



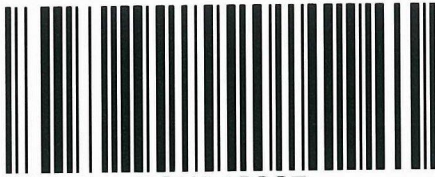
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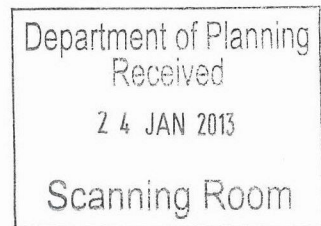
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Dear Mr. Preshaw

**Major Project Application 09\_0048  
Camden Gas Project – Stage 3 – Northern expansion**

I write to make a submission on the above application, referred to the Heritage Council on 14 November 2012 and on public exhibition until 8<sup>th</sup> February 2013. I understand the Planning Assessment Commission is reviewing the application on the Minister's request.

The Heritage Council has given previous advice on this proposal, namely:

- a) Letter and advice dated 19/1/2010;
- b) Emails attaching annotated study area maps dated 2/2/2010; &
- c) Letter and advice dated 30/3/2010.

These principally concerned potential adverse impacts on the following heritage items:

- the Upper Canal (a State Heritage Register item);
- 4 additional archaeological sites;
- Gledswood and Varroville estates (State Heritage Register items);
- Molles Main; and
- items adjacent to the project area, including Raby and Denham Court estates (State Heritage Register items).

The revised Environmental Assessment (response to submissions) has been assessed and the following additional advice is given for the Commission's consideration. For enquiries regarding this matter, please contact Stuart Read at the Heritage Branch on (02) 9873 8554.

Yours sincerely

22-01-2013

**Dr Siobhan Lavelle OAM**  
A/Manager Conservation Team  
Heritage Branch  
Office of Environment and Heritage  
**As Delegate of the Heritage Council of NSW**

## Amended Major Project Application 09\_0048 Camden Gas Project – Stage 3 – Northern expansion

### Heritage Council submission:

#### General issues:

The executive summary – conservation recommendations and mitigation measures (table 1) are supported and Biosis Research P/L's 11/2012 amended assessment report (e.g. but not limited to Executive Summary, Tables 1 & 8 and all of section 7 of that report should form conditions of any consent.

It is noted that the now-eleven proposed Well Surface Locations (WSLs) are 'flexible' within a 200m assessment envelope, with detailed design based on environmental and social constraints there-listed. The Heritage Council strongly objects that the constraints there-listed do not include cultural heritage values. Flora and fauna and archaeological constraints are specified, so should cultural heritage values be.

It is also noted that each of the eleven WSLs may have up to 6 wells, i.e. a total of 66 wells' are proposed within the 'surface project area'.

It is considered vital to avoid physical or other (e.g. visual) adverse impacts on cultural heritage sites or elements of sites. The Heritage Council notes considerable public concern about the proposed '*horizontal drilling technique*' which could mean drilling over 2 kilometers from well sites – thus the Biosis Research P/L Historic Cultural Heritage Assessment's division of impact zones into '*surface project area*', '*subsurface project area*' (drilling activities only), '*survey area*' (200m from wells, 25m either side of gas gathering lines and access roads only), and '*study area*' – a much broader area – are noted and unhelpful distinctions.

Horizontal drilling has the potential to adversely impact across the '*study area*' on a range of rural cultural heritage items, including more State Heritage Register-listed items (Harrington Park, Kirkham Stables, Camelot, Epping Forest, Raby estate etc) far from identified well locations, access roads or gas gathering lines. These impacts appear to be under-estimated in the supporting information as it stands. Combined with the possibility of hydraulic fracturing / 'fracking', they offer additional potential adverse impacts (vibration, subsidence, ground water supply and quality) to a wider range of cultural heritage items (other infrastructure and items) than currently assessed by Biosis Research P/L. This concern appears to be shared by a number of other submissions from the community.

While Parsons Brinckerhoff's 13/8/2012 update on the Phase2 groundwater program – Denham Court Road's conclusions are noted (as below):

- The preliminary results of the Phase 2 groundwater investigation support the conceptual model presented in the Phase 1 report (PB 2011). In brief summary:*
- ☐ *Groundwater quality in all aquifers and water bearing zones is poor and of limited beneficial use*
  - ☐ *Yields are low in all aquifers and do not constitute useful water supply sources*
  - ☐ *Water levels are deep and there is no apparent interaction with the surface environment*
  - ☐ *Groundwater quality in the Hawkesbury Sandstone is very different to the surface water quality in nearby farm dams indicating farm dams are not groundwater fed.*
  - ☐ *No major fractures or faulting are present*

*The field investigation program is ongoing with hydraulic testing to assess the hydraulic conductivity of the aquifer formations, and ongoing water level monitoring*

It is noted that ongoing testing and water level monitoring is recommended.



In that sense previous advice the Heritage Council has given remains valid. Of particular concern is any adverse impact on surface and ground water supply and quality that support existing (and historic) farming activity on rural cultural heritage items, i.e. historic farms. The ability to continue farming, with a clean water supply, is vital to retaining their heritage values.

Cultural heritage values should be an equally-ranked 'constraint' in final detailed site selection for all eleven surface well locations. Satisfying the consent authority that the chosen locations have no adverse impacts on cultural heritage values should be the monitoring measure to be met and 'signed-off' in each case.

Conditions are recommended to require that:

- where impact on archaeological relics of local or state significance cannot be avoided, the site(s) concerned should be archaeologically excavated by an appropriately qualified and experienced historical archaeologist and an excavation report(s) on the findings (consistent with current guidelines published by the Heritage Council of NSW) should be prepared. A copy of this report (/reports) should be provided to the Heritage Council of NSW and further copies shall be provided to the relevant public library in the Campbelltown and/ or Camden local government areas;
- where works disturb or discover potential or actual archaeological relics (within the definition of the NSW Heritage Act 1977) not listed on the NSW State Heritage Register, the proponent shall cease works and notify the Heritage Council of NSW as required under section 146 of that Act;
- variations to the current project proposal beyond that area assessed within the current 'Survey Area' require additional archaeological survey and assessment by a qualified and appropriately experienced heritage consultant. An increase in the 'Surface Project Area' may require further documentary research, and further impact assessment;
- the Aboriginal Cultural Heritage Management Plan (ACHMP) and Environmental Management Strategy (for Stages 1 and 2 of the Camden Gas Project) is updated to have specific reference to Stage 3 and potential heritage impact issues identified around the Upper Canal and other heritage items identified in the vicinity and adopted to apply to Stage 3 works. Relevant sub plans or site-specific plans are required to be similarly updated or prepared prior to construction or otherwise to the satisfaction of the Director-General of the Department of Planning & Infrastructure, in consultation with the relevant authorities where appropriate.

Additional consent conditions may need to be added to address the matters identified in Biosis Research P/L's 11/2012 amended assessment report (e.g. but not limited to Executive Summary, Tables 1 & 8 and all of section 7 of that report).

Modifications may be needed to the Statement of Commitments/Heritage in relation to advice in this letter and additional findings identified in Biosis Research P/L's 11/2012 report.

### **Specific Issues:**

#### **1) NSW State Heritage Register (SHR) listed items:**

##### **The Upper Canal**

Physical impacts on the Upper Canal and associated elements must be avoided in detailed design which must be done in prior consultation with Sydney Catchment Authority (including



adjusting the alignment of the Gas Gathering Lines and Well heads at the detailed design stage, prior to commencement of ground disturbance works within the study area):

- At the main gas spine line runs parallel with and close to the Upper Canal (Sections 5-7 of the Upper Canal, i.e. from Mount Annan to Denham Court Road;
- on the northern side of the junction of the Upper Canal and the Main Southern Railway Line;
- the gas gathering line between well surface location CU14 and the main spine line in Section 5 of the Upper Canal;
- between 2002 (Higginbotham & Associates) Conservation Management Plan (the CMP) items 51-58;
- at well surface locations CU6, CU31, CU22, CU26 and CU29, associated gas gathering lines and access tracks affecting Section 6 of the Upper Canal;
- in the vicinity of Badgally Tunnel (Section 5);
- in the vicinity of the four archaeological sites identified by Biosis Research P/L (11/12 assessment), the remains of the 'Molles Mains' homestead and the World War II airplane wreck site (see separate section below).

In some or all of these locations, under-boring may be appropriate.

Conditions are required:

- to move the alignment of the main gas spine line where impacts on elements of heritage significance are likely;
- where gas gathering lines cross the Upper Canal;
- requiring that detailed design of these crossings is worked out in consultation with the Sydney Catchment Authority.

The above-conditions particularly apply where there is potential for:

- impact on the archaeological sites of cottage 23 (Section 7), cottage 44 (Section 6) and cottage 55 (near Ingleburn Dam);
- vibration impacts from under-boring of sections of gas gathering lines proposed to cross the Upper Canal, at sufficient depth(s) to avoid adverse impacts on that structure's core function, stability, water quality etc.

Other consent conditions are required ensuring:

- avoidance of any adverse impacts on Upper Canal easement / construction era items including remnant plantings, as identified in the Biosis Research P/L7/12 assessment, sections 4.3.6-4.41, pp.68-75);
- adequate protection and retention of significant remnant cultural plantings associated with this part of the Upper Canal (an example are stone pine (*Pinus pinea*) trees lining the canal immediately to the north of Narellan Road);
- regular ongoing consultation with Sydney Catchment Authority during the update of the European Heritage Sub Plan;
- that the Statement of Commitments includes conditions recommended by the Sydney Catchment Authority (p.10, Response to Agency Submissions, Appendix A);
- that appropriate mitigation strategies and actions are devised in consultation with Sydney Catchment Authority, where impacts are unavoidable. These need to include applying relevant recommendations in the 2002 heritage study/conservation management plan (Higginbotham et al) for the Upper Canal in the environmental management plan.

### **Gledswood estate, Catherine Field**

It is noted that this estate abuts the western boundary of the surface project area and Gas infrastructure location CU22.

### **Varroville house and garden, St.Andrews**

- A condition is required ensuring care in locating well surface location RA03 to minimise adverse visual impact from Varroville House and on Varroville estate's rural character.

### **Raby estate, Catherine Field**

It is noted that this estate is situated directly opposite (west/south-west) the intersection of Raby Road/Camden Valley Way, within a short distance of well surface locations VV03 and CU26.

## **2) State-significant, non SHR items:**

### **Varroville estate, St.Andrews Road and Hume Highway, St.Andrews**

While Varroville House is currently listed on the NSW State Heritage Register, its former estate is not. This estate includes a range of early outbuildings, two old driveways, remnant vineyard terraces and paddock systems in the valley east and north-east of Varroville House and between it, Bunbury Curran Hill, the Hume Highway up to St.Andrews Road.

- A condition is required ensuring care in locating well surface location RA03 to minimise adverse visual impact from Varroville House and on Varroville estate's rural character;

### **Denham Court estate, Campbelltown Road/Denham Court Road, Ingleburn/Denham Court**

Like Varroville estate, while Denham Court house is SHR-listed, its former estate is not (excepting the small family chapel to its west). The estate overlaps with and is near well site surface locations RA09 and RA03.

- A condition is required ensuring care in locating well surface location RA03 to minimise adverse visual impact from Denham Court Road and on the former Denham Court estate's rural character.

### **Site of Molles Mains (archaeological site);**

**World War Two airplane wreck site** – this is directly in the line of the main gas spine.

A condition should be included requiring prior agreement on a mitigation strategy for the airplane wreck site by all stakeholders (SCA, AGL, the Heritage Council and the Department of Planning & Infrastructure);

A condition should be included requiring consideration of the Government Architect's Office 2011 archaeological research design report on the site, and mitigation strategies including:

- 1) moving of the main spine alignment and adoption of the recommendations on pp.118-120 of the Biosis Research P/L7/12 assessment, or (if moving the main gas spine is not possible); or
- 2) careful removal and storage of the surviving parts and prior archaeological excavation by an appropriately qualified and experienced historical archaeologist in the vicinity of this wreck, including of the Camden Valley Golf Retreat and also the nearby dump site to its south (where components such as the tail section were allegedly moved and buried) and additional research to identify the make of plane involved and the circumstances surrounding the wreck's occurrence on this site.



## **2 State-significant, non-SHR items, continued)**

### **Mount Annan Botanic Garden, Mount Annan**

It is noted that as well as a gas gathering line running along the perimeter of the Mount Annan Botanic Garden's southern edge, across Narellan Road is one of the proposed well surface locations, CU14.

### **(2 potential) Milestones on Campbelltown Road, near the gas gathering line between well surface location RA09 and RA03.**

A condition is required:

- ensuring care in constructing the gas gathering line to avoid potential adverse impact on these, which may survive either side of the road.

Should impacts be unavoidable this condition should require consultation with Campbelltown City Council over removal and storage of milestones (and possible later reinstatement).

Another condition is required to:

- ensure all project personnel are inducted and trained to recognise milestones (or parts of) before starting work on this section, are aware of the 'stop work provision' should any milestones or relics be unearthed during any stage of the works.

### **State-significant historical archaeological relics**

A condition should be included as per the Heritage Council's previous advice requiring notification and stop-work once any relics or potential relics have been found.

Another condition should require appropriate training (by a qualified and experienced historical archaeologist) and induction for all construction phase site staff in recognising potential historical and Aboriginal archaeological relics, likely locations for these, due procedure etc.

## **3) Local heritage (listed/draft LEP) items:**

- **Camden Lakeside Golf Course, Camden Valley Way/Raby Road, Catherine Field (former part of Gledswood estate);**
- **Caballo Blanco estate, Camden Valley Way, Catherine Field (former part of Gledswood estate's setting);**
- **Blairmount, Badgally Road;**
- **Kenny Hill Reservoir;**
- **Campbelltown Reservoir, Currans Hill;**
- **St.Gregory's Agricultural College/Molles Mains/Mt.Badgally, Narellan – CU10 and CU14 are located within the curtilage of this property.**  
A condition should require works to be kept away from the significant buildings and other elements of this site;
- **Stations of the Cross, Campbelltown;**
- **Ingleburn Dam, Varroville;**
- **Evidence of the former Camden Tramway Group/Maryfields Siding site/Rudd's Gate Platform, Camden Road, Campbelltown;**
- **Superintendent's cottage site (28 mature trees in this former Government Nursery site), Badgally Road;**
- **Blair Athol, 23 Blair Athol Drive, Campbelltown, formerly nominated to the SHR.**

Comments have been made about these items under 'General issues' above.