



**5<sup>th</sup> INDEPENDENT  
ENVIRONMENTAL AUDIT  
OF CONSENT CONDITIONS  
(year to 30 June 2013)**

FOR  
**PASMINCO      COCKLE      CREEK  
REMEDIATION PROJECT**

AT  
**BOOLAROO, NSW**

For:  
**Ferrier Hodgson  
for the  
Pasminco Cockle Creek Smelter Site  
Remediation Project**

Prepared by  
**David Johnson**

**NOVEMBER 2013  
Report No DJE 0901-05**

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## 1. EXECUTIVE SUMMARY

Pasminco Cockle Creek Smelter Pty Ltd (PCCS, subject to Deed of Company Arrangement) ceased smelting operations at its Cockle Creek lead smelter near Boolaroo in September 2003. In February 2007, approval was granted by the NSW Minister for Planning for remediation of the PCCS lands associated with the former smelting operations. This approval was obtained under Part 3A of the Environmental Planning & Assessment Act 1979 (EP&A Act) and included a number of consent conditions. One of these, condition 5.11, requires that an independent Environmental Audit of the remediation project be undertaken on an annual basis.

This independent audit has been undertaken by environmental scientist David Johnson, BSc, MAppSc, in order to fulfil the requirements of condition 5.11. David Johnson was approved by the NSW Department of Planning (DoP) on 2 June 2009 to undertake the independent audit (see Appendix A). The first audit, prepared in September 2009, covered the period from approval until 30 June 2009, the second one covered the period 1 July 2009 to 30 June 2010, the third from 1 July 2010 to 30 June 2011 and the fourth 1 July 2011 to 30 June 2012. This is the fifth audit, and covers the period 1 July 2012 to 30 June 2013.

Demolition of the smelter's plant and buildings was completed in late 2006. Remediation work at the site commenced during 2007 and is being undertaken by PCCS under the direction of Fitzwalter Group and Ferrier Hodgson. The work is expected to continue until a date in 2014.

Following agreement between PCCS and Incitec Pivot Pty Ltd (owners of the adjoining former fertilizer manufacturing site) the design of the containment cell on the PCCS site was modified in late 2012 (during the current audit period) to enable contaminated soil from the Incitec site to also be accepted. This was formalised in a Notice of Modification to the Project Approval, dated 17 December 2012. Importation and placement of the Incitec material commenced in early 2013.

The scope of work for this, the fifth annual audit, included the following:

- Review of the Part 3A consent conditions from DoP and assessment of the level of compliance with each of the conditions;
- Review of the conditions of approval for construction of the on-site containment cell, as attached to the DECCW containment cell approval letter dated 9 April 2008;
- Assessment of compliance with other associated licences or permits which apply to the project;
- An overall assessment of the environmental performance of the project as measured against the predictions made in submissions prior to the approval;
- Meetings, communications and liaison with PCCS personnel, examination of files and records and submission of requests for information;
- A site inspection of the PCCS remediation works, including liaison with site personnel; and

- Preparation of this Independent Audit Report.

The Independent Audit concludes that the remediation works, as of June 2013, were being carried out in a manner which was very much in compliance with the Department of Planning's Part 3A consent conditions and other statutory requirements which apply to the work, including the conditions of approval for the construction of the containment cell issued by the Department of Environment & Conservation (DEC) on 9 April 2008. Note that DEC then became the Department of Environment, Climate Change & Water (DECCW) and in April 2011 was incorporated into the Office of Environment & Heritage (OEH).

The systems and procedures which have been put in place to ensure compliance with environmental obligations and requirements at the site are therefore working effectively. It is the auditor's opinion that members of the teams responsible for site operations appear to have a high regard for the environmental issues associated with the remediation works, and are committed to ensuring that impacts on the environment and the neighbouring communities are minimised.

A table summarising the level of compliance with each of the consent conditions is attached in Appendix B.

The small number of non-compliances with consent conditions recorded (refer Appendix B) is commended and none have any bearing on the environmental integrity of the remediation project.

There are no specific recommendations arising from this audit, however it is recommended that future audits continue to be carried out on an annual basis, as has been the case to date, and in accordance with Part 3A Condition 5.11.

## 2. INTRODUCTION

### 2.1 Outline of Remediation Project

Pasminco Cockle Creek Smelter Pty Ltd (PCCS, subject to Deed of Company Arrangement) ceased smelting operations at its Cockle Creek lead smelter near Boolaroo in September 2003. In February 2007, approval was granted by the NSW Minister for Planning for remediation of the PCCS lands associated with the former smelting operations. This approval was obtained under Part 3A of the Environmental Planning & Assessment Act 1979 (EP&A Act) and included a number of consent conditions. One of these, condition 5.11, requires that an independent Environmental Audit of the remediation project be undertaken on an annual basis.

The remediation essentially consists of the excavation of contaminated soil and its placement, along with other contaminated materials arising from the site's former use as a lead and zinc smelter, in an on-site containment cell. Condition 3.2 of the Part 3A approval required separate approval by the Department of Environment & Conservation (DEC, which became DECCW) of the Containment Cell Detailed Design and Construction Report. This separate approval was issued by DECCW in April 2008. Note that the Cell Approval has since been amalgamated into the Environmental Protection Licence, EPL 5042. In April 2011, DECCW was incorporated into the Office of Environment & Heritage (OEH).

The Deed Administrators for the PCCS project are Ferrier Hodgson (FH). FH has appointed Fitzwalter (Fitzwalter), now part of WSP Environmental Pty Ltd, to project manage the remediation and redevelopment of the site. PCCS Services (PCCSS) is the entity under which FH employs site personnel and sub-contractors to manage the site until the remediation and redevelopment is complete.

David Johnson was approved to be able to take the role of the independent auditor by the NSW Department of Planning (DoP) in a letter to Fitzwalter of 2 June 2009 (see Appendix A), and was initially appointed by Fitzwalter on 2 July 2009 on behalf of FH. The first audit covered the period from approval (February 2007) to 30 June 2009. David Johnson was also appointed by Fitzwalter to undertake the second audit which covered the year 1 July 2009 to 30 June 2010, the third for the period 1 July 2010 to 30 June 2011, and the fourth for the period 1 July 2011 to 30 June 2012. This is the fifth audit, covering 1 July 2012 to 30 June 2013.

As stated above, the issues relating to the design and construction of the containment cell were the subject of a separate approval from DECCW which was issued on 9 April 2008. This approval and the conditions which apply to it were not included in the first Independent Environmental Audit, but have been covered as part of both the second and subsequent audits.

## 2.2 Project Status

Demolition of the smelter's plant and buildings was completed in late 2006. Remediation work at the site commenced during 2007 and is being undertaken by PCCSS, under Fitzwalter and FH direction. The work is taking place in accordance with a Remediation Master Plan (RMP, see Part 3A condition 2.2) which sets out the broad remediation approach and schedule. There is also a Remediation Environmental Management Plan (REMP – Part 3A condition 7.3) that applies to the overall site. Each remediation parcel has its own Remediation Action Works Plan (RAWP – Part 3A condition 2.3) that not only defines how the parcel is to be remediated, but also covers the local environmental control and management issues relevant to the environment of the particular parcel being remediated.

The overall PCCS site has been divided into five separate remediation parcels, in addition to the containment cell area. A further RAWP has since been prepared for the Angophora Reserve which is an area formerly within the Parcel 1 area, but now separated for the preservation of the local angophora flora species. As of 30 June 2013, remediation was completed in Parcels 1, 2 and 3; Parcel 4 was largely completed and remediation is proceeding in Parcels 5 and 6. The containment cell construction commenced during 2009 and is expected to be completed during 2014 (its life and capacity having been increased during this current audit period to enable it to also accept contaminated soil from the adjacent Incitec site, which commenced in January 2013).

The REMP was updated in May 2009 (as per condition 7.3 of the Part 3A) and the later REMP contains appendices showing what monitoring has taken place in accordance with approvals and the effectiveness of the EMPs.

## 2.3 Purpose of this Audit

This independent audit has been undertaken by environmental scientist David Johnson, BSc, MAppSc, in order to fulfil the requirements of condition 5.11, which is reproduced as follows:

- 5.11** *Within twelve months of the commencement of works on the site and every year thereafter for the duration of the remediation works, or as otherwise agreed or required by the Director-General, the Proponent shall commission an independent, qualified person or team to undertake an Environmental Audit of the project. The independent person or team shall be approved by the Director-General prior to the commencement of the Audit. An **Environmental Audit Report** shall be submitted for the approval of the Director-General within one month of the completion of the Audit.*
- The Audit shall:*
- a) *be carried out in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing;*
  - b) *assess compliance with the requirements of this approval, and other licences and approvals that apply to the project;*

- c) *assess the environmental performance of the project against the predictions made and conclusions drawn in the documents referred to under condition 1.1 of this approval; and*
- d) *review the effectiveness of the environmental management of the project, including any environmental impact mitigation works.*

*The Director-General may require the Proponent to undertake works to address the findings or recommendations presented in the Report. Any such works shall be completed within such time as the Director-General may require.*

## **2.4 Scope of Work**

The scope of work in this independent audit included the following:

- Review of the consent conditions from DoP which are attached to the project approval of 27 February 2007 (including the 24 June 2010 amendment) and assessment by the auditor of the level of compliance with each of these conditions which has been demonstrated by PCCSS and Fitzwalter;
- Review of the conditions of approval for construction of the on-site containment cell, as attached to the DECCW containment cell approval letter dated 9 April 2008;
- Assessment of compliance with other associated licences or permits which apply to the project (such as the Environment Protection Licence, no. 5042, as amended);
- An overall assessment of the environmental performance of the project as measured against the predictions made in the following:
  - Major Projects Application O6\_0184 of 30 June 2006;
  - *The Environmental Assessment Report – Pasminco Cockle Creek Smelter Site Remediation Project*, by Fitzwalter Group, August 2006, and appendices; and
  - *The Submissions Report* by Fitzwalter Group, 21 November 2006.
- Meetings, communications and liaison with PCCS personnel, examination of correspondence files and records, including those held on-site, and submission of requests for information to PCCS;
- Attendance at a site inspection of the PCCS remediation works on 24 October 2013, including liaison with PCCS site personnel and examination of site files and records etc;
- Review of the previous independent audit for the year to 30 June 2012, prepared in April 2013; and
- Preparation of this Independent Audit Report.

The audit has been carried out in accordance with *ISO 19011:2003 – Guidelines for Quality and/or Environmental Management Systems Auditing*.

### 3. PART 3A CONSENT CONDITIONS AND COMPLIANCE STATUS

In this section, as for previous audit reports, the consent conditions which are attached to the Part 3A approval for the project (dated 24 February 2007 and amended on 24 June 2010) and the conditions of approval relating to the containment cell (dated 9 April 2008) are reproduced (in italics) and the findings of the current audit are provided below each condition.

The DoP requested that the Audit report findings of:

- Compliance
- Non-Compliance
- Inability to be determined

In addition to these three categories, the Auditor has included a fourth category titled "satisfied". This category relates to those conditions which have been complied with and are now complete, satisfied, and require no further review by subsequent audits.

Compliance with the approval conditions relating to the Part 3A approval are discussed in Section 3, and those applying to the containment cell in Section 4 below.

A table summarising the level of compliance with each of the consent conditions is attached in Appendix B.

#### **(1) GENERAL**

##### **Terms of Approval**

- 1.1** *The Proponent shall carry out the project generally in accordance with:*
- a) *Major Projects Application 06\_0184;*
  - b) *Environmental Assessment Report Pasminco Cockle Creek Smelter Site Remediation Project, prepared by Fitzwalter Group Pty Limited dated August 2006, and appendices;*
  - c) *Submissions Report prepared by Fitzwalter Group Pty Limited and dated 21 November 2006; and*
  - d) *the conditions of this approval.*

The auditor viewed the abovementioned documents and noted their content. It is considered that the project is being carried out generally in accordance with these documents and therefore that this condition was satisfied as of 30 June 2013. Refer also to Sections 4, 5 and 6 of this Report.

- 1.2** *In the event of an inconsistency between:*
- a) *the conditions of this approval and any document listed from condition 1.1a) to 1.1c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and*
  - b) *any document listed from condition 1.1a) to 1.1c) inclusive, and any other document listed from condition 1.1a) to 1.1c) inclusive, the*

most recent document shall prevail to the extent of the inconsistency.

The intention of this condition is noted.

### **Limits of Approval**

1.3 This condition was satisfied in a previous audit and does not need to be re-assessed.

1.4 The project shall be undertaken in a maximum period of five years from the date of commencement of the works the subject of this approval. If, however, justifiable delays occur in the remediation project, then the Proponent may apply to the Director-General for an extension to this deadline. This application shall be submitted to the Director-General as early as possible from the time the Proponent is aware of such delays. The application must outline the new timeframe, justify any delays, and describe measures that will be implemented to minimise environmental impacts and achieve compliance with this approval. After reviewing this application, the Director-General, in consultation with the DEC, may approve an extension to the above deadline, and may require the Proponent to carry out further investigations or works to mitigate impacts as considered necessary.

An application for extension of time was made as in December 2012 to extend the period to eight years. This was granted in the Notice of Modification issued by DoPI on 17 Decemver 2012.

### **1995 Development Consent: Surrender and Continuing Provisions**

#### **Surrender of Consent**

1.5 This condition was satisfied in a previous audit and does not need to be re-assessed.

### **Continuation of Lead Abatement at Nominated Properties**

1.6 The Proponent shall develop and implement a Lead Abatement Program at nominated properties (as identified in conditions 42, 43 and 44 and Figure 1 of the 1995 consent (DA No. 29/94)) to the satisfaction of the DEC for an agreed period of time during the remediation of the site, and shall include, but not necessarily be limited to:

- a) consideration of comments provided by the DEC, NSW Health, Council and the Department on the document titled "Lead Abatement Strategy Implementation Documentation" dated November 2006;
- b) timeframes and detailed methods for the following general program components
  - i) consultation;
  - ii) soil analysis;
  - iii) development and undertaking of lead abatement measures;
  - iv) preparation of documentation for the property owners identifying the property status following the implementation of the program;
  - v) the management of the strategy;
- c) procedures and systems to manage and maintain information and records generated by the implementation of the program;

- d) application, on a voluntary basis, to properties with lead levels in soil above 300 ppm, or as otherwise agreed by the DEC;
- e) endorsement by technical advisers including, but not necessarily limited to, a Site Auditor and a lead specialist;
- f) a goal to commence the program by 1 March 2007, including a plan for the successful agreement of the program arrangements by all relevant parties and for program approval prior to 1 March 2007;
- g) definition of the role of the Environmental Health Centre (EHC) or an alternative method for fulfilling the role of the EHC should the EHC cease to exist; and
- h) a long term community education program and management plan, and means for funding this program/plan in order to assist residents in nominated properties in managing any residual risk associated with lead contamination

Remediation works on the site shall not commence until the terms of the program has been accepted in writing by the DEC and the Director-General.

Implementation of the Program may be staged with the agreement of the DEC and the Director-General.

The “development” component of this condition was satisfied in a previous audit and does not need to be re-assessed. The ‘consultation’ phase ended on 31 July 2011, and the “implementation” phase was completed at the end of 2012, during this audit period. This condition is therefore satisfied and does not need to be re-assessed.

1.7 This condition was satisfied in a previous audit and does not need to be re-assessed.

### **Continuation of Lead Slag Processing Jig**

1.8 - 1.13 These conditions were satisfied in a previous audit and do not need to be re-assessed.

### **Subdivision of Land**

1.14 To avoid any doubt, the consent authority for any application for the subdivision of land within the site that has been remediated in accordance with this approval is the local council.

1.15 The Proponent shall provide such information as may be required by the subdivision consent authority with respect to the assessment of the subdivision of land within the site or with respect to the notation of the certificate(s) applying under section 149 of the Environmental Planning and Assessment Act 1979.

1.16 Land within the site that has been subdivided shall not be occupied (in accordance with the provisions of Section 109H of the EP&A Act) until remediation activities involving handling of contaminated materials in adjacent lots or in a buffer zone of at least 200 metres in the adjacent lot, whichever is the greatest, have been completed, unless otherwise agreed by the Director-General and the DEC.

These conditions are noted. An application for subdivision of the Cardiff West Estate was made and this area has now been excised from the Site.

## **Statutory Requirements**

*1.17 The Proponent shall ensure that all licences, permits and approvals are obtained and maintained as required throughout the life of the project. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent shall ensure that a copy of this approval and all relevant environmental approvals are available on the site at all times during the project.*

In addition to these consent conditions, an Environmental Protection Licence (EPL no. 5042) applies to the site activities. The EPL was renewed by DECCW in September 2010, including the conditions for the cell construction, and was renewed again in January 2013.

A permit from the Department of Natural Resources also exists which allows for the installation of groundwater monitoring wells. Copies of the EPL and the DoP Consent Conditions were kept in the site office, along with copies of all contractor's licences, permits and insurances. All were available for inspection. PCCS was therefore in compliance with this condition as of 30 June 2013.

*1.18 The Proponent shall engage an independent Site Auditor accredited under Part 4 of the Contaminated Land Management Act 1997 to provide advice throughout the remediation project and on completion of the project as required in this approval and as required by the DEC.*

An independent Site Auditor was employed in 2003 but subsequently resigned from the position by virtue of the then auditor ceasing to undertake audit work. The current contaminated land site auditor's contract commenced in August 2008 and has been sighted. He (Graeme Nyland) continued in this role as of 30 June 2013. PCCS was therefore in compliance with this condition as of the same date.

## **Compliance**

*1.19 The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.*

Inductions were carried out for all new personnel (including contractors' staff) coming on to the site, with the exception of visitors and delivery drivers. They were made aware of the conditions of approval applying and all site rules and procedures are enforced. If necessary, individuals are removed from the site for failure to comply.

Consultants were provided with copies of the relevant conditions relating to their work. PCCS was therefore in compliance with this condition as of 30 June 2012.

**1.20** *The Proponent shall be responsible for environmental impacts resulting from the actions of all persons on site, including contractors, sub-contractors and visitors.*

**1.21** *The Proponent shall meet the requirements of the Director-General in respect of the implementation of any measure necessary to ensure compliance with the conditions of this approval, and general consistency with the documents listed under condition 1.1. The Director-General may direct that such a measure be implemented in response to the information contained within any report, plan, correspondence or other document submitted in accordance with the conditions of this approval, within such time as the Director-General may agree.*

These conditions are noted.

**1.22** *The Proponent shall inform the Department and the DEC in writing as soon as practicable and within seven days of the Proponent becoming aware of any information or data indicating a material change in conditions at the site or in its surrounding environment which could adversely affect the prospects of successful investigation or remediation of the site, or result in harm to the environment.*

No significant changes in conditions at or around the site were identified that would have had an adverse effect prior to this audit period. However in January 2013 the cell construction was changed under approval to receive contaminated soil from the adjacent Incitec site which is also undergoing remediation. This condition is noted.

**1.23** *The Proponent shall inform the Department and the DEC in writing as soon as practicable and within seven days of the Proponent becoming aware of any failure, either by the Proponent or any other person, to comply with any component or aspect of the proposal.*

A number of minor non-compliances related to sampling and monitoring requirements are reported in the Annual Return for the EPA Licence.

The only identified failures considered to be of significance within the period covered by this audit are those that relate to overflows of stormwater dams as a result of heavy rainfall events. These are identified and discussed under conditions 9.1 – 9.3 and containment cell condition E13.4, below. Copies of correspondence from site to EPA officers have been sighted that refer to dam overflows at those times.

## **(2) STAGING AND COORDINATION OF REMEDIATION WORKS**

- 2.1** The Proponent shall undertake the project in a staged and orderly manner, subject to the following provisions:
- a) remediation and validation of the 11 separate development areas identified in the documentation referred to in condition 1.1, shall be carried out in an orderly sequence generally in accordance with the EA and supporting documents, or as modified by any approved detailed design carried out in accordance with conditions 2.2, 2.3, 3 and 7.3;
  - b) construction of the containment cell(s) shall be staged in conjunction with the staged remediation of the site generally in accordance with the EA and supporting documents, or as modified by the conditions of this approval;
  - c) excavation and/or earthworks involving contaminated material shall not occur simultaneously in more than three development areas identified in the EA (excluding the containment cell(s) development areas) unless approved by the Director-General; and
  - d) demolition of buildings (not including concrete slabs and underground services) shall be completed prior to commencement of remediation.

The original 11 development areas described in the Environmental Assessment associated with the Part 3A approval have been amalgamated into five parcels and the cell (as described in the RMP) plus the Angophora Area. The containment cell approval requires staging of the works and authority sign-off before commencing the next stage. As of 30 June 2013, remediation was completed in Parcels 1, 2 and 3; Parcel 4 was largely completed, and remediation is proceeding in Parcels 5 and 6. PCCS was therefore in compliance with this condition as of 30 June 2013.

### **Remediation Master Plan & Remedial Action Works Plans**

- 2.2** This condition was satisfied in a previous audit and does not need to be re-assessed.
- 2.3** The Proponent shall prepare and submit for the approval of the Director-General and the DEC, detailed **Remedial Action Works Plans (RAWPs)** specific to the relevant stages and/ or areas of the site to be remediated (including the area of the containment cell(s)). For each RAWP, the Proponent shall carry out the necessary investigations in order to develop robust remediation options to address the "significant risk of harm" and to ensure that each part of the site is suitable for the proposed end use prior to the identification of the preferred option. The RAWPs shall:
- a) address the "significant risk of harm" issues on the area to be remediated;
  - b) be developed specifically for the proposed and approved end use of each part of the site to be remediated;
  - c) include the remedial goals, a discussion on the extent of the remediation required and the remediation options;
  - d) include a listing of all selected remedial criteria and the rationale for their selection;
  - e) be consistent with the requirements of the Environment Protection Authority's Guidelines for Consultants Reporting on Contaminated Sites (1997) as they relate to remedial action plans and validation reports;

- f) include a validation plan;
- g) include all reasonable measures to ensure that there is minimal recontamination from on-site remediation activities that would affect the proposed use of the already remediated areas of the site;
- h) include environmental management plans specific to the stage in accordance with conditions 7.3 and 7.4;
- i) include details of environmental performance measures and monitoring to be used for the evaluation of all remediation and monitoring works, and what contingencies will be taken to address any identified adverse environmental impacts; and
- j) include the requirements of relevant Site Audit Reports and Site Audit Statements issued to date by the Site Auditor for the site.

Each RAWP shall be reviewed and by the Site Auditor, who shall prepare a Site Audit Statement(s) and a Summary Site Audit Report(s) on the suitability of each RAWP to address the remediation objectives for the site, prior to submission of the RAWPs to the Director-General and the DEC for approval. Remedial works in a stage and/or area shall not commence until the RAWP specific to that area/stage has been approved by the Director-General and the DEC. Nothing in this approval precludes the combination of RAWPs and/ or the Remedial Master Plan into one or more documents.

The auditor sighted all DECCW and DoP letters of approval for Parcels 2, 3, 4, 5 and the Angophora Reserve. No approvals for Parcel 1 were obtained as this was commenced prior to the conditions applying. This completes the RAWP's for all areas of the site and this condition has therefore been satisfied as of 30 June 2013.

### **(3) PROJECT DESIGN AND PERFORMANCE**

**3.1** Unless otherwise modified through an approved Containment Cell Detailed Design and Construction Report required under condition 3.2, the containment cell(s) associated with the project shall be located and sized in accordance with the following general parameters:

- a) the cell(s) shall be constructed within the boundaries of Lot 201 DP 805914 in a location consistent with Figure 3.1 of the EA and the recommendations made in the document Pasminco Cockle Creek Smelter Site Conceptual Containment Cell Design and Management Plan prepared by Maunsell and dated September 2005;
- b) the cell(s) shall cover an area no larger than (and within) the footprint bounded by the white line on Figure 3.1 of the EA ;
- c) unless otherwise agreed by the DEC, the cell(s) shall contain no more than 1, 200,000 m<sup>3</sup> of waste material (excluding capping and encapsulation material) sourced only from the site and the nominated properties identified in condition 1.6; and
- d) the cell(s) shall be shaped generally in accordance with the document Visual Assessment of Proposed Cell Structure prepared by Conybeare Morrison International and dated June 2005, with an upper height limit of the top surface (including capping) of RL 34 metres.

The detailed Containment Cell Design which has been approved by DECCW dated 9 April 2008 (with amendments approved by DoP on 28 June 2010) conforms to these requirements.

The volume of the revised cell design as at 30 June 2013 was increased under approval to 1.65 million m<sup>3</sup> in December 2012 (Modification 4). PCCS was therefore in compliance with these conditions as of 30 June 2013.

- 3.2 As noted in the previous audit, this condition was satisfied. The assessment of approval conditions relating to the cell design are addressed in Section 4.
- 3.3 This condition was satisfied in a previous audit and does not need to be re-assessed.
- 3.4 This condition was satisfied in a previous audit and does not need to be re-assessed.
- 3.5 *As-constructed drawings shall be prepared from field surveys which depict the basal elevation of the containment cell(s), slag stockpiles, the upper surface of the liners, pipe grades in the leachate collection and conveyance systems, geotextiles, engineered liners and each layer of the cap. Copies of these drawings shall be provided to the Director-General and the DEC.*

This condition is noted; refer Cell Approval Conditions E6.1 and E9.1.

- 3.6 *Prior to placing any material in the containment cell(s), the Proponent shall seek and obtain approval from the DEC for each part of the containment cell(s), providing a report to confirm that the cell's infrastructure including the construction and lining of any dams, has been installed in accordance with the approved design and construction specifications. To obtain this approval, the Proponent shall submit a report(s) to the DEC and include the 'as constructed drawings', the construction quality control results and written advice from the person(s) overseeing the works to advise whether or not they were installed in accordance with the approved design and construction specifications. Documentation shall be provided to the DEC, for approval in writing by the DEC, within three months of constructing the up-gradient and down-gradient shallow aquifer works surrounding the containment cell(s), to confirm that these works were installed in accordance with the approved design and construction specifications.*

<p><i>Note: The DEC has advised that it will endeavour, as far as possible, to provide the approval(s) required under this condition within two weeks of receiving the Proponent's approval request and the necessary and adequate information.</i></p>
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Approvals from DECCW were obtained for containment cell Stages A, B, C1 & C2 and were dated between August 2009 and June 2010; the approval for stage B2-1 was received on 25 March 2011 and approval for B2-3 was received on 26 June 2012. Stage B2-2 was approved on 23 October

2012. PCCS was therefore in compliance with this condition as of 30 June 2013.

- 3.7** *Sludge from the existing and proposed effluent treatment plants shall be disposed of in a containment cell(s) in accordance with an approved Containment Cell Detailed Design and Construction Report (refer to condition 3.2) and, after the containment cell(s) is capped shall be lawfully disposed of off-site.*

Sludge from the ETP was being disposed of in the containment cell as of 30 June 2013. PCCS was therefore in compliance with this condition as of the same date..

- 3.8** *Prior to placing any shipping container(s) into the containment cell(s), the Proponent shall demonstrate to the satisfaction of the DEC that the structural integrity of the shipping container(s) will not fail in future in a manner that would compromise the integrity of the containment cell(s).*

It is now intended that no shipping containers will be placed into the containment cell. This condition has therefore been satisfied.

- 3.9** *The Proponent shall not reuse existing HDPE liner(s) covering stockpiles on the site without the prior approval of the DEC. In seeking the DEC's approval to reuse the HDPE liner(s), the Proponent shall provide evidence to the satisfaction of the DEC that the liner(s) has not been damaged by UV light and/or does not have holes in it.*

As at 30 June 2013, no HDPE liners have been re-used on the site. This condition was, therefore, complied with as of the same date.

- 3.10** *The Proponent shall ensure that all materials placed in the containment cell(s) do not contain any free liquids as defined in the Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Waste (DEC, 1999).*

This is noted; as of 30 June 2013, no materials containing free liquids have been placed into the cell. PCCS was therefore in compliance with this condition as of 30 June 2012.

- 3.11** *All materials used in the cap of the containment cell(s) shall be VENM, unless otherwise approved by the DEC.*

This is noted; all capping materials used up until 30 June 2013 have been VENM, in accordance with the cell staged approvals referred to in the response to 3.6. PCCS was therefore in compliance with this condition as of 30 June 2013.

**(4) SPECIFIC ENVIRONMENTAL CONDITIONS**

**Water Quality Impacts**

- 4.1 *Except as may be expressively provided by an Environment Protection Licence for the project, the Proponent shall comply with section 120 of the Protection of the Environment Operations Act 1997 which prohibits the pollution of waters.*

This condition is noted. PCCS was in compliance with this condition as of 30 June 2013.

- 4.2 *The Proponent shall ensure that contaminated and potentially contaminated water is only used for dust suppression in areas of the site that are yet to be remediated and that drain to the contaminated water storage dams and/or the containment cell(s)' storage dam on site.*

All contaminated and potentially contaminated water was collected in on-site storage dams and was pumped to the water treatment plant and treated before being discharged from the site; it was also used for dust suppression in areas that were to be remediated. PCCS was therefore in compliance with this condition as of 30 June 2013.

**General Water Management Infrastructure Design and Performance**

- 4.3 *Prior to commencement of construction of the containment cell(s), the Proponent shall, unless otherwise approved by the DEC, ensure that a storage dam is in place to contain all:*
- a) *leachate removed from the collection and conveyance system for the cell(s);*
  - b) *polluted/ contaminated groundwater removed from the up-gradient and down-gradient collection trenches for the cell(s); and*
  - c) *surface run-off from which has come into contact with contaminated materials in the containment cell(s).*

*The dam, designed in accordance with the requirements of condition 3.2, shall be lined with a minimum 1.5 millimetre-thick HDPE liner, or as otherwise approved by the DEC.*

This dam was in place and was subject to the separate Containment Cell approval of 9 April 2008. The dam however, is a longstanding existing dam that has been cleaned out since the Part 3A approval and does not have an HDPE liner. This was not considered to be a non-compliance in the previous audit as it has been separately approved by DECCW. PCCS was therefore in compliance with this condition as of 30 June 2013.

- 4.4 *Unless otherwise approved by the DEC, the Proponent shall install a suitably-designed geotextile material:*
- a) *surrounding the drainage layer in the cap of the cell(s); and*
  - b) *over the entire surface of the leachate drainage layer of the cell(s).*

*Design and installation of the geotextile material shall be to the satisfaction of the DEC.*

Condition 4.4 has been covered under the compliance with condition 3.1 and the cell approval conditions.

- 4.5** *The Proponent shall operate the containment cell(s)' storage dam to maximise the dam's available storage capacity by optimising the use or treatment of water from the dam.*

Condition 4.5 was achieved on a continuing basis in accordance with the approved conditions of the Contaminated Water Management Plan (CWMP) which is addressed in condition 7.4 (b) and discussed below PCCS was therefore in compliance as of 30 June 2013.

- 4.6** *Unless otherwise approved by the DEC, the Proponent shall ensure that all contaminated water contained in the containment cell(s)' storage dam is only discharged in the following manner:*
- a) via either the existing or proposed effluent treatment plant(s); or*
  - b) through overflow of the dam only if rainfall on the site has exceeded 1093 millimetres in the preceding twelve-month period and the Proponent can demonstrate compliance with condition 4.5 to the satisfaction of the DEC.*

Under normal conditions, water was pumped from the storage dams to the water treatment plant, then allowed to discharge to Cockle Creek. However under heavy rainfall, dam overflow waters discharged directly and manual sampling was then undertaken. This occurred on two occasions during the audit period and further information is provided in response to condition 9.1, below. PCCS was therefore in compliance as of 30 June 2013.

### **Groundwater Management**

- 4.7** *The Proponent shall ensure that the up-gradient cut-off wall(s) and up-gradient collection trench(es) for the containment cell(s) are installed and operational within three months of the approval of the Containment Cell Detailed Design and Construction Report, or the relevant part(s) of that Report (refer to condition 3.2), unless otherwise agreed by the DEC. This condition applies to the shallow aquifer surrounding the containment cell.*

This condition is noted, but is subject to the separate Containment Cell approval which effectively supersedes the noted dates. See cell condition E2.1.

- 4.8** *Groundwater collected in the shallow up-gradient groundwater interception trench(es) shall be discharged directly to the containment cell(s)' storage dam or the effluent treatment plant, unless otherwise approved by the DEC.*

This was occurring as of 30 June 2013, and PCCS was therefore in compliance as of same date.

Note though that this is also subject to the separate Containment Cell approval, and that construction of the down-gradient collection trench commenced in May 2012 and was completed in June 2013

- 4.9 *The Proponent shall ensure that the down-gradient collection trench(es) for the containment cell(s) are installed and operational within three years of the approval of the Containment Cell Detailed Design and Construction Report, or the relevant part(s) of that Report refer to condition 3.2), unless otherwise approved by the DEC. This condition applies to the shallow aquifer surrounding the containment cell.*

This condition is noted as per condition 4.7, but is also subject to the separate Containment Cell approval.

- 4.10 *Unless otherwise approved by the DEC, groundwater collected in the shallow down-gradient groundwater interception trench(es) shall be discharged directly to the containment cell(s)' storage dam or the effluent treatment plant.*

This condition is noted, but is subject to the separate Containment Cell approval of 9 April 2008.

- 4.11 *Unless otherwise approved by the DEC, the elevation of shallow groundwater in the up-gradient and down-gradient collection trenches shall be maintained at levels approved by the DEC by a system of automatic pumping to the containment cell(s)' storage dam. The pump(s) shall be configured to cut out if the dam's freeboard capacity is exceeded. A high level visual alarm shall also be installed to indicate if the groundwater elevation is greater than the level approved by the DEC.*

This condition is noted, and is subject to the separate Containment Cell approval of 9 April 2008. See containment cell approval condition E4.2; three out of the four up-gradient sumps/pumps were automated as of 30 June 2013. No alarms had been fitted as of the same date, as the sumps are regularly checked by on-site personnel.

### **Leachate Management**

- 4.12 *The Proponent shall ensure that leachate extracted from the leachate collection and conveyance systems in the containment cell(s) is not discharged into the shallow groundwater collection trenches, and is instead discharged into the containment cell(s)' storage dam or the effluent treatment plant, unless otherwise approved by the DEC.*

- 4.13** *Unless otherwise approved by the DEC, the elevation of leachate on the base of cell(s) shall be maintained at levels approved by the DEC by a system of automatic pumping to the containment cell(s)' storage dam. The pump(s) shall be configured to cut out if the dam's freeboard capacity is exceeded. A high level visual alarm shall also be installed to indicate if the leachate level in the cell(s) is greater than the level approved by the DEC.*

Noted. These conditions 4.12 and 4.13 are also covered in the detailed cell design, as evidenced by the separate Containment Cell approval. The new effluent/leachate treatment plant was completed in June 2013, but the alarm is yet to be installed.

### **Surface water and Stormwater Management**

- 4.14** *Unless otherwise approved by the DEC, the Proponent shall ensure that contaminated stormwater contained on the site for up to average monthly rainfall conditions is only discharged from the premises via either the existing or proposed effluent treatment plant.*

See response to condition 4.6. PCCS was in compliance as of 30 June 2013.

- 4.15** *Where practicable, any new and/or enlarged stormwater containment dam (excluding the containment cell's storage dam) that collects contaminated water from the site shall be lined with a minimum 1.5 millimetre nominal thickness HDPE liner prior to commencement of its use, unless otherwise approved by the DEC.*

Most new dams (other than the main storage dam – Hawkes Dam) are temporary and are not lined. As for the previous audit, the auditor concurs that it would generally not be considered 'practicable' or cost effective for these short term dams to be lined with HDPE. This is therefore not considered to be a non-compliance.

- 4.16** *Unless otherwise approved by the DEC, all surface water and stormwater storage dams shall have sediment basin markers installed to identify the upper level of contaminated sediment storage to assist in triggering action to de-silt the dams.*

Sediment basin markers had not been installed in any of the dams as of 30 June 2013; however water level indicators have been installed in the dams. While this is considered to be a technical non-compliance with the condition, in practice all dams on the site are pumped or overflow such that they are caught by dams identified in the Contaminated Water Management Plan as required under condition 7.4 (b), which has been approved and fully addresses the intent of this condition. Furthermore, the Cell Approval enhances this condition by defining acceptable volumetric specifications

for all temporary dams obviating the need for sediment markers.

- 4.17** *Pumped discharges to Cockle Creek from any dam that collects stormwater run-off shall contain total suspended solids at a concentration of no greater than 50 mgL<sup>-1</sup> where the run-off originates from:*
- a) *unvegetated areas of the site where the only contaminant which can be released is VENM; and/or*
  - b) *those areas which have been remediated to the approved landuse and before revegetation or construction.*

This is the limit which is applied on-site for run-off from those specific areas that have been remediated but were unvegetated as at 30 June 2013 due to validation purposes or due to the time taken for revegetation to occur. Note this is different from the EPL limit for discharges of treated waters (60 mg/L, 100 percentile conc. limit). Until revegetation of these areas is well established, waters from these areas are collected on site for treatment pre-offsite disposal. As such, PCCS was in compliance as of 30 June 2013. Note that Dam C on the Triangular Paddock (Parcel 3) was converted to a sediment control dam in October 2011 and the EPA was notified. Any pumped discharge water from this dam is tested for suspended solids prior to discharge.

- 4.18** *Unless otherwise approved by the DEC, contaminated and potentially contaminated run-off, other than from the containment cell(s) and run-off contaminated only with VENM, shall be contained on the site for up to average monthly rainfall conditions without overflowing, in accordance with the water balance required under condition 7.4. The capacity of the dams for containment of this run-off shall be subject to the approval of the DEC. The Proponent shall ensure that run-off water containment is in place prior to the commencement of remediation works on the site.*

Details were provided in the Contaminated Water Management Plan (CWMP) by Golder Associates (September 2008), which has been approved by DECCW and DoP; run-off containment was in place prior to commencement of remediation works. The condition therefore continues to be satisfied as of 30 June 2013.

### **Sewer Discharges**

- 4.19** *Prior to the commencement of any discharges of wastewater/leachate from the cell system into the sewer, the Proponent shall:*
- a) *seek agreement from Hunter Water Corporation to discharge wastewater/ leachate from the cell to the sewer;*
  - b) *report to the Department as to whether Hunter Water Corporation has agreed to a Trade Waste Agreement; and*
  - c) *if Hunter Water Corporation agrees with the Trade Waste Agreement, implement the Agreement in accordance with Hunter Water Trade Wastewater Policy and the conditions of the Agreement.*

This was the subject of correspondence between Acor Consultants and Hunter Water Corporation. In-principle agreement was reached with HWC but a Trade Waste Agreement for discharge to the sewer

is not yet required and has not yet been obtained. This was still the case as of 30 June 2013, but will need to be addressed in later audit reports.

### ***Air Quality Discharges***

- 4.20** *The Proponent shall ensure that the project is undertaken in a manner that minimises or prevents dust emissions from the site, including wind-blown and traffic generated dust.*

This condition is noted and it appears that the works were generally in compliance as at 30 June 2013. A dust complaint was received on 30 October 2012 from a resident during strong winds; personnel discussed the matter with the person who was satisfied with the response.

- 4.21** *All vehicles associated with the project that are carrying material that may generate dust, shall be covered at all times, except during loading and unloading. Such vehicles shall be covered or enclosed in a manner that will prevent emissions of dust from the vehicles at all times.*

PCCS was in compliance as of 30 June 2013; the only vehicles which were uncovered were those carrying material which is moist and not able to generate dust.

- 4.22** *The Proponent shall ensure that no offensive odour, as defined under section 129 of the Protection of the Environment Operations Act 1997, is emitted beyond the boundary of the site.*

PCCS was generally in compliance with this condition as of 30 June 2013; no odour complaints were received during the audit period.

- 4.23** *The Proponent shall install, operate and maintain during [the work] a meteorological station at the site for the duration of the project, in accordance with requirements of AS2922 1987 "Ambient Air Guide for Siting of Sampling Units" or its most contemporary version. The Proponent shall use the monitoring station to monitor parameters in accordance with condition 5.2.*

The meteorological station has been monitoring continuously since 18 October 2007 in the present location up until 30 June 2013. It was subsequently moved to a new location in August 2013. PCCS was therefore in compliance with this condition as at 30 June 2013. See response to condition 5.2.

## **Noise Impacts**

**4.24** *The Proponent shall only undertake works associated with the project that may generate an audible noise at the closest residential receptor during the following hours:*

- a) 7:00 am to 6:00 pm, Mondays to Fridays;*
- b) 7:00 am to 1:00 pm on Saturdays; and*
- c) at no time on Sundays or public holidays.*

*This condition does not apply under direction from a relevant authority for safety reasons, or in the event of an emergency where works are required to avoid the loss of lives, property and/or to prevent environmental harm.*

It appears that this condition was generally being complied with as at 30 June 2013; one noise monitoring exceedance was noted in the Boolaroo residential area in March 2013.

**4.25** *The Proponent may seek the Director-General's approval to alter the hours referred to under condition 4.24 for a specific work or class/group of works. In seeking the Director-General's approval, the Proponent shall provide details of the expected timing, duration, anticipated impacts and mitigation measures to be applied to the works. In granting approval to alteration of the hours of works, the Director-General may require the Proponent to notify any affected receptors of the works prior to their commencement.*

This condition is noted. It appears that there had not been a request as at 30 June 2013 to alter the hours referred to in 4.24 above.

**4.26** *The Proponent shall design and undertake all works to ensure that the noise contributed from the project to the background acoustic environment in any residential area does not exceed 5dB(A) above background noise levels.*

It is understood that this condition was generally being complied with as at 30 June 2012. Noise compliance surveys were undertaken as follows: September and December 2012, March and June 2013. All results complied with the relevant criteria with the exception of one elevated reading at Boolaroo in March 2013..

**4.27** *The Proponent shall hold, and maintain for the duration of remediation, contingency for the placement of noise attenuation barriers along the boundaries of Areas 2, 5 and 8 (as shown in the EA) immediately opposite residences in Boolaroo. The erection of such barriers shall be determined by the results of liaison with the potentially affected residents and monitoring of noise levels during the remediation works.*

The noise mounds that were previously present have all been removed as at 30 June 2013. The number of steel shipping containers remain on site ready to be placed as noise barriers at short notice

if required (they were not required as of June 2013). PCCS was therefore in compliance with this condition as of 30 June 2013.

**4.28** *Notwithstanding condition 4.25, the Director-General may require the Proponent to install noise attenuation barriers if noise monitoring results submitted to the Department as part of any project progress reporting or provided as a result of a request by the Department indicate significant exceedance of the criteria caused by noise generated from the project.*

This condition is noted. No such requirement was relevant as of 30 June 2013.

### ***Heritage Impacts and Management***

**4.29** *The Proponent shall prepare a **Conservation Management Plan** to include measures to be employed for the ongoing use and preservation of the Old Laboratory and the collection of historical archives and artefacts accumulated during the pre-demolition heritage investigations. The Plan shall be prepared in consultation with the Department's Heritage Office and shall include provisions for the ongoing management and funding of the implementation of the plan. The plan shall be submitted to the Department prior to completion of remediation.*

A Conservation Management Plan for the Old Laboratory was prepared in accordance with Heritage Guidelines and was reviewed and endorsed by Council as part of a DA to refurbish the building, which took place during the audit period. This is seen as "practical compliance" with the consultation requirements of this condition. It has also been provided to DoP. A Heritage Interpretation Plan for the site was prepared by consultants, endorsed by Council, and provided to DoP. PCCS has therefore satisfied this condition, and it does not need to be re-assessed in future audits.

## (5) ENVIRONMENTAL MONITORING AND AUDITING

### **Air Quality and Meteorological Monitoring**

5.1 The Proponent shall prepare and implement an **Air Quality Monitoring Program** for the remediation works as part of the Air Quality Management Plan required under condition 7.4. The Program shall include dust deposition, ambient monitoring and continuous monitoring in accordance with a real time/ reactive dust management strategy prepared for the remediation works. The location and operation of monitoring stations shall be conducted in accordance with the requirements of Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (DEC, August 2005) or its contemporary version. The Program shall specify the number and location of continuous sampling points for fine particulate ( $PM_{10}$ ) complying with Approved Method 22 (AM-22) and lead during each stage of the works, to ensure sufficient representation of the relevant sensitive receptors at each stage of the remediation works. The location of these sampling points shall be reviewed and amended as the location and scope of remediation changes.

The Air Quality Monitoring Program was continued during the audit period with quarterly monitoring reports prepared for Q3 & Q4, 2012 and those for Q1 & Q2, 2013 included in the combined Environmental Monitoring Reports by Golder Associates, dated March 2013 and June 2013 respectively. PCCS was therefore in compliance with this condition as at June 2013.

5.2 From the commencement of any works on the site, the Proponent shall continuously monitor, utilising the meteorological monitoring station referred to under condition 4.23 of this approval, each of the parameters listed in Table 1, utilising the sampling method indicated and applying the averaging period and units specified in the Table.

**Table 1 – Meteorological Monitoring**

Parameter	Units of measure	Averaging Period	Sampling Method
Rainfall	mm	1-hour	AM-4
Wind speed @ 10 metres	$ms^{-1}$	15-minute	AM-2 & AM-4
Wind direction @ 10 metres	$^{\circ}$	15-minute	AM-2 & AM-4
Temperature @ 2 metres	$^{\circ}C$	15-minute	AM-4
Temperature @ 10 metres	$^{\circ}C$	15-minute	AM-4
Sigma theta @ 10 metres	$^{\circ}$	15-minute	AM-2 & AM-4
Solar radiation	$Wm^{-2}$	15-minute	AM-4

The meteorological station has been monitoring continuously since 18 October 2007 in accordance

with this condition and condition 4.23. Some minor losses of data occurred during the audit period due to technical problems. This condition was satisfied as of 30 June 2013. Results were reported with the air quality monitoring results (see 5.1 above).

### **Surface Water and Groundwater Monitoring**

**5.3** *The Proponent shall prepare and implement a **Groundwater Monitoring Program** for the remediation works and post remediation activities as part of the environmental management plans required under conditions 7.4 and 8.6. The Program shall be submitted to the DEC for approval prior to the commencement of remediation. The Program shall be developed to assess trends over an appropriate timeframe and measurement of seasonal variation. The Program shall include, but not necessarily be limited to:*

- a) requirements to monitor both the shallow and deep aquifer in and around the containment cell(s) commencing no later than six months after the date of this approval;*
- b) an aim of determining the connectivity between the shallow and deep aquifers, and use of the data for the fate and transport model required under condition 3.2, which will inform the consideration and approval of the cell(s) design);*
- c) groundwater quality monitoring parameters, including also parameters that modify toxicity;*
- d) construction details and location of monitoring bores and frequency of sampling; and*
- e) reporting requirements.*

**5.4** *Groundwater interception and monitoring shall be continued until it is demonstrated to the satisfaction of the DEC that there is no longer a significant risk of harm posed by the contamination on or moving off the site.*

**5.5** *The groundwater monitoring in the shallow and deeper aquifer around the containment cell(s), outside the groundwater interception system, shall be continued until such time as the DEC agrees that it is no longer required.*

The Interim Groundwater Management Plan (IGMP) (by Fitzwalter, 2006) continued to be implemented. These conditions (5.3 – 5.5) were satisfied as of 30 June 2013. Note that condition 5.4 is ongoing. Since 2012, groundwater results have been reported in the 6 monthly combined Environmental Monitoring Reports by Golder Associates.

**5.6** This condition was satisfied in the previous audit and does not need to be re-assessed. See also condition 7.4b.

**5.7** *Within 14 months of commencement of the placement of materials in the containment cell(s) above the leachate collection system a report shall be provided to the DEC to validate the water balance used to size the containment cell(s)' storage dam. The volume of each input and output of liquid into the dam shall be monitored daily together with the daily rainfall depth measured at the premises for the first 12 months of operation of the containment cell(s). The report shall advise on the accuracy or otherwise of the water balance used to size the dam and the*

*circumstances for which the dam could overflow.*

Refer to cell approval condition E10.1. The report by Golder Associates of November 2009 on the Containment Cell Groundwater and Leachate Treatment System was approved by DECCW on 18 February 2010.

5.8 This condition was satisfied in the previous audit and does not need to be re-assessed.

### **Noise Monitoring and Assessment**

5.9 This condition was satisfied in the previous audit and does not need to be re-assessed.

5.10 This condition was satisfied in the previous audit and does not need to be re-assessed.

### **Environmental Auditing**

5.11 *Within twelve months of the commencement of works on the site and every year thereafter for the duration of the remediation works, or as otherwise agreed or required by the Director-General, the Proponent shall commission an independent, qualified person or team to undertake an Environmental Audit of the project. The independent person or team shall be approved by the Director-General prior to the commencement of the Audit. An **Environmental Audit Report** shall be submitted for the approval of the Director-General within one month of the completion of the Audit.*

*The Audit shall:*

- a) be carried out in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing;*
- b) assess compliance with the requirements of this approval, and other licences and approvals that apply to the project;*
- c) assess the environmental performance of the project against the predictions made and conclusions drawn in the documents referred to under condition 1.1 of this approval; and*
- d) review the effectiveness of the environmental management of the project, including any environmental impact mitigation works.*

*The Director-General may require the Proponent to undertake works to address the findings or recommendations presented in the Report. Any such works shall be completed within such time as the Director-General may require.*

This current independent environmental audit is the fifth which has been commissioned, and is in compliance with the condition for the period ending 30 June 2013. It has been undertaken in accordance with the requirements of the condition and should continue to be carried out on an annual basis, as required.

## **(6) COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT**

6.1 Subject to confidentiality, the Proponent shall make the documents required under this approval available for public inspection on request and free of charge.

The condition is noted; it is understood that no requests for documents were received as of 30 June 2013.

### **Provision of Electronic Information**

6.2 Prior to the commencement of any works associated with the project, the Proponent shall establish and maintain a new website, or dedicated pages within its existing website for the provision of electronic information associated with the project. The Proponent shall publish and maintain up-to-date information on this website or dedicated pages including, but not necessarily limited to:

- a) status of the remediation works and planned activities;
- b) general public information on the health effects of lead, or a link to relevant external public information;
- c) a copy of this approval and related regulatory instruments applying to the site;
- d) details of the monitoring programs and management plans required under this approval;
- e) summary results of monitoring undertaken as part of this approval; and
- f) details of a contact point(s) to which community complaints or inquiries may be directed, including a telephone number, a postal address and an email address.

The information listed was placed on the website ([www.pasminco.com.au](http://www.pasminco.com.au)), and a link allows access to the DoP (now Department of Planning & Infrastructure) website. The Pasminco remediation EA and DoP consent can be found by searching the DoP website or via the link from the Pasminco website.

This was confirmed and is therefore in compliance as at 30 Jun3 2013.

### **Complaints Procedure**

6.3 Prior to the commencement of any works associated with the project, the Proponent shall ensure that the following are available for community complaints during the project:

- a) a telephone complaints line, which must be operated during construction and operating hours, for the purpose of receiving any complaints from members of the public in relation to activities conducted at the site;
- b) a postal address to which written complaints may be sent; and
- c) an email address to which electronic complaints may be transmitted.

The Proponent must notify the public of the complaints line telephone number, postal address and email address on the website/dedicated pages referred under condition 6.3 prior to the commencement of works. The telephone number, the postal address and the email address shall be

displayed on a sign near the entrance to the site, in a position that is clearly visible to the public, and which clearly indicates the purposes of the sign.

The above requirements continue to be implemented for community complaints and requests for information. The condition therefore continues to be satisfied as of 30 June 2013.

- 6.4 The Proponent shall record details of all complaints received through the means listed under condition 6.3 in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:
- a) the date and time, where relevant, of the complaint;
  - b) the means by which the complaint was made (telephone, mail or email);
  - c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
  - d) the nature of the complaint;
  - e) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and
  - f) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register shall be made available for inspection by the Director-General upon request.

The Complaints Register is maintained on site, both electronically and as hard copy, and has been inspected. It appears to have satisfied the requirements of this condition as of 30 June 2013. It includes inquiries related to the site works as well as complaints. Most recorded entries as of 30 June 2013 relate to inquiries or minor complaints. Two complaints were recorded during the audit period (see under condition 4.2 above) and a number of enquiries were made from local community members.

- 6.5 This condition was satisfied in the previous audit and does not need to be re-assessed.

## **(7) REMEDIATION ENVIRONMENTAL MANAGEMENT**

### **Environmental Representative**

- 7.1 Within three months of the date of this approval, or as otherwise agreed by the Director-General, the Proponent shall nominate a suitably qualified and experienced Environmental Representative(s). The Proponent shall employ the Environmental Representative(s) on a full-time basis during the remediation works and post-remediation for a period agreed in consultation with the Director-General. The Environmental Representative shall be:
- a) the primary contact point in relation to the environmental performance of the remediation activities;
  - b) the primary interface with the Community;
  - c) responsible for all Management Plans and Monitoring Programs required under this approval;
  - d) responsible for considering and advising on matters specified in the conditions of this approval, and all other licences and approvals related to the environmental performance and impacts of the project;

- e) responsible for the management of procedures and practices for receiving and responding to complaints in accordance with condition 0 of this approval;
- f) responsible for facilitating an induction and environmental training program for relevant persons involved with the project; and
- g) given the authority and independence to require reasonable and feasible steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

The Proponent shall notify the Director-General, the DEC, NSW Health and Council and of the name and contact details of the Environmental Representative upon appointment, and any changes to that appointment that may occur from time to time.

It was noted that the appointed Environmental Representative (ER) continues to fulfil the roles listed in this condition. The current ER, Wayne Woodward, has held the position since late 2012. Prior to that, Stuart Munro held the position from September 2011, and Katrina Boyd held the position from July 2008 to September 2011; in the past, the required authorities were notified of the changes in the ER appointment by email. PCCS was therefore in compliance with this condition as at June 2013.

### **Interim Groundwater Remedial Plan**

7.2 This condition was satisfied in the previous audit and does not need to be re-assessed.

### **Remediation Environmental Management Plan**

- 7.3 The Proponent shall prepare and implement a **Remediation Environmental Management Plan** to detail environmental management practices and procedures to be followed during remediation. The Plan shall be consistent with *Guideline for the Preparation of Environmental Management Plans (DIPNR 2004)* and shall include, but not necessarily be limited to:
- a) a description of all remediation activities to be undertaken on site;
  - b) statutory and other obligations that the Proponent is required to fulfill during remediation including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
  - c) details of environmental controls to manage predicted environmental impacts;
  - d) details of how the environmental performance of the remediation works will be monitored, and what actions will be taken to address identified adverse environmental impacts;
  - e) a description of the roles and responsibilities for all relevant employees or contractors involved in the remediation project;
  - f) reporting requirements to the Site Auditor and relevant agencies;
  - g) the additional studies listed under condition 7.4 of this approval;
  - h) a complaints handling and response protocol as required under condition 6.4; and
  - i) mechanisms to ensure the on-going consistency of the Plan with the RAWPs referred to under condition 2.3.

The Plan shall be submitted to the Director-General and the DEC no later than one month prior to the commencement of any remediation works, or within such period otherwise agreed by the Director-General. Remediation works shall not commence until written approval of the Remediation Environmental Management Plan has been received from the Director-General

and the DEC. Unless otherwise agreed to by the DEC, the Plan shall be reviewed annually and the reviews of the Plan shall be notified to the Department and the DEC no later than two months after the yearly anniversary of the previous version of the Plan. Annual reviews of the Plan shall be submitted for the approval of the DEC. Nothing in this approval precludes the Applicant from preparing the Remediation Environmental Management Plan in one or more parts as it may be convenient to the relevant stage of the project and subject to compliance with this condition.

The 2011 Annual Review was submitted to OEH (formerly DECCW) and DoPI on 22 May 2013.

PCCS was therefore in compliance with this condition as at June 2013.

- 7.4 All of the requirements of this condition were satisfied in the previous audit and do not need to be re-assessed.

## **(8) COMPLETION OF REMEDIATION WORKS**

### **Validation of Remedial Works**

- 8.1 Upon completion of the remediation works within each stage and / or area of the site, final validation reports on the remediation, including the results of any groundwater monitoring program, shall be prepared by an appropriately qualified and experienced consultant on behalf of the Proponent. These reports shall be consistent with guidelines made or approved by DEC under Section 105 of the Contaminated Land Management Act 1997.
- 8.2 Validation reports prepared under condition 8.1 shall be reviewed by the Site Auditor. Site Audit Statement(s) and Summary Site Audit Report(s) shall be prepared by the Site Auditor certifying whether the remedial works within each stage and/ or area of the site have been carried out in accordance with the approved RAWPs, the conditions of this approval and any recommendations made the Site Auditor, and whether the remediated part of the site is suitable for its intended land use.
- 8.3 Validation reports and associated Site Audit Statements and Summary Audit Reports prepared under conditions 8.1 and 8.2, shall be submitted to the Director-General and the DEC. Land within the site shall not be sold or released for development unless approval of the validation report and associated Site Audit Report and Statement for that land have been obtained from the Director-General and the DEC.

As of 30 June 2013, remediation was completed in Parcels 1,2 and 3 and site audit statements or interim audit advices provided. Parcel 4 was largely complete and Parcels 5 and 6 are on-going and will require assessment in future audits.

- 8.4 Upon completion of containment cell(s), a certificate(s) prepared by a

suitably qualified structural engineer or a compliance certificate(s) issued by an accredited certifier, is to be submitted to the Principal Certifying Authority certifying that the cell(s) structure, where relevant, has been completed in accordance with plans and specifications approved in the Containment Cell Detailed Design and Construction Report.

The Minister for Planning issued a Modification to the Development Consent on 24 June 2010 which deleted condition 8.4, so this is no longer required.

- 8.5 Upon completion of the containment cell(s) a qualified structural or geotechnical engineer shall certify that all relevant works have been constructed in compliance with the plans approved by the Mine Subsidence Board under condition 3.4.

This condition was altered by the Modification to the Development Consent issued on 24 June 2010 to include the requirement that the works have also been constructed in compliance with the Containment Cell Detailed Design & Construction Report. This remains to be assessed in future audits, on completion of the cell.

### **Environmental Management of Containment Cell(s)**

- 8.6 The Proponent shall prepare and implement a **Containment Cell Environmental Management Plan** to detail an environmental management framework, practices and procedures to be followed during operation of the containment cell (s). The Plan shall be consistent with Guideline for the Preparation of Environmental Management Plans (DIPNR 2004) and shall include, but not necessarily be limited to:
- a) identification of all statutory and other obligations that the Proponent is required to fulfil in relation to operation of the cell (s), including all approvals, licences, approvals and consultations;
  - b) a description of the roles and responsibilities for all relevant employees involved in the operation of the cell (s);
  - c) requirements for the ongoing management of the plan and for funding the implementation of the plan
  - d) environmental controls and measures to be applied to the operation of the containment cell (s);
  - e) means by which environmental performance can be periodically monitored, reviewed and improved, where appropriate;
  - f) operational requirements prescribed by the Site Auditor and the accredited certifier; and
  - g) the additional studies listed under condition 8.7 of this approval.

The Plan shall be submitted for the approval of the Director-General and the DEC no later than one month prior to the completion of the remediation works, or within such period otherwise agreed by the Director-General. Any reviews of the plan shall be submitted to the Director-General for approval.

- 8.7 As part of the Containment Cell Environmental Management Plan for the project, required under condition 7.1 of this approval, the Proponent shall prepare and implement the following Management Plans:
- a) a **Containment Cell Integrity Management Plan**. The Plan shall detail measures to manage the integrity of the cap and other cell(s)

- structures during the life of the cell(s). The Plan shall include, but not necessarily be limited to:
- ii) maintenance requirements for the cap and other containment cell's structures;
  - iii) measures to monitor the effectiveness of the cell (s) structure; and
  - iv) site limitations for future development on site.
- b) a **Water Management Plan**. The Plan shall detail measures that will be employed to manage water on the site, and to minimise the discharge of pollutants to lands and/ or waters throughout the life of the project. The Plan shall be based on best environmental practice and shall address any requirements of the Department and the DEC. The Plan shall include, but not necessarily be limited to:
- i) details of the operation of the effluent treatment plant;
  - ii) details of surface water, groundwater and leachate management controls;
  - iii) maintenance requirements for groundwater pumping systems and other water management systems in place;
  - iv) surface water, groundwater and leachate quality monitoring requirements for the operation of the containment cell (s); and
  - v) corrective actions to any recorded exceedance to adopted criteria.
- c) a **Landscaping Management Plan**. The Plan shall be prepared in consultation with Council and shall include, but not necessarily limited to:
- i) species selected in consultation with Council for revegetation on and around the cell(s);
  - ii) revegetation timeframes; and
  - iii) vegetation maintenance requirements after remediation.

A Cell Operating Management Plan (COMP) was prepared by Golder Associates as part of the Cell design. This will be updated as the Cell progresses towards completion. See also cell approval condition U1.1. Note that during the current audit period, the cell was modified in terms of design and capacity to also accept contaminated soil from the adjacent Incitec remediation site. PCCS was therefore in compliance with this condition as at 30 June 2013, and continued compliance will need to be re-assessed in a future audit.

### ***Imposition of Covenant for Containment Cell(s)***

**8.8** *Prior to the conclusion of construction of the containment cell(s), the Proponent shall demonstrate to the satisfaction of the Director-General and the DEC that a public positive covenant under section 88E of the Conveyancing Act 1919 in accordance with the provisions of section 29 of the Contaminated Land Management Act 1997 has been applied to the containment cell(s). The covenant shall require the ongoing maintenance, funding and monitoring of the containment cell(s) after completion of construction. The covenant shall address, but not necessarily limited to, the following matters, as relevant:*

- a) *requirements for long term management, operation, maintenance and monitoring the containment cell(s) after the conclusion of remediation in accordance with the approved Containment Cell Environmental Management Plan prepared under condition 8.6;*
- b) *the preparation and keeping of documentation that records the details of the contaminated materials under the cell(s);*
- c) *requirements to provide transparent and equitable notice of the future potential liabilities/ legacies associated with the presence*

- of contaminated material on the site to parties who may have an interest in the site, or relevant parts of the site, in future;
- d) requirements for future developments to consult the Mine Subsidence Board for the design of buildings and structures;
  - e) arrangements for the funding by the Proponent of the ongoing maintenance and monitoring of the containment cell(s) until the sale of the land;
  - f) framework for funding the cost of ongoing maintenance of the containment cell (s) either as the 'common property' of a strata scheme or the 'community property' of a community scheme;
  - g) details of constructor's warranty and defects liability protection negotiated before the commencement of works;
  - h) provisions for managing any long term potential liability of the cell(s), including appropriate level of insurance for failure of the containment cell(s) supplemented with a security bond, or other financial surety;
  - i) incorporation of terms agreed with by the DEC and the Director-General; and
  - j) if required by the DEC or the Director-General, execution of the covenant by the registered proprietor of the land and each person who has a registered estate or interest in the land and who is to be bound by it.

The Proponent shall commence consultation with the Director-General and the DEC as soon as practicable after the date of operation of this approval, or within such period otherwise agreed with the Director-General and the DEC, with the aim of establishing the scope and content of any covenant that may be applied to the containment cell(s). Unless otherwise agreed or required by the Director-General and the DEC, the scope and content of any such covenant shall be developed to the satisfaction of the Director-General and the DEC prior to the commencement of remediation excavation.

The requirements for the covenant for the Containment Cell are noted. Ferrier Hodgson commenced correspondence with DECCW on the subject in a letter in June 2007. Fitzwalter subsequently wrote to DoP and DECCW in October 2010 seeking a response to the FH letter. The matter is still ongoing, so the scope and content of the covenant were not established prior to the commencement of remediation excavations. This is considered to be a technical minor non-compliance, but has not been a high priority for the regulators. It is noted that in 2012 the Deed Administrators secured environmental impairment liability insurance cover on a 10 year policy to protect against legislative changes and claims for future offsite migration of contaminants. The Deed Administrators consider that they have allocated sufficient budget provisions to fund on-going environmental requirements at the site. It is noted that the covenant must be applied to the cell prior to completion of it's construction, so this should be addressed in a future audit.

### **Munibung Hill Environmental Management Protocol**

**8.9** The Proponent shall prepare and implement an **Environmental Management Protocol for Munibung Hill** and those areas of the Main Site not subject to excavation, and for the reserve/conservation zone to be established on the south and south-west boundary of the Cardiff West Estate. The

Protocol, to be prepared in consultation with Council and the Hunter-Central Rivers Catchment Management Authority, shall detail an environmental management framework, practices and procedures to be followed after remediation of this area. The Protocol shall be consistent with Guideline for the Preparation of Environmental Management Plans (DIPNR 2004) and shall include, but not necessarily be limited to:

- a) clear definition and delineation of the area covered by this plan;
- b) identification of all statutory and other obligations that the Proponent is required to fulfil in relation to managing this area, including any approvals, licences, approvals and consultations;
- c) contamination status of the area;
- d) environmental measures and controls to be applied to this area;
- e) means by which environmental performance can be periodically reviewed and improved, where appropriate;
- f) systems for the ongoing management of the plan and for funding the implementation of the plan;
- g) Site Audit Statement and Site Audit Reports prepared by the Site Auditor for this land;
- h) environmental monitoring requirements;
- i) details of how public health will be protected in the area the subject of the Protocol, including with respect to any residual contamination that may remain following remediation; and
- j) specific measures to manage surface water, erosion and sedimentation, and vegetation and landscaping.

The Protocol shall be submitted for the approval of the Director-General no later than one month prior to the commencement of any works in the area subject to this Protocol, or within such period otherwise agreed by the Director-General.

The Protocol was prepared in consultation with Council and the CMA. Council endorsement was received and CMA approval was subsequently received in July 2011. Remediation was completed in the Angophora Reserve and a Site Audit Report received in November 2011. The Protocol was not implemented as of 30 June 2013, but is now nearing completion and expected to be provided to the contaminated site auditor late in 2013; this is not considered a non-compliance but the status should be reviewed in the next audit.

## **(9) ENVIRONMENTAL REPORTING**

### **Incident Reporting**

**9.1** The Proponent shall notify the Director-General of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 12 hours of becoming aware of the incident. The Proponent shall provide full written details of the incident to the Director-General within seven days of the date on which the incident occurred.

- 9.2 *The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition 9.1 of this approval, within such period as the Director-General may require*
- 9.3 *All overflow events from dams containing contaminated water and materials shall be reported to the DEC within 48 hours of an overflow, together with data on the rainfall at the site in the preceding 12 month period.*

The only incidents during the audit period which could be of the type referred to in condition 9.1 appear to be those that relate to overflows of stormwater dams as a result of heavy rainfall, as noted under cell condition E13.4, in February and March 2013. (It is arguable whether these incidents relate to significant off-site impacts.) Copies of correspondence to the EPA have been sighted that refer to the dam overflows. Information was provided to the EPA within the required timeframes, detailing the nature of the overflows and corrective actions implemented. PCCS was therefore in compliance with this condition as at 30 June 2013. The incidents were reported as breaches of the Environment Protection Licence, and were reported generally in accordance with the requirements of the EPL. Refer also to condition 1.23 and cell condition E13.4.

#### 4. CONTAINMENT CELL APPROVAL CONDITIONS

The approval conditions which relate to the containment cell are contained in Attachment B to the letter from DECCW to Fitzwalter Group dated 9 April 2008. They are incorporated in the Environmental Protection Licence, no. 5042, including as amended.

As for the previous section, each of the cell conditions is reproduced below in italics, and the findings of the audit are provided below each condition. The findings are reported in the same way and using the same categories of compliance as for the Part 3A consent conditions in Section 3.

*L1.2 The height of groundwater in the shallow aquifer measured in each bore required by conditions E12.1, E12.2, E12.3 must be above the height of groundwater measured in the adjacent portion of the up-gradient and down-gradient groundwater cut off drain.*

Noted. The cell was still in the construction phase at of 30 June 2013. While the up-gradient cut-off drain had been installed previously, the down-gradient drain was only completed in June 2013. This condition is considered to apply to the long-term management of the site, however, PCCS was in compliance with this condition as of 30 June 2013. (Groundwater levels are monitored by PCCS on about a 3 monthly basis).

#### ***U1 Updating Cell Operation and Monitoring Plan***

*U1.1 Within 2 months of completing capping and revegetating the containment cell the licensee must submit a plan to DECC which updates the Cell Operation and Monitoring Plan contained in Appendix F of the report identified in condition A4.2 b).*

*Note: DECC will review this plan and attached conditions to the licence to require the agreed updated plan to be implemented.*

This condition is noted, and should be addressed in future audits.

#### **Special conditions**

##### ***Contaminated Surface Water Dams***

*E1.1 Each stage of the remediation of the premises must have at the commencement of each stage's remediation storage dams of the capacity and a pumped removal rate detailed in the following table.*

Storage dam	Stage 2	Stage 3	Stage 4	Stage 5
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Dam F	Capacity = 990 m <sup>3</sup> Pump removal Rate = 40m <sup>3</sup> /day	TBD	TBD	TBD
Dam G	Capacity = 2480 m <sup>3</sup> Pump removal rate = 130 m <sup>3</sup> /day	TBD	TBD	TBD
Dam B	Capacity = 1870 m <sup>3</sup> Pump removal rate = 70 m <sup>3</sup> /day	TBD	TBD	TBD
Dam E	Not Required	Not Required	Not Required	Capacity = 1560 m <sup>3</sup> Pump removal rate = 60 m <sup>3</sup> /day
Dam C	Not Required	Capacity = 4465 m <sup>3</sup> Pump removal capacity = 165 m <sup>3</sup> /day	TBD	TBD
South West Dam D	Capacity = 3750 m <sup>3</sup> Pump removal rate = 2665 m <sup>3</sup> /day	Capacity = 2000 m <sup>3</sup> Pump removal rate = 2665 m <sup>3</sup> /day	Capacity = 1200 m <sup>3</sup> Pump removal rate = 2665 m <sup>3</sup> /day	TBD
Saltwater Dam and Hawkes Dams 1 and 2	Capacity = 73007 m <sup>3</sup> Pump removal rate = 3000 m <sup>3</sup> /day	Capacity = 36000 m <sup>3</sup> Pump removal rate = 3000 m <sup>3</sup> /day	Capacity = 29300 m <sup>3</sup> Pump removal rate = 3000 m <sup>3</sup> /day	Capacity = 4200 m <sup>3</sup> Pump removal rate = 3000 m <sup>3</sup> /day

*Note: TBD means 'to be determined' as these dams will become sedimentation control dams sized in accordance Project Approval condition 7.4 c).*

*Dams E and C will be required to be installed by 1 June 2008, if during DECC's inspection of the premises to be held on 10 April 2008 areas of remediation stages 3 and 5 are found to be disturbed and could liberate appreciable suspended solids (and other contaminants) in the stormwater run-off.*

On-site dams were installed and were operating as required as at 30 June 2013; some capacities have increased, some decreased slightly. WSP provided an addendum to the Contaminated Water Management Plan (CWMP) in May 2010 which confirmed the adequacy of the dam capacities. PCCS remained in compliance with this condition as of 30 June 2013.

*E1.2 The size and operation of the sedimentation dams must be approved by DECC before decreasing the size of any of the dams identified in condition E1.1.*

Noted, not required as yet, as any decreases have been minor only.

*E1.2.1 Soil testing must be conducted in accordance with the guidance in Landcom's Managing Urban Stormwater: Soils and Construction (2004) to confirm the soil type and therefore the operation of the sedimentation dams.*

This condition was satisfied in a previous audit and does not need to be re-assessed.

*E1.3 The remediation stages for the premises are defined in Figure Number 3 in the report identified in condition A4.2 d).*

Noted.

*E1.4 The licensee must provide the volumetric pump specifications (or measured capacities) servicing the dams referenced in condition E1.1 to the DECC by 10 April 2008.*

This condition was satisfied in a previous audit and does not need to be re-assessed.

*E1.5 The location of the dams referenced in condition E1.1 are depicted in Figure No 5 of the report identified in condition A4.2 d).*

Noted.

*E1.6 Prior to commencing remediation works in remediation stage 3 the licensee must provide the DECC with field survey results to confirm the volumetric capacity of dam C referenced in condition E.1.1*

This condition was satisfied in a previous audit and does not need to be re-assessed.

*E1.6.1 Prior to commencing remediation works in remediation stage 5 the licensee must provide the DECC with field survey results to confirm the volumetric capacity of dam E referenced in condition E.1.1*

*Note: See last note under condition E1.1*

This condition was satisfied in a previous audit and does not need to be re-assessed.

*E1.6.2 The licensee must provide the DECC by 1 May 2008 with field survey results to confirm the volumetric capacity of dams F and G referenced in condition E1.1*

This condition was satisfied in a previous audit and does not need to be re-assessed.

*E1.6.3 The licensee must provide the DECC by 1 August 2008 with field survey results to confirm the volumetric capacity of dam B referenced in condition E1.1*

This condition was satisfied in a previous audit and does not need to be re-assessed.

*E1.7 The contaminated water contained in the dams referenced in condition E1.1 must be pumped in accordance with the pump flow regime detailed in the report identified in condition A4.2 f).*

Note: DECC will inspect the premises on 10 April 2008 to advise whether the requirements of Project Approval condition 7.4 b) iv) have been met (excluding automatic pumping from temporary dams B, C, E, F and G).

The 'Project Approval' means that granted by the Minister for Planning under section 75J of the Environmental Planning and Assessment Act 1979 for the remediation of the Pasminco Cockle Creek Smelter Site (Application No: 06\_0184).

Noted.

E1.8 Surface water run-off from all areas of the premises must drain to at least one of the dams identified in condition E1.1, unless the requirements of Project Approval condition 8.1, 8.2 and 8.3 have been met.

Noted. PCCS was in compliance with this condition as of 30 June 2013.

E1.9 Prior to commissioning any sedimentation dam it must be desilted and the contaminated sediments placed in the containment cell.

This is presumed to refer to decommissioning. This occurred during the project on a small number of dams. PCCS was therefore in compliance with this condition as at 30 June 2013.

E1.10 The licensee must minimise the volume of water contained in the dams identified in condition E1.1.

Note: The intent on condition E1.10 is to ensure that whenever there is water in any of the dams which receive run-off from an area yet to be remediated that it is pumped at the maximum pumping rate to the site's treatment plant, prior to being discharged off-site. This will then enable the dams' to be available to contain run-off from a rainfall event and therefore minimise the possibility of an overflow of contaminated surface water off the premises.

This continued to take place as part of the site management operations as of 30 June 2013; PCCS was therefore in compliance with this condition as of the same date.

## **E2 Up-gradient Groundwater Cut Off Drain**

E2.1 The up-gradient groundwater cut off drain as specified in the report identified by condition A4.2 b) and in the report specified in condition A4.2 a) (south western flank - chainage 0.00 to 350.00 with a sump installed at an appropriate chainage) must be installed and operational by 1 February 2009.

Note: DECC will consider an application to vary the installation and operation date and vary the date for portions of the up-gradient cut-off drain if a reasonable argument is presented, based on operational constraints to construct and fill the containment cell.

The drain remains complete except for the final set of monitoring wells, as the adjacent cell remediation activities were still on-going as of 30 June 2013. (PCCS advised DECCW on 11

February 2011). This is not considered to represent a non-compliance as of 30 June 2013 because the time frames were altered.

E2.2 The licensee must obtain the approval of the DECC to vary the design as approved by condition E2.1.

Note: This condition is intended to take into account that during construction of the up-gradient groundwater cut off drain, information could be procured which suggests that the drain's design should be varied to improve its performance.

Noted.

### **E3 Down-gradient Groundwater Cut Off Drain**

E3.1 The licensee must prepare and submit a report to the DECC by 30 June 2008 which proposes the design, operation and monitoring for a trial of a portion of the down-gradient groundwater cut off drain as proposed in section 3.1.1 of the report identified in condition A4.2 b). The depth of the trial drain must be determined by remodelling the spatial extent of the of the down-gradient groundwater cut off drain so that:

- a) the model achieves 100% capture of the shallow groundwater (seeded in all cells in the shallow aquifer beneath the containment cell to examine capture efficiency);
- b) the model applies the spatial extent of the up-gradient groundwater cut off drain as specified in condition E2.1;
- c) the model considers both average, wet and dry rainfall conditions;
- d) the model assumes 1% and 10% of rainfall infiltration through the cap; and
- e) the model assumes filling of the Hawkes Dams.

The licensee must obtain the approval of the DECC (via a licence variation) to permit the trial.

Note: Conditions will ultimately be added to the licence to require the full down-gradient cut off drain to be installed and operational by 1 March 2010.

This condition was satisfied in a previous audit, and does not need be re-assessed. Note that construction of the full down-gradient cut-off drain completed in June 2013.

### **E4 Containment Cell Construction and Operation**

E4.1 The licensee must construct the containment cell in accordance with the specifications detailed in Appendix F of the report identified in condition A4.2 a) and in accordance with those specifications clarified and modified in the report, letter and emails identified in condition A4.2 b), c) and g). Where there are any inconsistencies between this condition and other conditions in this licence, the other conditions are deemed to be applicable.

Note: Condition E7.2 limits this condition to only being applicable to stage A (and its first portion as it is understood that filling of stage A will commence before its construction is completed).

Comment: This note will be deleted when the licence is varied to

permit the placement of further waste in the first portion of stage A of the containment cell.

Noted.

E4.2 All leachate and groundwater extraction pumps and flow lines for each stage of construction of the containment cell (A, B and C) must be automated, include alarms and interlocks to prevent pumping/gravity flow in the event that the receiving dam's freeboard is exceeded and be operational by the time further contaminated material is to be placed in each stage of the containment cell.

The pumps were operational and automated as at 30 June 2013, but alarms are not yet fitted. For the purpose of this audit, this is considered a technical non-compliance, but the need for alarms is interpreted as being intended as a long-term management requirement. There were no concerns regarding the dams' capacities to accept the water from the cell pumps. Refer also to Part 3A condition no. 4.11.

E4.3 The level to trigger automatic pumping out of the sumps in the up-gradient and down gradient groundwater cut off drains must be set at a distance below the base level of the pipe/s entering each of the sumps.

Noted; see E4.2 above.

E4.4 The level to trigger automatic pumping out of the sump in cell 2 (if this cell is constructed) must be set at a distance of no more than 300 mm above the base of the cell's liner at its lowest point.

Noted; this pump was not required as of 30 June 2013, as it feeds by gravity.

## **E5 Easement**

E5.1 An easement must be maintained around the northern portion of the containment cell in accordance with the area marked as the '25m Buffer Zone' in Figure 1 attached to the email of 5 February 2008 identified in condition A4.2 g).

This easement was being maintained as at 30 June 2013. PCCS was therefore in compliance as of the same date.

## **E6 Construction Quality Assurance (First Portion of Stage A)**

E6.1 The licensee must provide the construction quality assurance information to the DECC for the first portion of stage A of the containment cell and its associated infrastructure including the leachate management system, the up-gradient groundwater cut off drain (including field survey of levels of the base of the drain and sumps' base and pump off-take level, automation and alarms) and surface water diversion works in accordance with the specifications detailed in Appendix F of the report identified in condition A4.2 a) and in accordance with those specifications clarified and modified in the report, letter and emails identified in condition A4.2 b), c) and g). Where there are any inconsistencies between this condition and other

conditions in this licence, the other licence conditions are deemed to be applicable.

Note: The first portion of stage A is the area east, south and south-east of the Lead Blast Furnace Slag monolith depicted in Drawing 099D103 in the report identified in condition A4.2b).

This condition was satisfied in the previous audit and does not need to be re-assessed.

## **E7 Placement of Further Material in the Containment Cell**

E7.1 The licensee must not place any further material (other than the infrastructure approved in condition E4.1) in the containment cell (stage A), until approval is granted by the DECC, via a variation to this licence.

Note:

- a) The DECC will review the information required by condition E6.1, E1.4, E1.6.2, E1.6.3 and based on the site inspection on 10 April 2008 and then grant the approval to place further material in the containment cell.
- b) The results from condition E7.1 will be the means for DECC's approval required by Project Approval condition 3.6 and it will permit placement of material in the whole of stage A.
- c) DECC will endeavour to inspect the construction of the works required by condition E4.1.

This condition was satisfied in the previous audit and does not need to be re-assessed.

E7.2 The licensee must not commence constructing stage B (including cell 2) and/or stage C of the containment cell until approval is granted by the DECC by letter. This approval will be reflected in the licence.

Note:

- a) The area of stage A which is the southern end of the containment cell is depicted on drawing no. 099D151 (revision T2) as attached to the 4 February 2008 email identified in condition A4.2 g).
- b) This approval in relation to Stage B is contingent upon the DECC approving the construction and operation of the down-gradient groundwater cut-off drain, based on the findings of the trial required by condition E3.1 unless otherwise agreed by DECC.
- c) This approval is also dependant on the outcome of whether cell 2 will be proposed and an application to immobilise any of the material initially intended to be placed in cell 2 and instead placed in cell 1 or an alternative proposal is put forward and approved.
- d) This approval will require the design of the surface water drainage works down-gradient of the containment cell to be provided.

This condition was satisfied in the previous audit and does not need to be re-assessed.

## **E8 Capping Stages A, B and C of the Containment Cell**

- E8.1 The licensee must cap and revegetate stage A of the containment cell within 6 months of commencing placing further contaminated material in stage B and in accordance with specifications detailed in the reports identified in conditions A4.2 a) and clarified and modified in A4.2 b).*

The Stage A grass cover crop was first sown in March 2010, within 6 months of commencing placement in Stage B1 (October/November 2009). PCCS was therefore in compliance with this condition as of 30 June 2013.

- E8.2 The licensee must cap and revegetate stage B of the containment cell within 6 months of commencing placing further contaminated material in stage C and in accordance with specifications detailed in the reports identified in conditions A4.2 a) and clarified and modified in A4.2 b).*

The completed component of Stage B (i.e. B1) was capped and revegetated. The filling of the Stage B2-1, B2-2 and B2-3 areas is still ongoing as at 30 June 2013. Stage C was also still under construction at this time. PCCS was therefore in compliance with this condition as of 30 June 2013. Note that this condition has been removed from the amended EPL as it is no longer relevant to the current site operations.

- E8.3 The licensee must cap and revegetate stage C of the containment cell within 6 months of completing remediation of stage 5 of the premises and in accordance with specifications detailed in the reports identified in conditions A4.2 a) and clarified and modified in A4.2 b).*

Noted, and to be assessed in future audits

## **E9 Construction Quality Assurance (Stages A(remainder),B&C)**

- E9.1 The licensee must provide a report to the DECC on each of the works listed below containing the construction quality assurance information in accordance with the specifications detailed in Appendix F of the report identified in condition A4.2 a) and in accordance with those specifications clarified and modified in the report, letter and emails identified in condition A4.2 b), c) and g), within 2 months of completing the following works:*

- a) Construction of the remainder of stage A of the containment cell (not already provided under condition E6.1)*
- b) Construction of stage B of the containment cell (and cell 2 if it exists);*
- c) Construction of stage C of the containment cell;*
- d) Construction and installation of all pipework, controls, interlocks and alarms for the groundwater and leachate extraction and flow network (for each stage of the cell's construction);*
- e) Construction of the capping works for stages A, B and C; and*
- f) Construction of the leachate storage dam.*

Construction of the Stage B2-1, B2-2 and B2-3 areas was continuing as of 30 June 2013; construction of subsequent stages is proceeding with Milestone Reports provided to OEH progressively as required. PCCS was therefore in compliance with this condition as of 30 June

2013.

### **E10 Long-term Leachate and Groundwater Storage, Treatment and Disposal**

*E10.1 The licensee must gain approval from the DECC prior to construction of a permanent leachate and contaminated groundwater dam and treatment plant.*

Approval was granted by DECCW on 18 February 2010 subject to two conditions regarding Hunter Water Corporation approval of the sewer discharge and the requirement of a report on performance after 1 year. The leachate treatment plant was completed in 30 June 2013, but is not yet fully operational. PCCS was therefore in compliance as of 30 June 2013, however, this will require re-assessment in the next audit period. Note that EPA approval has been given for the use of tanks instead of a dam.

*E10.2 The licensee must prepare and submit a report to the DECC within 12 months in advance of completing remediation of stage 5 of the premises. The report must advise on:*

- a) The quantity of extracted groundwater and leachate generated in the period since the containment cell works became operational;*
- b) The daily rainfall measurements and advise on each months rainfall as a percentile of historical monthly rainfall;*
- c) Based on a), advise on the % of rainfall for each month which is extracted as contaminated groundwater (upgradient and downgradient) and leachate;*
- d) project the volumes of leachate expected to be generated and extracted for 90<sup>th</sup> percentile wet months and contaminated groundwater (upgradient and downgradient) expected to be generated and extracted for 100 percentile wet months (assuming 10% infiltration through the cap);*
- e) advise on the concept design for the proposed replacement contaminated water treatment plant which is to discharge to sewer in accordance with Hunter Water requirements. Advice should also be provided by Hunter Water that the proposed discharge to be sewer will be permitted; and*
- f) based on the findings of d) and e) propose the design, construction, operation, monitoring and maintenance of the storage dam.*

This condition was satisfied in the previous audit and does not need to be re-assessed.

### **E11 Surface Water Monitoring**

*E11.1 Surface water must be monitored in accordance with the proposal contained in the report identified in condition A4.2 e) and as amended in accordance with the information contained in the letter identified in condition A4.2 f).*

Surface water monitoring continues to be carried out as required, most recently in March 2013. It would appear that PCCS was in compliance with this condition as of

30 June 2013.

*E11.2 The licensee must provide the DECC by 1 June 2008 with the accurate easting and northing co-ordinates for the discharge points proposed in Table 4 of the letter identified in condition A4.2 f) and also the easting and northing coordinates for the discharge points identified as 17 and 18 in condition P1.3.*

*Note DECC will use this information to vary the licence to clarify the discharge point locations.*

This condition was satisfied in the previous audit and does not need to be re-assessed.

## **E12 Groundwater Monitoring**

*E12.1 The licensee must install by 1 February 2009 groundwater monitoring bores in accordance with Drawing Numbers 099D181 and 099D182 contained in the report identified in condition A4.2b).*

This condition was satisfied in the previous audit and does not need to be re-assessed.

*E12.2 The licensee must install by 1 June 2009 at least two groundwater monitoring bores along the south western flank of the containment cell in accordance with the general design specification in Numbers 099D181 and 099D182 contained in the report identified in condition A4.2 b).*

Because of the change in time frame, this date has changed. It is now required within 2 months of completion of placement of material in the containment cell. This is now amended EPL condition 11.2. The condition should be re-assessed in a future audit.

*E12.3 The licensee must install by 1 March 2011 at least five groundwater monitoring bores along the down-gradient cut off drain in accordance with the general design specification in Numbers 099D181 and 099D182 contained in the report identified in condition A4.2 b).*

*Note DECC may revise this requirement, based on information obtained from the field trial of the down-gradient drain.*

Noted; as above this date was also changed and is now required within 2 months of completion of placement of material in the cell; it is now amended EPL condition 11.3. It should be re-assessed in a future audit. See response to E12.7 below.

*E12.4 The bore construction details, logs and coordinates for the bores required by:*

- *conditions E12.1 must be submitted to the DECC by 1 March 2009;*
- *conditions E12.2 must be submitted to the DECC by 1 July 2009; and*
- *conditions E12.3 must be submitted to the DECC by 1 April 2011.*

The condition is satisfied for E12.1 wells. For the wells referred to in E12.2 & E12.3, these dates were changed to within 4 months of completion of placement in the cell. It is now amended EPL condition 11.4. This has therefore been in compliance, but will require assessment in a future audit.

*E12.5 The licensee must monitor at a quarterly frequency the height of groundwater (in metres relative to AHD) in the bores required by conditions E12.1, E12.2 and E12.3.*

This was achieved in the bores which had been installed as of 30 June 2013. PCCS was therefore in compliance with this condition as of same date. It is now amended EPL condition 11.5.

*E12.6 The licensee must monitor at a quarterly frequency the height of groundwater (in metres relative to AHD) in the drain in the up-gradient and down-gradient groundwater cut off drains.*

The up-gradient drain was completed some 3 years ago and is checked for the presence of water on a regular basis. The down-gradient drain was only completed in June 2013. PCCS was therefore in compliance with this condition as of 30 June 2013. The requirements of this condition are considered to relate primarily to long-term site management.

*E12.7 The licensee must monitor, at a 6 monthly frequency, the concentration of As, Cd, Pb, Hg, Se, Zn and nitrate in the groundwater monitoring bores required by conditions E12.1, E12.2 and E12.3 which are outside the up-gradient and down-gradient cut off drains.*

It appears that groundwater monitoring, in the wells which were established as of 30 June 2012, was carried out as required, by WSP until December 2011 and subsequently continued by Golder Associates. Samples are normally taken from the sumps rather than the cut-off drains. Conditions E12.2 and E12.3 were subsequently altered in the EPL to require them to be installed within 2 months of the completion of placement of contaminated materials in the cell. It is assumed that this condition relates also to long-term site management. (This is now amended EPL condition 11.7). It appears to be in compliance as at 30 June 2013.

### ***E13 Containment Cell Performance Maintenance, Monitoring and Reporting***

*E13.1 The licensee must implement the procedures and works detailed in section 3.1.3 (except point h) of Appendix F contained in the report identified by condition A4.2 b).*

Noted; this is required when the cell is completed and ought to be assessed in a future audit.

*E13.2 The licensee must notify the DECC within two weeks in the event that the height of groundwater in any of the bores required by conditions E12.1, E12.2 and E12.3 is below the adjacent base levels of the up-gradient and down-gradient groundwater cut off drains.*

*Note: If this circumstance occurs it indicates that the groundwater cut off drain/s may not be deep enough and contaminated groundwater could be passing underneath them and polluting groundwater outside the area of the containment cell. The DECC will then enter into negotiations with the licensee to require measures to prevent contaminated shallow groundwater migrating away from the containment cell.*

*E13.3 The licensee must notify DECC within two weeks in the event that the height of groundwater in the up-gradient and/or down-gradient cut off drain is greater than 50mm above the base level of the drain.*

*Note: If this circumstance occurs it suggests that the groundwater cut-off drains are not efficiently extracting contaminated groundwater. The DECC will then enter into negotiations with the licensee to require measures to improve the collection efficiency of the cut-off drains to prevent contaminated shallow groundwater migrating away from the containment cell.*

The requirements of E13.2 and E13.3 are intended to apply after the cell is completed and are part of the on-going maintenance and performance. These requirements ought to be assessed in the future.

*E13.4 The licensee must notify the DECC within 48 hours of becoming aware of an overflow of water from any of the dams identified in condition E1.1 and within 4 weeks provide the DECC with a report of:*

- a) the analytical results of the composition of the overflow (if it occurred between the hours of 9am-5pm);*
- b) the rainfall depth (on a daily basis) in the calendar month the overflow occurred and in the previous calendar month;*
- c) an estimate of the volume of the overflow; and*
- d) advice as to whether the overflow was a result of rainfall less than that applied to model the contaminated surface waters dam's capacity and pump out rate (see report identified in conditions A4.2 d) and amended by email dated 5 February 2008 identified in condition A4.2 g).*

*Note: The purpose of this condition is to assess compliance against condition L1.1 and it will be based on using the modelling undertaken by Golder Associates Pty Ltd which is reflected in condition E1.1. The basis for these conditions is Project Approval conditions 4.6 and 4.14*

This is also covered in Part 3A conditions 1.23 and 9.1-9.3; dam overflows occurred as follows:

- on 24-26 February 2013, from Dam E into Cockle Creek; PCCS notified the EPA on 25 February 2013 and reported in full on 1 March 2013;.
- on 1-6 March 2013, from Dam E into Cockle Creek; PCCS notified the EPA on 1 March

2013 and reported in full on 7 March 2013.

It would appear that notifications and reports to EPA were provided within the timeframes required by this condition, and that PCCS was therefore in compliance with this condition as of 30 June 2013.

A4.2 The information provided by Fitzwalter Group in relation to the Containment Cell is:

- a) Report on Containment Cell Detailed Design and Management Plan Pasminco Cockle Creek Smelter Boolaroo, New South Wales, dated March 2007 and prepared by Golder Associates Pty Ltd (06623099/055);
- b) Report on Addendum Report to Containment Cell Detailed Design and Management Plan Pasminco Cockle Creek Smelter Boolaroo, New South Wales, dated 17 October 2007 and prepared by Golder Associates Pty Ltd (06623099/079\_RL2);
- c) Letter from Golder Associates Pty Ltd to Ferrier Hodgson dated 22 October 2007 (06623099/082);
- d) Report on Contaminated Water Management Plan Pasminco Cockle Creek Smelter Site Boolaroo, New South Wales, prepared by Golder Associates Pty Ltd dated 22 August 2007 (06623099-9400/001);
- e) Report on Surface Water Monitoring Program Pasminco Cockle Creek Smelter Site Boolaroo, New South Wales, prepared by Golder Associates Pty Ltd, dated 31 August 2007 (06623099-9400/002);
- f) Letter to Fitzwalter Group Pty Ltd from Golder Associates Pty Ltd, dated 11 December 2007 (06623099/096 Rev2); and
- g) Emails from Dennis Zines to John Coffey dated 4, 5 and 7 February 2008.

Noted.

## **5. ENVIRONMENT PROTECTION LICENCE**

The Environment Protection Licence (EPL No. 5042) was first issued by DECCW on 13 August 2007 as a variation to the previous existing licence held by PCCS which applied to the operation of the smelter and associated activities at the site. It was issued following an application dated 7 March 2007 by the company for a variation of the existing licence. The scheduled activity was listed as 'Waste Activities' and 'Waste Facilities – HIGAB processing'. The licence was subsequently revised and re-issued in October 2009, and again in September 2010 (during the previous audit period), when the scheduled activity was changed to 'Waste storage; Waste disposal (application to land)'. It was subsequently amended in January 2013

The EPL lists the anniversary date as 1 March, and the Annual Return is to be submitted within 60 days of the end of the reporting period each year. The 2013 Annual Return was submitted on 24 April 2013, within the required timeframe.

The licence specifies a number of requirements and conditions, including a range of discharge limits, mass discharge limits for pollutants, operating conditions, monitoring and recording conditions and other pollution studies and reduction programs. Many of these are similar to or mirror the consent conditions attached to the DoP approval identified in Section 3 above. The licence also incorporates the containment cell approval conditions issued by DECC on 9 April 2008 which have also been assessed for compliance in this audit.

## 6. ASSESSMENT OF ENVIRONMENTAL PERFORMANCE AGAINST PREDICTIONS

Predictions relating to the environmental performance of the project are primarily contained within the PCCS Environmental Assessment Report (EA) of August 2006, by Fitzwalter Group Pty Ltd. The studies undertaken as part of the EA included a number by specialist consultants and their reports are included in the EA.

The EA included a Statement of Commitments by the proponent for environmental mitigation, management and monitoring for the project. These have been reviewed as part of the audit process, along with the predictions relating to the key environmental impacts and safeguards contained in the EA.

In many cases, the success of the safeguards and management procedures employed to mitigate environmental impacts is measured or indicated by the results of monitoring contained in the various environmental monitoring reports, or (as of 2012) the combined *Environmental Monitoring Reports* for the site (by Golder Associates), for the six month periods to December 2012 and June 2013.

The findings of the audit relating to those issues which are relevant to the environmental performance of the remediation project as of 30 June 2013, and to the commitments made in the EA, are summarised below:

- **Air Quality** – It appears that the commitments made in terms of mitigation and management were generally met as of 30 June 2013. Monitoring was undertaken in accordance with the requirements (refer to the Air Quality Management Plan) and in terms of conformance, the parameters monitored were shown to satisfy the relevant criteria nominated by DECCW at nearly all off-site locations.
- **Surface Water** – It appears that the commitments made in terms of mitigation and management were met as of 30 June 2013. Procedures for the separation of ‘clean’ and ‘dirty’ water are working effectively and that the Surface Water Monitoring Program (SWMP) and Contaminated Water Management Plan (CWMP) were implemented as intended. On two occasions dam overflows occurred, following heavy rainfall events (see condition 9.1).
- **Groundwater** – It appears that the commitments made in the EA and the requirements of the Interim Groundwater Management Plan (IGMP) were satisfied as of 30 June 2013. Monitoring is being conducted in accordance with the IGMP and the overall objectives of the IGMP (i.e. to prevent off-site migration via the two main aquifers and to provide site-wide groundwater data) are being met.
- **Noise** – The commitments made in the EA in terms of noise management, restrictions in terms of working hours and other management procedures to reduce noise impacts are all being implemented.

As a result, it appears that noise has not become a significant issue in areas surrounding the remediation site.

In the period to 30 June 2013, only one noise exceedance was recorded in the Boolaroo residential area, in March 2013.

- **Other Impacts** – As of 30 June 2013 there have been no other environmental issues on the site which have become the source of impacts to either surrounding residents or the environment. Issues such as traffic, heritage matters and flora have been managed effectively and it is important that the successful community consultation programme be maintained to assist in dealing with the possible interactions arising from these issues, and those discussed above, with the local residential community particularly.

## 7. CONCLUSION, RECOMMENDATIONS AND SIGN-OFF

It is evident, from the information presented above, as of 30 June 2013, that the remediation works currently taking place at the former Pasmenco Cockle Creek Smelter site at Boolaroo are again being carried out in a manner which is very much in compliance with the Department of Planning's Part 3A consent conditions, the Containment Cell Approval Conditions and other statutory requirements which apply to the work.

As for previous audits, the systems and procedures which have been put in place to ensure compliance with environmental obligations and requirements at the site are considered to be working effectively. It is the auditor's opinion that members of the PCCS and Ferrier Hodgson teams responsible for site operations appear to have a high regard for the environmental issues associated with the remediation works, and are committed to ensuring that impacts on the environment and the neighbouring communities are minimised.

Site personnel have continued to demonstrate a strong commitment to consulting with the local community and would appear to respond promptly to queries and complaints from community members. They have also demonstrated rapid response to incidents where prompt action is necessary to mitigate impacts. The small number of non-conformances recorded in this audit period are not considered to have any bearing on the overall integrity of the remediation project.

The overall environmental management of the remediation project as of 30 June 2013 was assessed as being very effective. The commitments made in the 2006 Environmental Assessment Report for the project have been upheld to a high degree, and there do not appear to be any areas of environmental impact which have exceeded the levels predicted in that report, which is commendable.

There are no specific recommendations arising from this audit, however it is recommended that future audits continue to be carried out on an annual basis, as has been the case to date, and in accordance with Part 3A Condition 5.11.

This audit was carried out between September and November 2013 in accordance with Part 3A condition 5.11 of the DoP approval of 24 February 2007, and covered the period from 1 July 2012 to 30 June 2013.



D O Johnson, BSc MAppSc

18 November 2013

Ref No. DJE0901-05

**APPENDIX A**

***COPY OF DoP LETTER APPROVING APPOINTMENT OF  
INDEPENDENT AUDITOR***



NSW GOVERNMENT  
**Department of Planning**

**Major Development Assessment**

Phone: (02) 9228 6550  
Fax: (02) 9228 6466  
Email: [Ann-maree.carruthers@planning.nsw.gov.au](mailto:Ann-maree.carruthers@planning.nsw.gov.au)

Level 3, Room 304  
23-33 Bridge Street  
GPO Box 39  
SYDNEY NSW 2001

Our reference: 9036299

Mr Dennis Zines  
Environmental Manager  
Fitzwalter Group  
Level 1, 41 McLaren Street  
NORTH SYDNEY NSW 2060

RECEIVED - 4 JUN 2009

Dear Mr Zines

**Pasminco Cockle Creek Smelter Remediation Project  
Independent Environmental Audit**

I refer your email dated 1 June 2009, with which you seek the approval of Mr David Johnson to act as the independent auditor as required under condition 5.11 of the Minister's approval for the above project.

The Department considers that Mr Johnson is appropriately qualified and an approval is given to undertake the Independent Environmental Audit. This approval is conditional upon the auditor's independence from the project.

In preparing the Independent Environmental Audit, the auditor must ensure the audit:

- Is conducted in accordance with AS/NZS ISO 19011 Australian/New Zealand Standard: *Guidelines for quality and/or environmental management systems auditing*;
- Includes a compliance table indicating the compliance status of each condition of approval (and any other statutory instrument required to be audited);
- Avoids terms such as "partial compliance". An audit is to make findings of either "compliance", "non-compliance" or "inability to be determined";
- Includes recommended actions in response to non-compliances; and
- Identifies opportunities for improved environmental management and performance.

Please ensure that the auditor is advised of these requirements. Finally, the Department recommends that you:

1. review the audit report to ensure it complies with the relevant conditions of approval, prior to submitting the report to the Director-General; and
2. submit an action plan with the audit report detailing your response to the auditor's recommendations and timeframes to implement any adopted recommendations.

If you have any questions in regards to the above, please contact Ann-Maree Carruthers on 9228 6550 or [ann-maree.carruthers@planning.nsw.gov.au](mailto:ann-maree.carruthers@planning.nsw.gov.au).

Yours sincerely

2/6/09

Chris Ritchie  
**Manager – Industry**  
**Major Development Assessment**  
As delegate of the Director-General

**APPENDIX B**

**SUMMARY TABLE SHOWING COMPLIANCE/NON-COMPLIANCE  
WITH CONSENT CONDITIONS**

**Part 3A Conditions of Consent**

Relevant CoA	Compliant / Non Compliant
1.1	Compliant / Satisfied
1.2	Noted
1.3	Satisfied
1.4	Noted/Compliant
1.5	Satisfied
1.6	Satisfied
1.7	Satisfied
1.8	Satisfied
1.9	Satisfied
1.10	Satisfied
1.11	Satisfied
1.12	Satisfied
1.13	Satisfied
1.14	Noted
1.15	Noted
1.16	Noted
1.17	Compliant / Satisfied
1.18	Compliant
1.19	Compliant
1.20	Noted
1.21	Noted
1.22	Noted
1.23	Compliant
2.1 a)	Compliant
2.1 b)	Compliant
2.1 c)	Compliant
2.1 d)	Compliant
2.2	Satisfied
2.3	Satisfied
3.1	Compliant
3.2	Satisfied
3.3	Satisfied
3.4	Satisfied
3.5	Noted
3.6	Compliant
3.7	Compliant
3.8	Satisfied
3.9	Compliant
3.1	Compliant
3.11	Compliant
4.1	Compliant
4.2	Compliant
4.3	Compliant
4.4	Compliant
4.5	Compliant
4.6	Compliant
4.7	Noted
4.8	Compliant
4.9	Noted
4.10	Noted
4.11	Noted
4.12	Noted
4.13	Noted
4.14	Compliant
4.15	Noted
4.16	(Non Compliant)

Relevant CoA	Compliant / Non Compliant
4.17	Compliant
4.18	Satisfied
4.19	Noted
4.20	Compliant
4.21	Compliant
4.22	Compliant
4.23	Compliant
4.24	Compliant
4.25	Noted
4.26	Compliant
4.27	Compliant
4.28	Noted
4.29	Satisfied
5.1	Compliant
5.2	Compliant / Satisfied
5.3	Compliant / Satisfied
5.3 a)	Compliant / Satisfied
5.3 b)	Compliant / Satisfied
5.3 c)	Compliant / Satisfied
5.3 d)	Compliant / Satisfied
5.4	Compliant / Satisfied
5.5	Compliant / Satisfied
5.6	Satisfied
5.7	Noted
5.8	Satisfied
5.9	Satisfied
5.10	Satisfied
5.11	Compliant
6.1	Noted
6.2	Compliant
6.3	Compliant / Satisfied
6.4	Compliant / Satisfied
6.5	Satisfied
7.1	Compliant
7.2	Satisfied
7.3	Compliant / Satisfied
7.4 a)	Satisfied
7.4 b)	Satisfied
7.4 c)	Satisfied
7.4 d)	Satisfied
7.4 e)	Satisfied
8.1	Noted
8.2	Noted
8.3	Noted
8.4	Noted/deleted
8.5	Noted
8.6	Compliant
8.7 a)	Compliant
8.7 b)	Compliant
8.7 c)	Compliant
8.8	(Non Compliant)
8.9	Noted
9.1	Compliant
9.2	Compliant
9.3	Compliant

\* Satisfied = Those conditions which have been complied with and are now complete, satisfied, and require no further review by subsequent audits.

\*\* Noted = Those conditions where no specific action or outcome is required, or has not yet been required

## Containment Cell Approval Conditions

Relevant CoA	Compliant / Non Compliant
L1.2	Compliant
U1.1	Noted
E1.1	Compliant
E1.2	Noted
E1.2.1	Satisfied
E1.3	Noted
E1.4	Satisfied
E1.5	Noted
E1.6	Satisfied
E1.6.1	Satisfied
E1.6.2	Satisfied
E1.6.3	Satisfied
E1.7	Noted
E1.8	Compliant
E1.9	Compliant
E1.10	Compliant
E2.1	Compliant
E2.2	Noted
E3.1	Satisfied
E4.1	Noted
E4.2	(Non compliant)
E4.3	Noted
E4.4	Noted
E5.1	Compliant
E6.1	Satisfied
E7.1	Satisfied
E7.2	Satisfied
E8.1	Compliant
E8.2	Compliant
E8.3	Noted
E9.1	Compliant
E10.1	Compliant
E10.2	Satisfied
E11.1	Compliant
E11.2	Satisfied
E12.1	Satisfied
E12.2	Noted
E12.3	Noted
E12.4	Compliant
E12.5	Compliant
E12.6	Compliant
E12.7	Compliant
E13.1	Noted
E13.2	Noted
E13.3	Noted
E13.4	Compliant
A4.2	Noted

\* Satisfied = Those conditions which have been complied with and are now complete, satisfied, and require no further review by subsequent audits.

\*\* Noted = Those conditions where no specific action or outcome is required, or has not yet been required