened species, threatened populations, or endangered ecological communities	Negligible environmental consequences, except under an approved Vegetation Clearing and Rehabilitation Management Plan

9. In condition 7 of Schedule 3, after paragraph (f), insert the following:

- (f1) describe measures to be implemented to protect the threatened species *Pultenaea aristata* during construction, operation and rehabilitation of drillhole AI19, including, but not limited to:
- avoiding and minimising impacts on individuals of the species;
 - providing for a suitably qualified expert to be present during the construction of the access track and preparation of the drillhole site; and
 - retaining a stubble and the rootstock of any individuals located on the access track or borehole site;

10. In condition 9 of Schedule 3, delete “15th” and replace with “16th”.

11. In condition 12 of Schedule 3, after “the EA”, insert “and the Traffic section of the EA – Mod 1”.

12. In condition 2 of Schedule 4, after “the EA”, insert “and the EA – Mod 1”.

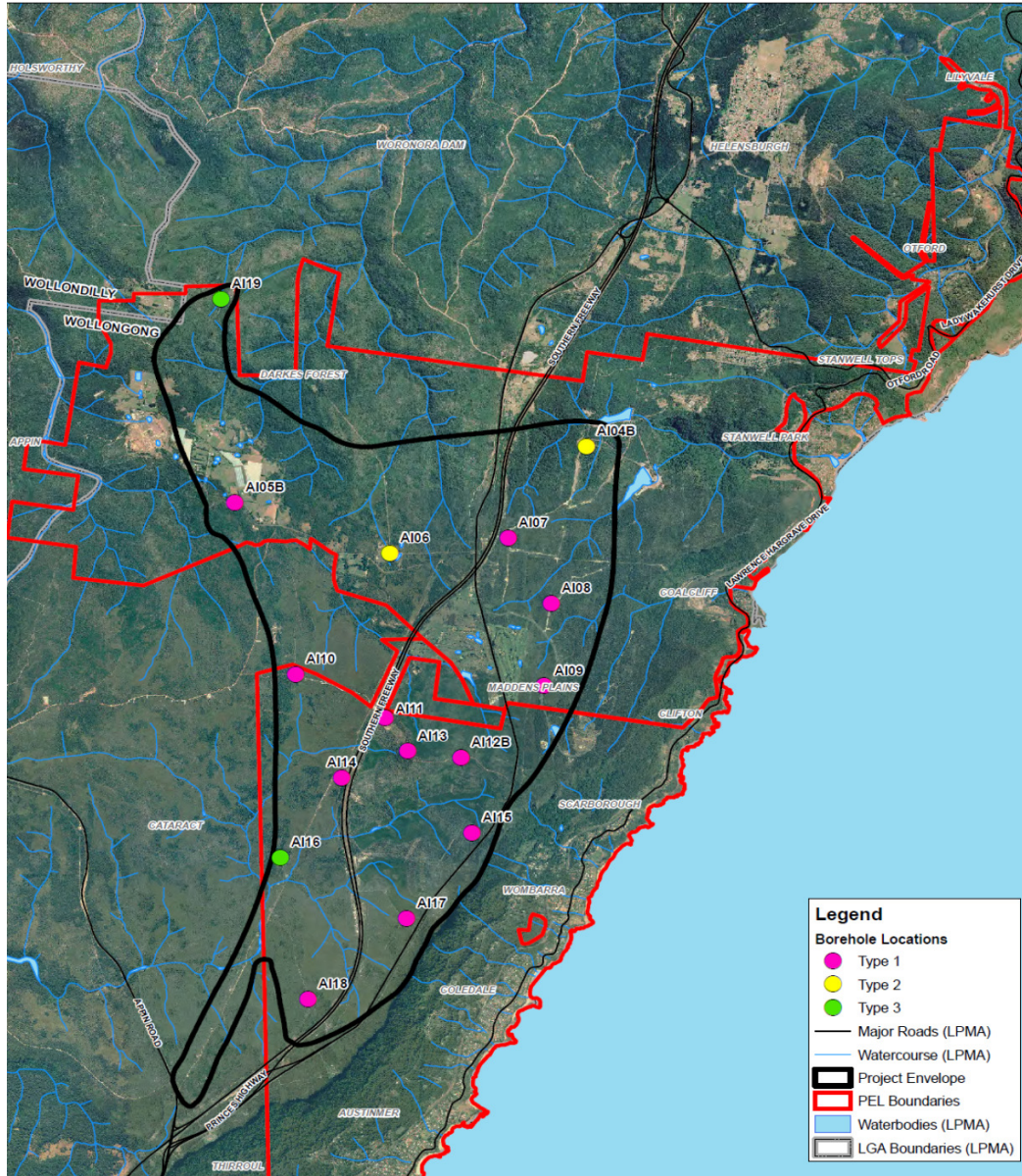
13. In condition 4 of Schedule 4, delete “and AI18” and replace with “AI19”.

14. After condition 4 of Schedule 4, insert the following:

“4A. The Proponent must notify SCA of incidents occurring within the Special Areas (as defined by the *Sydney Water Catchment Management Act 1998*, causing or threatening material harm to personnel, the environment or SCA operations as soon as practicable after the Proponent becomes aware of the incident.

4B. The Proponent must meet with SCA prior to the completion of the work period at each site on SCA land to ensure that the site is decommissioned to the satisfaction of SCA and to determine site specific rehabilitation requirements and offset requirements.”

15. In Appendix 1, delete the map of project site and replace with:



16. In Appendix 2, delete the statement of commitments and replace with:

Action	Timing
1. During drilling operations actions will be undertaken to protect aquifers from any operational impacts.	During borehole establishment and drilling.
2. Use of any of the boreholes for future gas production is dependent on exploration outcome and appropriate subsequent approvals.	Potential future activity.
3. Holes will require a blow-out prevention (BOP) device on the wellhead which is secured to steel casing cemented in to a depth of at least 10% of the estimated final hole depth and across the Hawkesbury Sandstone Layer, or as required under the Petroleum Act 1991 .	During borehole drilling.

Action	Timing
4. Each drill site will be designed in accordance with the specific site requirements. The design will incorporate risk management techniques and will involve input from relevant stakeholders in order to ensure their requirements are met. The pre-establishment liaison and planning will result in a site specific Management Plan that will ensure the site is managed appropriately.	Prior to drilling.
5. Gas flows will occur in accordance with a Well-testing and Flaring Management Plan that will be created using a standard risk management approach including consultation with Government and industry experts. The Well-testing and Flaring Management Plan will be authorised by DPI-Mineral Resources prior to any release of gas.	During gas monitoring.
6. Flaring will be undertaken in a purpose built mobile gas flaring chamber.	During gas monitoring.
7. Apex proposes to undertake additional exploration and gas data acquisition at some time in the near future. This future activity will be dependent on the initial results and involves two main technologies. The first involves zero radius drilling through coal seams from existing core boreholes. The second promotes methanogenic bacteriological activity. These will be subject to further approval in a separate application and assessment process.	Potential future activity.
8. The final location of each borehole will be confirmed after consideration of detailed environmental assessment of each site.	Prior to drilling
9. Apex would liaise with SCA to obtain agreement with a series of requirements to enable the activities to proceed.	Prior to drilling.
10. Boreholes have been sited to minimise vegetation clearing and soil disturbance and compaction.	Completed.
11. Any cleared vegetation and topsoil will be stockpiled and re-spread over the site on completion of operations.	During site clearing.
12. Vehicles will be restricted to defined parking and unloading areas.	During drilling.
13. Exploration hole drilling will require excavation of a sump to collect cuttings and expelled water. Following completion of drilling, the sump will be allowed to settle. The sump would be backfilled with material originally excavated from it and the disturbed area covered with topsoil and any remnant vegetation.	During and immediately following drilling.
14. Following completion of operations all excavations will be backfilled and the site rehabilitated.	Following completion of all operations at each site.
15. All bores will be cased to protect any higher yielding or higher quality aquifer than the gas producing strata. Apex believes the only aquifer of a critical nature is the Hawkesbury Sandstone which hosts upland swamps.	As required during drilling.
16. Silt fences will be erected where appropriate and maintained until a suitable level of rehabilitation has been achieved. All silt fencing will be removed when no longer required.	Prior to and during drilling.
17. On-site storage of fuel and lubricants will be kept to a minimum and safely stored on site in banded pallets. Hydrocarbon spill kits will be available on site.	During drilling.
18. Drilling equipment will be required to be clean of soil and free of oil leaks prior to entering the site.	Prior to drilling.
19. Any oil leaks that develop will require immediate repair and drilling contractors will be required to have a supply of oil absorbent material on hand.	During drilling.

Action	Timing
20. Apex will comply with all legislative requirements in respect of licensing any encountered groundwater resources. In the event of encountering any significant groundwaters/aquifers an application for licensing of a water well would be made.	Prior to and during drilling.
21. Apex will ensure that the drilling fluids are removed from site at the completion of drilling and the water containing KCl disposed of in an appropriate manner.	At the completion of drilling.
22. All packaging, damaged or surplus equipment and drilling supplies will be removed from site prior to or at the completion of operations. Food wastes and similar will be deposited in secure capped bins and removed on a daily basis to maintain hygiene and minimise scavenging by wildlife.	During and immediately following drilling.
23. Fire precautions will include spark arrestors on the drilling rig, and no smoking or sources of ignition within 30m of the wellhead. There will be fire extinguishers on the drilling rig. Apex will provide cleared areas for hot work (grinding, cutting and welding) and a "butt bin" for smoking. All hot work will be done with an observer standing by and fire extinguishers on hand.	During all site activities.
24. A "portaloo" will be installed on site and maintained on a regular basis.	During drilling.
25. Where possible, the drilling activity will occur every day over 24 hours per day.	During drilling
26. Within SCA areas, the site boundary will be marked by coloured tape suspended between steel droppers with warning signs. In open areas Apex will provide temporary security fencing and warning signs around the boundary of each site.	During drilling and gas monitoring.
27. Exploration well testing may produce groundwater from the seams. It is proposed that such water be stored in the ground sumps or in above ground tanks and removed off-site by tanker or temporary above ground poly-pipe. Ultimate disposal will comply with DECC requirements.	During gas testing.
28. All safety and environmental requirements set out in the SCA Access Agreement will be adhered to.	During all site activity.
29. The exploration program will provide details of water quality and quantity to assist planning of any future activities.	Data collection to assist potential future activity.
30. A sedimentation fence will be constructed immediately down slope of the drill sites. The sedimentation fences will be installed in accordance with requirements as described in "Soils and Construction", hip pocket handbook, 1 st Edition, dated March 2004.	Prior to drilling commencing and first stage of site set up.
31. Should any surface drains and/or sedimentation basins be required during construction, they will be constructed in accordance with the Landcom publication, " Soils and Construction " Volume 1, Fourth Edition, March 2004 " and the DECC (2008) publication, Managing Urban Stormwater; Soils and Construction - Volume 2A: Installation of Services, Volume 2C: Unsealed Roads and Volume 2E Mines and Quarries.	During site establishment and during drilling and gas monitoring.
32. The construction contractor will prepare a Site Environmental Management Plan that will address site water management details.	Prior to site access.
33. On-site storage of fuel, lubricants, potassium chloride and any other chemicals would be kept to a minimum and these items would be stored in bunded pallets.	During drilling.

Action	Timing
34. In the event of a spill of produced groundwater onsite which is not contained within site sumps or above ground tanks, a water quality sampling and testing service would be employed to ensure that any 'normal' stormwater runoff retained by the bund wall has not been contaminated and, if it has, that prompt removal by tanker would occur.	During drilling and gas monitoring.
35. For core drilling sites, where excavated sumps are used for the circulation of drilling fluid, if possible drilling fluid would be confined within the mud pits and temporarily covered with say a tarpaulin so that mixing with stormwater is prevented.	During core drilling.
36. Significant amounts of produced groundwaters which can be confined within on-site tanks or pits would have pH and EC monitored prior to tinkering away off site. All wastewater generated from the borehole drilling activities (apart from that recycled during drilling) must be removed from the drill site and transported for disposal outside of the Special Area.	During drilling and gas monitoring.
37. To assess requirements for management of excessive volumes of produced groundwaters i.e. volumes which have not been successfully confined within on site tanks or pits and are contained behind the site bund wall, water samples would be collected to determine water quality in the event of possible loss of containment. This would be done by measuring pH and EC onsite, and collection by an appropriately trained person of samples to be sent to a NATA-accredited laboratory for determination of key chemical analytes as identified in Table 4.2 of the March 2009 EA.	During drilling and gas monitoring.
38. On demand, water quality sampling and analysis would be conducted in the unlikely event that there is any uncontrolled release from the site water containment system.	During drilling and gas monitoring.
39. There will be no discharge of polluted waters to either surface waters or groundwaters from the site activities.	During site activities.
40. The plant species <i>Darwinia grandiflora</i> was recorded at borehole AI10 within Coastal Upland Swamp. The exact location of this species will be flagged, so it can be adequately protected and avoided by the proposal during and after construction of the borehole. A suitably qualified ecologist will be on site during the initial borehole site set up, to ensure this species is not impacted by the proposal.	Prior to drilling commencing.
41. Apex will adjust the location of boreholes and access tracks to avoid native trees and significant habitat features such as sandstone outcropping, where required.	Prior to drilling commencing.
42. Trees with hollows would be retained and protected, with no drilling within the critical root zone (extending to 2m beyond the drip line) of the trees.	Determined prior to drilling commencing.
43. Access to boreholes AI10, AI16, and AI18 may require trimming of branches along existing fire trails. Such branch trimming would be limited and restricted to smaller branches that do not support hollows. Should large branches with hollows be required to be removed, a suitably qualified ecologist would be on site during clearing to ensure no resident fauna are harmed. Cleared branches would be placed in adjoining vegetation, as they will provide fauna habitat.	Prior to drilling commencing.
44. Access to boreholes AI10, AI16 and AI18 will involve two creek crossings. These crossings will use established crossings along the established Fire Road 10Q and will not divert into other areas of the creeklines. Caution would be taken to prevent sedimentation run off and minimise disturbance along the creek.	Prior to drilling commencing and during all site activities.
45. Apex shall provide updates (by email or fax) to SCA on the progress of the drilling program on SCA land once per week.	During drilling on SCA land.
46. Where possible, proposed boreholes and access tracks would be located within existing cleared areas.	Prior to drilling commencing.

Action	Timing
47. Sediment and erosion control measures would be implemented on all sites to prevent erosion during and after construction.	Prior to and during site activities.
48. Disturbance to native vegetation would be minimised, or, where disturbance is unavoidable, borehole sites would be rehabilitated using locally sourced tubestock and brush-matting. Rehabilitation would be undertaken by suitably qualified bush regenerators.	Prior to, during and after site activities.
49. Where clearing of native vegetation is unavoidable, native shrubs, logs and bush-rock would be stockpiled on the side of the proposed boreholes and access routes and replaced following completion of the works.	Prior to any site clearing.
50. If required, bush regeneration and weed control would be undertaken to ensure the flora and fauna of the locality are protected throughout the construction and operation phases of the proposal. This is particularly important for boreholes where intact native vegetation will be disturbed. Any bush regeneration and weed control would be undertaken by suitably qualified bush regenerators.	Prior to, during and after site activities.
51. Apex will repair any damage NPWS access roads and tracks.	As and if required.
52. Any chemicals used on site would be taken off site after use and disposed of appropriately.	During drilling and gas monitoring.
53. Machinery and vehicles would be washed down prior to use on site to avoid the transmission of weed seed or disease into areas of intact native vegetation.	Prior to machinery and vehicles being used on site.
54. A suitably qualified ecologist would be on site during the initial site set up for each borehole, to ensure significant habitat features and species are not impacted by the proposal.	Prior to drilling commencing and during site confirmation.
55. During construction Apex will ensure that all diesel motors are noise attenuated to minimise noise impacts during construction. Testing operation will be largely inaudible and will not require mitigation.	During drilling and gas monitoring.
56. Within 3 months of the completion of each borehole on SCA land or within any other time agreed to by SCA, Apex will provide a report to SCA detailing compliance with the safeguards and mitigation measures detailed in the EA, EMP and as specified in any conditions of approval.	Within 3 months of the completion of a borehole on SCA land.
57. Apex will install screening of the site compounds to mask visual intrusion into the landscape. This may include measures such as fixing green shade cloth to the compound site fence to merge the bulk of the fence into surrounding vegetation or planting of local native plant species as a screen around the fence where sufficient depth of soil exists.	During site establishment.
58. No archaeological constraints have been identified within the project study area. Should unanticipated Aboriginal objects be identified during project works, all works should cease in the vicinity of the find and an archaeologist should be called to assess the find.	During all site activities.
59. No historic heritage constraints have been identified within the project study area. Should unanticipated historic relics be identified during project works, all works would cease in the vicinity of the find and an archaeologist would be commissioned to assess the find.	During all site activities.
60. Where necessary, a water cart will be used on site to reduce dust generation.	During site establishment and drilling.

Action	Timing
61. Apex will implement appropriate BMP and BATEA practices. They will provide noise barriers at AI05 and AI06 to reduce noise levels experienced at the nearest residences. In addition, they will attempt to negotiate agreements with the affected residents should the barriers not enable the noise criteria to be met.	During site establishment and drilling
62. Appropriate monitoring would be undertaken during drilling operations to confirm that the criteria are being achieved. Should this monitoring demonstrate non-compliance, Apex would undertake investigations and plan actions to ameliorate the non-compliance.	During drilling.
63. Should the approaches described in commitments 61 and 62 not resolve the noise issues, drilling would be limited to those times of day when criteria are met.	During drilling at AI05 and AI06.
64. All construction work (ie. prior to drilling) will be conducted between 7am and 6pm Monday to Friday and between 7am and 1pm Saturdays and at no time Sundays and public holidays, unless inaudible at any residential properties."	During site construction.
65. Packaging wastes will be separated into metal, wood and other recyclable streams. These separated waste materials will be recycled in an approved manner.	During all site activities.
66. Non-recyclable materials will be collected separately and will be disposed off-site in an approved waste facility.	During all site activities.
67. Wastewater from the temporary site buildings will be collected on-site prior to transport off-site for disposal at an appropriately authorised disposal facility.	During all site activities.
68. Vehicle-servicing wastes will consist of oils and greases together with assorted hydrocarbon containers. Mobile vehicles will not be serviced on site. This will be undertaken at appropriate off-site workshops. Any oils, greases and containers will be collected for recycling.	During all site activities.
69. Adequate spill control equipment/materials shall be available at drill sites.	During drilling and whenever liquids are stored on site.
70. Topsoil from the area surrounding the borehole will be stripped and stockpiled prior to the commencement of drilling. This topsoil will be used to resurface disturbed areas prior to revegetation.	During site establishment.
71. The site will be seeded with native flora species consistent with those currently surrounding the site.	During site rehabilitation at the completion of site activities.
72. Flaring of coal seam gas is proposed for implementation at each of the boreholes. While it is expected that between 90% and 100% of coal seam gas flow will be flared, the potential for some venting directly to the atmosphere exists.	During gas monitoring.
73. Rehabilitation of the borehole sites is required by the PEL. Boreholes that are not required for future gas production would be rehabilitated.	At the completion of site activities.
74. Apex will instruct all contractors and employees in the procedures for passing through the gates safely.	Prior to accessing each borehole site.
75. Apex shall detail and implement an evacuation and response plan for fire preparedness.	Before and during drilling.
76. Apex or its contractors will notify SCA of incidents causing or threatening material harm to personnel, the environment or SCA operations as soon as practicable after the person becomes aware of the incident.	During drilling operations.

Action	Timing
77. Apex will meet with SCA prior to the completion of the work period at each site on SCA land to ensure that the site is decommissioned to the satisfaction of SCA and to determine site specific rehabilitation requirements and offset requirements. General rehabilitation measures are listed in the SCA submission.	After drilling on SCA land.
78. Traffic safety rules and procedures would be developed to ensure public and employee safety during all operational stages of the program.	Prior to accessing each borehole site.