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ENVIRONMENTAL ASSESSMENT OF THE COMBINED PASMINGO COCKLE CREEK SMELTER PTY LTD AND INCITEC FERTILISER PTY LTD REMEDIATION PROJECT

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Environmental Assessment of the Combined Pasminco Cockle Creek Smelter Pty Ltd and Incitec Fertiliser Pty Ltd Remediation Project

2/10/2012

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Executive Summary

Both Pasminco Cockle Creek Smelter Pty Ltd (Subject to Deed of Company Arrangement – (PCCS)) and Incitec Fertilisers Pty Ltd (IFL) have previously received separate approvals under Part 3A of the EP&A Act 1979 (the Act) to remediate their contiguous contaminated sites at Boolaroo, near Newcastle, NSW, Australia.

The two parties (PCCS and IFL) have recently reached an agreement whereby the soil excavated from the IFL site could be contained in the PCCS containment cell obviating the need for the IFL cell.

To enable this outcome to be achieved, both PCCS and IFL have prepared modifications to their existing Part 3A approvals to reflect this planned outcome in addition to retaining their current approvals and have submitted the modifications for approval from the Minister for Planning for these modifications under Section 75W of the repealed Part 3A of the Act.

The revised remediation project considered in this assessment involves the excavation of the IFL contaminated soil and its placement in the PCCS cell eliminating the need for the IFL cell. The PCCS cell will retain the same footprint and design, but will be up to a maximum of 4m higher (an increase from 34.0m to 38.0m RL) with a decreased top surface area.

In support of both of the modified s.75Ws for the two projects, an Environmental Assessment (EA) of this revised project has been undertaken to assess the potential change in environmental impact from the two previously approved projects.

In essence, the only material factors to be considered in the EA are:

- The visual environment will be altered with the removal of the IFL cell and the increased height of the PCCS cell. The visual assessment of the new project concludes that overall there will be an improved outcome – the increased height of the PCCS cell will not be noticeable and the removal of the IFL cell will lead to an improved visual appearance for the site.
- There will be social and economic benefits from the early and certain conclusion to the remediation on the site with the continuation of the temporary employment and the improved use of the IFL land.
- As for the existing projects, the construction environmental impacts will be appropriately managed.
- Post-remediation, there will be only one cell to manage and monitor which will be beneficial for both the proponents and the legislators.

Overall, it is reasonable to conclude that the adverse impact of the combined project can be considered to be a minor impact in respect of the assessment that the Minister for Planning needs to consider when assessing the s.75Ws requesting modifications to the two existing approvals.

GLOSSARY

TEXT	MEANING
EA	Environmental Assessment
EP&A Act 1979	Environment Protection and Assessment Act 1979
ETP	Effluent Treatment Plant
Combined Remediation Project	The merging of the PCCS and IFL remediation projects by the placement of the IFL contamination in the PCCS containment cell
Combined Site	The area consisting the PCCS and IFL Sites
CWMP	Contaminated Water Management Plan
Deed Administrators	Ferrier Hodgson
DoPI	NSW Department of Planning and Infrastructure
D-RAP	Detailed Remediation Action Plan
EPA	NSW Environment Protection Agency (formerly DECCW)
EPL	Environmental Protection Licence
FH	Ferrier Hodgson (Deed Administrators)
IFL	Incitec Fertiliser Pty Ltd
IFL Stage 1 Approval	The Part 3A Approval for early groundwater works on the IFL Site
IFL Stage 2 Approval	The Part 3A Approval for the remediation of the IFL Site and the construction of an IFL containment cell
IPL	Incitec Pivot Limited
LMCC	Lake Macquarie City Council
MSB	Mine Subsidence Board
PCCS	Pasminco Cockle Creek Smelter Pty Ltd (Subject to Deed of Company Arrangement))
RO	Remediation Order
s.75W	Section 75W of the repealed Part 3A of the EP&A Act 1979 setting out procedures for modifications to an approved project
SWMP	Surface Water Monitoring Plan
VMP	Voluntary Management Plan
WTP	Wastewater Treatment Plant

1. Project Background

Both PCCS and IFL have previously received separate approvals under Part 3A of the EP&A Act 1979 (the Act) to remediate their contiguous contaminated sites at Boolaroo, near Newcastle, NSW, Australia. While Part 3A of the Act has now been repealed, Schedule 6A of the Act continues to apply to Part 3A transitional projects – i.e. the two projects the subject of this document.

Each remediation plan included the excavation of contaminated soil and its placement in two containment cells, (one on each site). The PCCS remediation project is well advanced and was due for completion in early 2013 while the IFL project had commenced preliminaries, but not any substantial soil remediation works.

Both PCCS and IFL have prepared modifications to their existing Part 3A approvals to reflect this planned outcome and have submitted the modifications for approval from the Minister for Planning for these modifications under Section 75W of the repealed Act.

This document is the Environmental Assessment (EA) of the revised project involving the combined remediation project with no IFL cell, but a PCCS cell of increased volume from the original PCCS approval which forms part of the supporting documentation for the s.75W modification applications. The EA is lodged in support of two s.75W applications, being s.75W applications for the modification of the PCCS Part 3A Approval and the IFL Stage 2 Approval (the IFL Stage 1 Approval is not being modified) and responds to the “Broad Requirements of the Department of Planning and Infrastructure for the Environmental Assessment” which are included in **Appendix A**.

1.1 Overview of Historical Operations on the Site

Conventional lead smelting operations on the PCCS Lands (including the IFL Site at that time) commenced in 1896. Various technology upgrades occurred on the site over the course of the site’s operations until the smelter closure in September 2003.

In the second part of the 1900s, the Incitec Site was subdivided from the then existing PCCS Site for the purposes of fertiliser production by a company separate to PCCS.

During the years of operation on the PCCS and IFL Sites, both sites became contaminated by materials and products associated with the industrial activities.

A Remediation Order (RO) was issued to PCCS on the 1st of July 2003 by the EPA. Part of the PCCS Site has been remediated to a stage where it has been excised from the RO. The mechanism for this excision will apply in principle to the balance of the PCCS Site over time.

The IFL Site was declared a remediation site under s.21 of the CLM Act 1997 in 2005. IFL has committed to a Voluntary Management Plan (last modification dated 9 February 2010). It is proposed to modify the VMP to have regard to the two S.75W modifications.

1.2 Description of the Existing Approved Projects

1.2.1 Pasminco Project

The PCCS project was initially defined in the original 2006 Part 3A application for the PCCS Part 3A approval as including the excavation of contaminated soil with subsequent refilling, regrading and surface stabilisation with imported fill as necessary, treatment of excavated materials as required, emplacement of excavated material and other materials into a containment cell which will be progressively sealed by capping imported from off-site, and the provision of appropriate environmental controls. Prior to the approval, there was a phase of removing for sale or reuse as much of the materials on the PCCS Site as possible. The approval also included demolition and removal of the smelter machinery, equipment and buildings (including asbestos).

The PCCS project was approved on 24 February 2007 and allowed for staging of the project including undertaking the remediation and cell construction in defined stages. There were initially five (5) remediation parcels (refer **Figure 1.1**) with the later addition of a small parcel for conservation purposes known as the Angophora Reserve.

Activities such as lead recovery from on-site slag by operation of a jig machine, treatment of ‘special’ wastes for approved off-site disposal and the off-site Lead Abatement Strategy are either complete or nearing completion.

The PCCS remediation project is very advanced. Parcels 1 to 3 and the Angophora Reserve are essentially complete with Remediation Parcel 4 nearly complete and Remediation Parcel 5 substantially commenced.

The PCCS Part 3A Approval was supplemented on 9 April 2008 with the approval of the detailed Containment Cell Design. A s.75W modification was approved on 24 June 2010 in relation to some minor matters relating to the qualifications of who can sign off the completed cell.

The Cell design was also modified to increase the footprint and volume in May 2010 but within the parameters of the then existing approvals.

A s.75W project approval modification was subsequently granted on 10 August 2012 which provides for a change to the cell cap to allow a membrane layer as a replacement of the originally approved clay layer due to shortages in clay availability. The modification approval calls for a Cap Report to be signed off by the PCCS Site Auditor.

Prior to the addition of the IFL remediation, the PCCS project was scheduled to have been completed by about mid 2013.

Figure 1.1 shows an early representation of the proposed staging of the PCCS project and **Figure 1.2** shows a recent 2012 photo of the progress achieved.

1.2.2 IFL Project

The IFL project was approved in two stages. The IFL Stage 1 Approval was granted on 17 August 2009 and authorised immediate early works to undertake groundwater control on the northern portion of the IFL Site accompanied with the approval to demolish a gantry running parallel to the northern boundary with the PCCS Site. The IFL Stage 1 approval was subsequently modified in 2010 to include groundwater controls on the southern portion of the IFL Site.

Both parts of Stage 1 were installed and operating at some stages to certain degrees, although due to other on-site activities have ceased to be practically effective.

The IFL Stage 2 approval was received on 11 November 2010 and included the following activities:

(a) Demolition/removal of the machinery, equipment and buildings (including asbestos), the construction of water management facilities [e.g. dams, drainage, and a Water Treatment Plant (WTP)] - all complete to the required remediation staging.

(b) Excavation of contaminated soil for placement in an on-site containment cell.. This component of the project was scheduled under the latest IFL VMP to be complete before the end of 2014.

The IFL Remediation Project has achieved demolition, asbestos removal and the installation of a WTP and associated dams. Soil remediation has not yet commenced, but would have been expected to be complete in less than 2 years including the appointment of a remediation contractor.

1.3 Details of the Combined Remediation Project

1.3.1 Revised Project Description

The combined remediation project simply involves the excavation of the IFL contaminated soil and materials on the IFL Site and its placement in the PCCS cell eliminating the need for the IFL cell. It is not intended that the IFL cell will be constructed. However, remediation of the IFL Site in the manner originally approved by the IFL Stage 2 Approval will be retained as an option which could be implemented in the event that the combined remediation project involving placement of the contaminated IFL material into the PCCS cell does not proceed for any reason.

The PCCS cell will retain the same footprint and design, but will be up to a maximum of 4m higher (an increase from 34.0m to 38.0m RL) with a decreased top surface area. Note that the current estimated maximum cell height is 3.72m higher (an increase from 34.0m to 37.2m RL). The revised design report "Expansion of PCCS Containment Cell - Concept Design Report – September 2012 – Golder Associates" which is included in **Appendix B** includes figures showing the previous and latest designs.

The top surface of the PCCS cell will remain relatively flat (2% slope – as approved by the August 2012 s.75W modification) and self-draining and suitable for some recreational activity with grass on the top surface and grass or other stabilising vegetation on the batters. Despite the increase in the cell volume, the amount of leachate generated from the cell will be the same as for the existing cell so that the current Leachate Treatment capacity will not need to be changed.

Figure 1.3 is a recent aerial photo showing both the PCCS and IFL cells which represents the current approvals while **Figure 1.4** shows the proposed combined project.

As can be seen from these figures and the Golder September Design Report, the only difference from an aerial view is the lack of the IFL cell and the reduced top surface area of the PCCS cell. The visual impact of the increased height is assessed in Section 3.3.2 of this document.

After the remediation is complete, the PCCS cell will be managed in accordance with the condition 8.8 of the PCCS Part 3A Approval which will still apply to the revised project (discussed further in Section 3.3.3 of this document). The remediated IFL site will then be available to form part of the Master Plan redevelopment of the PCCS/IFL Site that has been the subject of Lake Macquarie City Council (LMCC) assessment for the past few years.

The Remediation Order on the PCCS Site will be initially modified at a suitable time after the remediation is complete to just apply to the cell and its immediate surrounds. It is envisaged at a later stage after the cell has been demonstrated to be stable in form and in management that the RO will be lifted altogether (subject to agreement with the EPA).

The VMP applying to the IFL Site will be lifted at a suitable time after completion of remediation (subject to agreement with the EPA).

1.3.2 Revised Project Remediation Staging and Management

Remediation Staging

PCCS will continue with its remediation on Parcels 4 and 5 (excluding the PCCS ETP) before approvals are received for the remediation of the IFL Site. The attached **Figure 1.5** shows a division of the IFL Site into separate remediation areas with the numbers indicating the order of remediation progress. A single Detailed Remediation Action Plan (D-RAP) for the IFL Site will be prepared and be subject to review by the Auditor and approval by the EPA. The IFL remediation area will effectively be an additional "remediation parcel" in the terminology used for the PCCS Site (i.e. Parcel 6).

It is anticipated that when approved, the Combined Remediation Project could be complete within approximately 11-12 months (assuming good weather). This includes the possibility of working on more than one IFL area at a time. After remediation is complete on the IFL Site, it will be graded and stabilised for erosion control. As before, when the whole site has been remediated (except for the PCCS ETP), the ETP will then be dismantled and the area remediated leading to the closure of the PCCS cell.

While the overall time for the remediation on the PCCS site will extend beyond the present situation, undertaking the project will bring forward completion of the existing IFL remediation which overall will result in a faster finish to the remediation activities on both the PCCS Site and the IFL Site.

Note that while the abovementioned dates are expected to be met, there is always the possibility of delays for various reasons and the whole schedule should be taken as indicative of the sequence of events.

Environmental Management

In the very near future, the Fresh Water Dam on the eastern side of the IFL site will be drained via a pipe or trench through the southern portion of the IFL property. This will result in a large decrease on the demand for the PCCS ETP which can then be applied to the IFL remediation. The IFL dam and WTP will be retained until late in the IFL remediation schedule as supplementary facilities to the PCCS system, but only used as needed.

Run-off from the IFL remediation will be directed to the PCCS system by a series of constructed channels thus avoiding recontamination of remediated areas on the PCCS site. Remediation of the IFL site will effectively eliminate the shallow groundwater system on the IFL site by combining the IFL groundwater with the surface water. Thus, the existing Contaminated Water Management Plan (CWMP) and Surface Water Monitoring Plan (SWMP) and groundwater controls applying to the PCCS site will equally apply to the combined site.

Golder Associates have produced a strategic review of the required storage volumes and pump rates for managing surface water (September 2012 – attached in **Appendix C**). Figures 6, 7 and 8 of the Golder surface water report provide the conceptual strategies for managing the surface water discharges from the site. Golder Associates have also produced a Groundwater Management and Monitoring Strategy report applying to the remediation period (September 2012 – attached in **Appendix D**).

All of the other environmental controls as defined by the existing PCCS approval will remain in place and equally apply to the IFL Site remediation.

Currently, each site has an Environmental Protection Licence (EPL). It is proposed that the PCCS EPL 5042 will be modified to encompass the Combined Site and the IFL EPL will be surrendered. The varied EPL 5042 will impose monitoring requirements for the Combined Site's environmental management generally in accordance with the environmental management conditions which currently apply to the PCCS Site.

The RO applying to the PCCS site will remain in place as will the VMP applying to the IFL site.

1.4 Applicable Management Plans and Monitoring Programs

This section provides a summary of the management plans and monitoring programs relating to the approved projects and a description of the proposed changes to these plans/programs to accommodate the revised project(s). In general terms, it is proposed that the principal management plans and monitoring programs which are required by the PCCS Part 3A Approval will be updated to extend onto the IFL Site or have regard to the carrying out of the Combined Remediation Project on the IFL Site.

1.4.1 Remediation Period

Section 5 of the PCCS 3A approval sets out the “Environmental Monitoring and Auditing” conditions for the remediation period. The Section 5 conditions are further qualified by Section 7 Remediation Environmental Management.

Remediation Environmental Management Plan

The existing Remediation Environmental Management Plan is still applicable and the new Parcel 6 D-RAP will identify site specific environmental controls. It is proposed that the IFL Stage 2 Approval will be modified so that in general terms these conditions and the management and monitoring programs required by them will apply to the IFL Site.

Air Quality and Meteorological Monitoring

The existing Air Quality Monitoring Plan will still be applicable although it may be supplemented (as required) by existing additional monitoring points on the IFL site. The IFL Stage 2 Approval will require the update of the existing PCCS Air Quality Monitoring Plan to apply to the Combined Site.

Surface Water and Groundwater Monitoring

The existing PCCS CWMP and SWMP are still applicable. Similarly, the existing Interim Groundwater Management Plan (IGMP) will still apply but will be extended to incorporate Parcel 6. Section 1.3.2 above shows how both surface and groundwater from the IFL site will be integrated into the PCCS system (refer **Appendices C and D**). Note that the CWMP also addresses Erosion and Sediment protocols.

Noise Monitoring and Assessment

The existing Noise Monitoring Plan will still be applicable. It is proposed that the Noise Monitoring Program required by the PCCS Part 3A Approval will be updated to reflect the carrying out of the Combined Remediation Project on the IFL Site.

Traffic and Transport Management Protocol

The existing Traffic and Transport Management Protocol will still be applicable. The transfer of contaminated soil from the IFL site to the PCCS cell is completely on internal roads. The revised project does not increase the amount of external traffic to the site.

Environmental Auditing

The PCCS 3A approval Condition 5.11 requires an Independent Environmental Audit Report (IEAR) be prepared every 12 months assessing environmental compliance, performance and effectiveness against the PCCS approval. A similar condition is included in the IFL Stage 2 Approval. It is proposed that the next PCCS IEAR be conducted over the whole site and respond to the conditions that result for the total site if the s.75Ws are approved.

Validation of Remedial Works

By agreement, the IFL Site Auditor Andrew Lau of JBS has passed over the audit role for the combined project to Graeme Nyland of Environ, the PCCS Site Auditor. It is proposed that the same Validation Criteria and approvals that have been applied to the PCCS remediation will be applied to the additional IFL area.

1.4.2 Operation Period

Environmental Management of the Containment Cell

Condition 8.6 of the existing PCCS Part 3A approval will still apply. A preliminary Containment Cell Environmental Management Plan (CCEMP) was provided with the original approved Cell Design. A revised CCEMP will be produced in accordance with the existing Condition 8.6 and will include detailed plans as follows (as per the PCCS Part 3A condition 8.7):

- Containment Cell Integrity Management Plan

- Water Management Plan
- Landscaping Management Plan

2. Information / Data Reviewed to Support the EA

2.1 Existing PCCS and IFL Project Approvals

These documents are in the public domain and PCCS and IFL site personnel have provided advice as to the status of the two projects which is included above. Note that the approved EAs for both projects include assessments and conditions pertaining to the management and monitoring of potential environmental impacts relating to noise, air quality, water management etc.

2.2 Agreement between FH and IFL to jointly remediate

Recently, PCCS, IFL (as owner of the IFL Site), and IPL (as holder of EPL208 which is issued in respect of the IFL Site), have agreed that PCCS will undertake a single remediation project consisting of the continuation of the activities authorised by the PCCS Part 3A Approval together with the remediation of the IFL Site by the excavation of contaminated material from the IFL Site, the movement of that excavated material onto the PCCS Site, and the placement of that material into the containment cell which is being constructed on the PCCS Site.

The s.75W applications reflect the agreement referred to above. It should be noted that although PCCS, IFL and IPL have agreed that the construction and operation of a containment cell on the IFL Site would be retained in the IFL Stage 2 Part 3A Approval as an option which could be pursued if for any reason the arrangements referred to in the preceding paragraph do not proceed, there is no present intention to construct any containment cell on the IFL Site in accordance with the IFL Stage 2 Part 3A Approval or otherwise.

2.3 Conceptual Design of an Expanded PCCS Cell

This document is attached as **Appendix B** of this EA.

The report presents a concept design for expansion of the PCCS containment cell to provide increased cell storage volume, referred to as 'airspace', to contain the IFL Site materials. The expansion design comprises a revised containment cell landform that provides an increased airspace of 450,000 m³ through raising the top of the cell by 3 to 4m. The expansion design does not involve any changes to the cell footprint or the slope angle of the cell batters.

The IFL Site materials proposed to be placed within the PCCS containment cell are substantially similar to the PCCS Site materials. No detrimental effects are foreseen from the comingling of the materials.

The design components of the containment cell are either not affected or only affected in a minor and acceptable way by the expansion design. Required changes to the cell components are considered feasible and relatively minor and will be further developed during detailed design of the cell expansion.

2.4 Strategic Assessments of Surface and Groundwater Management for the Combined Project

These documents are attached as **Appendix C** and **D** of this EA.

These documents build on the existing approved CWMP and SWMP reports for the PCCS Project and use the existing PCCS dams, pumps and monitoring facilities.

3. Assessment of Environmental Impacts

This section contains an Environmental Impact Assessment of the combined project by comparison with the existing approvals.

3.1 Qualitative Risk Assessment of the Revised Remediation Project

A qualitative risk assessment of the potential environmental impacts of the revised remediation projects, identifying any key issues for further assessment is presented here.

Remediation projects involve handling contaminated materials with the risk of adversely affecting humans and the environment. Potential risks are identified and assessed in the following table.

Potential risk	Assessment
Contamination materials affecting humans by ingestion or exposure	Contaminants presenting a greater risk such as asbestos, PCBs and concentrated metals have already been removed from the PCCS Site and are in the process of being removed from the IFL Site using approved and safe procedures. Procedures exist within the approved remediation activities to deal with previously undiscovered finds of similar materials during the remediation period. Remediation crews are subject to regular lead-in-blood testing and response procedures to ensure that there is no adverse accumulation of lead arising from the remediation. In terms of these potential risks, the IFL contamination is effectively the same as that occurring on the PCCS site. This potential impact does not require further assessment.
Dust generated by materials movements affecting the environment	Dust will continue to be managed from the operation of equipment and trucks as per the existing PCCS Management Plans. The s.75W documents (including the revised EPL 5042) address any relevant amendments to conditions.
Noise generated by remediation activities and equipment affecting the environment	Noise will continue to be managed from the operation of equipment and trucks as per the existing PCCS Management Plans. The s.75W documents (including the revised EPL 5042) address any relevant amendments to conditions.
Excavation or demolition activities affecting heritage or archaeology	The risks associated with these potential impacts have already been addressed for both projects. Procedures exist for dealing with the discovery of previously unknown artefacts or finds. This potential impact does not require further assessment.
Potential impacts to flora and fauna	There are no significant flora or fauna species on the IFL site (refer IFL Stage 2 EA – Section 9.1). The IFL Stage 2 EA includes management measures to address any potential impacts as they arise. This potential impact does not require further assessment.
Impacts of remediation activities on transport and traffic	Onsite traffic will be virtually unchanged although there will be marginally greater distances for cartage of the IFL soil to the PCCS cell (internal to the site). This potential impact does not require further assessment.
Impacts of remediation activities on surface or groundwater (including erosion)	The remediation activities will disturb the existing soil and ground surfaces and will impact directly on surface and groundwater flows with the risk of erosion and off-site pollution and requires management. The s.75W documents (including the revised EPL 5042) address any relevant amendments to conditions and the strategies included in Appendices C and D set out the management approaches.
Social and economic impacts associated with the remediation	The earlier completion of the remediation of the IFL site will be beneficial by limiting the time that the site remains contaminated and with exposed surfaces. The revised project continues to generate temporary jobs but no more than would have separately occurred. The visual environment will be altered with the removal of the IFL cell and the increased height of the PCCS cell. This aspect requires further assessment.
Potential impacts from mine subsidence	The cell has been designed to meet the Mine Subsidence Board requirements. The revised project will not alter this completed task. This potential impact does not require further assessment.

Potential risk	Assessment
Potential magnification of all impacts due to increased activity beyond original approvals	The material excavated and transferred to the PCCS containment cell is no greater than was previously approved for the two projects in total. The IFL remediation predominantly happens later than most of the PCCS remediation and is not generally located in the same immediate proximity. As such, there are no magnification impacts apart from the height of the PCCS cell. This potential impact does not require further assessment.

3.2 Construction Period

3.2.1 Dust and Noise

These potential impacts were analysed in detail in both the original PCCS and IFL EAs and the two approvals included specific conditions for management and monitoring during the remediation periods. The PCCS remediation has been running for several years now and has demonstrated that the dust and noise impacts can be successfully managed through the application of the mitigation measures identified in the original assessments and included in the approved Management Plans.

There is no increase in the total amount of contaminated soil to be moved and in fact, much of the PCCS site remediation activities will be complete ahead of the IFL remediation activities, so that the cumulative impact will actually be less than otherwise may have been if the two separate projects were run simultaneously. Thus, the off-site noise and air quality impacts will be no greater than already assessed.

Accordingly, the revised project will be satisfactorily managed.

3.2.2 Surface and Groundwater

The groundwater and surface water management will actually be improved when the site is treated as one area with no cross-boundary issues arising from remediated and unremediated areas (i.e. as the Combined Project).

There is sufficient capacity in the existing PCCS contaminated water system to be able to satisfactorily manage any water/erosion impacts from the IFL site as is demonstrated in the Golder report attached as **Appendix C**.

An updated groundwater strategy for the Combined Project is also provided in **Appendix D**. This document demonstrates how the groundwater will be managed during and after the remediation.

Available monitoring facilities will be rationalised under the revised EPL for the Combine Project. Reporting to the authorities will also be rationalised making the task more efficient for both the proponents and the authorities.

3.3 Post-Cell Construction Period

3.3.1 Overview

The environmental impacts from both projects have been assessed as being satisfactory (under their current approvals). The individual assessments included the cumulative assessment of both projects operating simultaneously. The only significant differences that occur with the combined project are the elimination of the IFL cell and the increase in height of the PCCS cell.

The elimination of the IFL cell will allow a continuous redevelopment across the IFL site to better fit into the Master Plan for the whole site. This is seen to be a positive social and economic benefit for the site and will enable a higher use for the land previously occupied by the IFL cell.

Visually it will remove one of the cells which makes the finished site less obtrusive, but this is not seen as a significant impact (positive or negative). The visual assessment of the higher PCCS cell is discussed in Section 3.3.2 of this document.

From a management perspective, there will be only one cell which will not only facilitate the owners' management but also facilitates the management role of the regulatory authority. This includes any post-cell construction monitoring and reporting as defined by the existing approvals.

Infrastructure (e.g. roads, water retention basins) and services (e.g. water, drainage, sewerage, electricity, telecommunications) for the whole site will not require duplication and will be subject to a better overall planning outcome.

3.3.2 Visual Assessment of the PCCS Cell

A Visual Assessment Report for the enlarged PCCS cell is attached at **Appendix E**. The report makes the following conclusions:

While acknowledging that the PCCS cell will result in a major change to the topography of the PCCS-IFL sites, the visual impact of the cell increasing by up to 4m in height, will be relatively insignificant due to the mitigation measures outlined of battering and landscaping of the cell.

Views of the cell from long and medium distance views illustrate the cell blending into the backdrop of surrounding hills, with increase in height visually unperceivable. Intermediate views of the cell from within the site of its increase in height are of low visual impact.

Aerial views of the site and containment cell erected up to RL 38, and landscaped, indicate the landscaped cell has little overall visual impact on the site and its surrounding environs.

In evaluating views of the cell from any view point, it would be difficult to perceive the difference from the currently approved cell height.

In summary, the visual environment will be altered with the removal of the IFL cell and the increased height of the PCCS cell. The visual assessment of the new project concludes that overall there will be an improved outcome – the increased height of the PCCS cell will not be noticeable and the removal of the IFL cell will lead to an improved visual appearance for the site.

3.3.3 Future Ownership and Management

This section provides an update on how the site will be managed in the longer-term, and after completion of the remediation works. Condition 8.8 of the existing PCCS Part 3A approval calls for, *inter alia*, details to be provided on monitoring and management responsibilities, future ownership provisions, liabilities and how the integrity of the remediation outcome will be assured; intended legal arrangements for ownership of and long-term responsibility for the containment cell(s); identification of the source of funding for the long-term operation, monitoring and maintenance of the containment cell(s) and the groundwater interception and treatment systems.

As mentioned above, Condition 8.8 will still apply to the revised project. Prior responses to the authorities in respect of this condition have indicated the Deed Administrators will retain ownership and management of the finished cell and surrounds for short to medium term after remediation is complete to establish that the cell is stable and does not require any further major repair works (i.e. equivalent to a defects liability period).

During this time, the Deed Administrators will have developed a strong understanding of monitoring requirements and maintenance needs which will allow sensible decisions to be made re future ownership, management and funding.

Subsequent to this earlier advice, the Deed Administrators have already secured a 10 year insurance policy to cover the site against possible off-site events that could affect the viability of the containment cell. This was achieved through a rigorous process where an independent environmental management company assessed the project and its potential risks for the insurance company. This is seen as one major step towards the compliance with Condition 8.8.

Further, the Deed Administrators have explored the potential use of the top of the cell for recreation purposes for the broader community and have incorporated the possibility of this in the cell and landscaping designs. Notwithstanding these ongoing explorations, the Deed Administrators have advised John Ferguson at LMCC and indeed both the OEH and DoP in recent meetings that, "The Deed Administrators confirm that per the Part 3A (Condition 8.8), ownership of the cell will remain with Pasminco (or a PCCS owned related property) and that no transfer of liability to LMCC, in any circumstance, is sought or expected".

The commitment to ownership by the Deed Administrators for the immediate post-remediation years should be taken as a clear indication that the Deed Administrators are aware of their obligations and will endeavour to satisfy them all at the earliest practical time after the remediation completion. Beyond these commitments, the Deed Administrators are not in a position to provide further details at this stage in relation to the future ownership and management of the cell.

4. Consultation

4.1 Department of Planning and Infrastructure

The Department of Planning and Infrastructure were consulted (with EPA present) on 4 September 2012 about the proposed Revised Combined Remediation Project. Following the consultation, the Department issued its requirements for the EA which are attached as **Appendix A**.

4.2 NSW EPA

The EPA has been consulted on several occasions in Sydney and on the PCCS Site. The EPA has provided direction as to its requirements for the EA and revised EPL which are reflected in the documents supporting the s.75Ws and this EA.

4.3 Lake Macquarie City Council

Sharon Pope of Lake Macquarie City Council (LMCC) was initially consulted by telephone by Ferrier Hodgson (FH). FH reports that Sharon was positive about the PCCS/IFL agreement. She requested that FH meet with her colleagues at Council offices to provide a fuller briefing about the project, the remediation works and timetable. This meeting took place on 25TH September 2012 at 10.00am attended by Sharon Pope, Grant Alderson, Kate Jordan and Chris Baker from LMCC.

Subsequently LMCC has been requested that it provide a written confirmation to FH that LMCC have no objection to the agreement. A copy of this letter will be provided to DoPI upon receipt.

4.3 Site Auditor

The Deed Administrators consulted with the PCCS Site Auditor (Graeme Nyland of Environ) seeking his agreement (subject to concurrence with the IFL Site Auditor – Andrew Lau of JBS) to undertake the auditing role for the combined site. Mr Nyland gained the agreement from JBS and IFL and John Coffey from the EPA and has since provided written confirmation to this effect (see **Appendix F**).

A handover meeting was held on 19 September 2012 at Environ's office attended by Graeme Nyland, Andrew Lau, Simon Böhm and Viv Lister (IFL representatives), John Coffey and Matthew James (EPA), and Andrew Freeman and Dennis Zines (WSP for Ferrier Hodgson). Details of the status of Lau's role were discussed as well as activities required to undertake the revised project.

4.4 Mine Subsidence Board

The Mine Subsidence Board (MSB) will be advised of updates since the original exchange of information in relation to the 2007 PCCS Part 3A Approval. The advice will refer to the new cell design and greater volume. The MSB will be advised that all revisions do not alter the compliance with the MSB subsidence conditions. A revised set of "For Construction" drawings will be sent to them for their records as soon as they are available. A copy of the letter is attached in **Appendix G**.

5. Conclusions

Summary of the Environmental Impacts for the Combined Project

There are no increases in material adverse impacts of the combined project.

Conversely, there are a number of beneficial impacts including an early finish to the IFL remediation activities, the resolution of any conflicts between the two sites in respect of potential cross-contamination impacts, an improved use and aspect of the remediated land, and a continuation of the existing remediation employment and expenditure in the locale.

The outcome of having only one cell to manage in perpetuity rather than two is also a benefit for the owners and authorities.

Overall, it is reasonable to conclude that any impact of the combined project can be considered to be a minor impact in respect of the assessment that the Minister for Planning needs to consider when assessing the s.75Ws requesting modifications to the two existing approvals.

FIGURES & PHOTOS

Figure 1.1 – PCCS Project Remediation Parcels



Figure 1.2 – Aerial Photo of PCCS Site



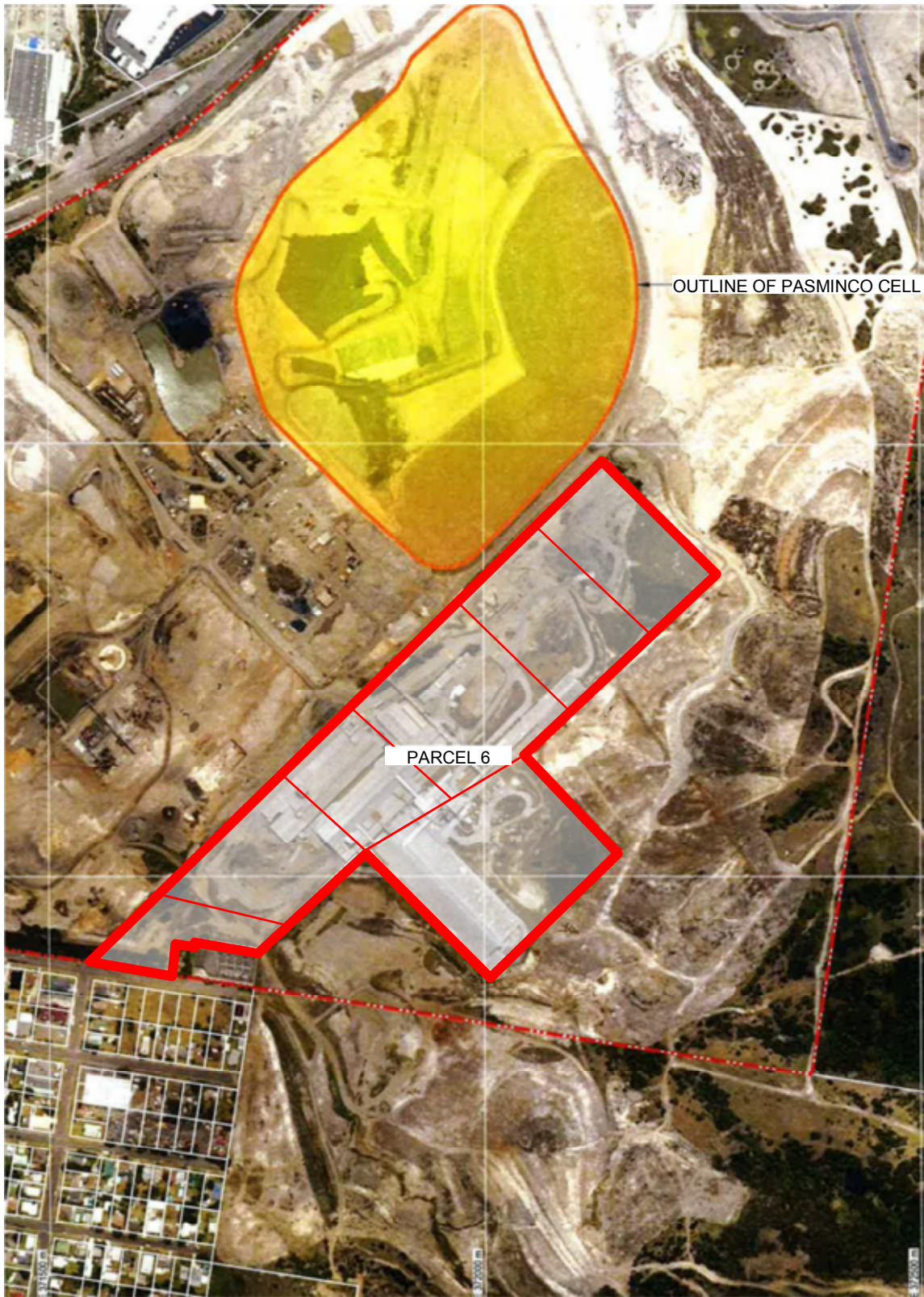
Figure 1.3 – Aerial Photo of PCCS and IFL Cells



Figure 1.4 – Aerial Photo of Combined Project Cell



Figure 1.5 – IFL Remediation Parcels



APPENDICES

APPENDIX A

Broad Requirements of the Department of Planning and Infrastructure for the Environmental Assessment

Pasminco and Incitec Consolidated Remediation

Following on from our meeting on 4 September 2012 it is agreed that both Project Approvals for the Pasminco (MP 06_0184) and Incitec (MP 08_0221) Remediation works can be modified under Section 75W of the *Environmental Planning and Assessment Act 1979*, to facilitate the ongoing remediation of the Pasminco site and to include material from the adjacent Incitec site.

As discussed, the proposal would be supported by:

- a modification application to the Pasminco approval;
- a modification application to the Incitec approval; and
- one Environmental Assessment prepared to support both the Pasminco and Incitec applications.

The Environmental Assessment should include:

- a brief overview of historical operations on the site;
- a description of the existing / approved projects, including all the statutory approvals that apply to these projects;
- clear figures and/or plans which allow for an easy comparison between the approved v's modified projects;
- details of the revised remediation process including new staging and timing of works and any proposed changes to remediation methods;
- a qualitative risk assessment of the potential environmental impacts of the revised remediation projects, identifying any key issues for further assessment;
- a summary of the management plans and monitoring programs relating to the approved projects and a description of the proposed changes to these plans/programs to accommodate the revised project(s);
- a conclusion which justifies the environmental, economical, social aspects of the revised project(s) and in relation to the ongoing management of the cell.

The EA should also include an assessment of the following key issues:

- **Containment Cell Design** – the Environmental Assessment should provide clear details of the design and proposed contents of the containment cell. The Environmental Assessment should also demonstrate that the revised design has capacity to adequately contain all materials proposed for the cell without generating a significant impact on surrounding groundwater, surface water or air quality.
- **Groundwater and Surface water Management** – the Environmental Assessment should provide clear detail as to changes in current groundwater and surface water monitoring and management and present a long term (post-remediation) strategy for the on-going monitoring and management of groundwater and surface water.
- **Visual Impact** – the Environmental Assessment should provide an assessment of the visual impact that the changes to the containment cell will have on the nearest sensitive receptors.
- **Future Ownership and Management** – the Environmental Assessment must detail how the site will be managed in the longer-term, and after completion of the remediation works. In particular, details must be provided on monitoring and management responsibilities, future ownership provisions, liabilities and how the integrity of the remediation outcome will be assured. The Environmental Assessment must explicitly state intended legal arrangements for ownership of and long-term responsibility for the containment cell(s). Further, the Environmental Assessment must identify the source of funding for the long-term operation, monitoring and maintenance of the containment cell(s) and the groundwater interception and treatment systems.

During the preparation of your Environmental Assessment you must consult with:

- NSW EPA.
- Lake Macquarie City Council;
- the Site Auditor; and
- the Mine Subsidence Board.

APPENDIX B

Expansion of PCCS Containment Cell - Concept Design Report – September 2012 – Golder Associates

APPENDIX C

**Pasminco Contaminated Water Management Plan – Review of dam and pump capacities – September 2012 –
Golder Associates**

APPENDIX D

Groundwater and Monitoring Management Strategy– September 2012 – Golder Associates

APPENDIX E

Visual Assessment of the PCCS Revised Cell Design – September 2012 – Conybeare Morrison

APPENDIX F

Letter from Environ agreeing to be the Site Auditor for the combined PCCS/IFL sites

Freeman, Andrew

From: Freeman, Andrew
Sent: Tuesday, 2 October 2012 2:57 PM
To: Freeman, Andrew
Subject: FW: Pasminco Cockle Creek Smelter Pty Limited - Subject to Deed of Company Arrangement ("PCCS")

From: Graeme Nyland [<mailto:gnyland@environcorp.com>]
Sent: Wednesday, 19 September 2012 4:03 PM
To: Richard Bastow
Cc: Freeman, Andrew; Mark E
Subject: RE: Pasminco Cockle Creek Smelter Pty Limited - Subject to Deed of Company Arrangement ("PCCS")

Richard

The meeting was held this morning with Andrew Lau. Representatives of EPA and IPL were present. Andrew provided copies of documentation and an outline of the activities undertake.

I confirm that I am happy to extend the audit of PCCS to include the IPL site.

Regards



Graeme Nyland | EPA Accredited Auditor
ENVIRON Australia Pty Ltd
PO Box 560 | Level 3, 100 Pacific Highway | North Sydney | NSW 2060
T: +61 2 9954 8100 | F: +61 2 9954 8150
gnyland@environcorp.com

APPENDIX G

Letter to Mine Subsidence Board

2 October 2012

Mr G Cole-Clark
Mine Subsidence Board
NSW Government Offices
117 Bull Street
NEWCASTLE WEST NSW 2302

WSP Environment & Energy

Level 1, 41 McLaren Street
North Sydney NSW 2060

Tel: +61 (0)2 8925 6700
Fax: +61 (0)2 8925 6799
ABN: 82 119 251 179

www.wspenvironmental.com

Dear Mr Cole-Clark

MP06-0184: Pasminco Site Remediation Part 3A Condition 3.4, NSW Mine Subsidence Board Approval for Cell Design

On behalf of Pasminco Cockle Creek Smelter Pty Ltd (subject to Deed of Company Arrangement) we are writing to advise you of a proposed design change to the containment cell for the Pasminco Cockle Creek Smelter (PCCS) site.

PCCS and Incitec Fertilisers Limited (IFL) have reached an agreement to undertake the remediation of the PCCS site and the IFL site as a single remediation project. There are currently separate Part 3A approvals for the remediation of both the PCCS site and the IFL site. In general terms, the existing PCCS remediation project involves the excavation of contaminated material from the PCCS Site and its placement in an on-site containment cell. Similarly the existing approved IFL remediation project involves the excavation of contaminated material, the construction of an on-site contamination cell, and the placement of the contaminated material within that cell.

PCCS and IFL propose to modify both approvals to allow the remediation of both sites to be undertaken (in the case of the IFL Site) and continued (in the case of the PCCS Site) as a single remediation project. On the IFL Site, this will involve the excavation of contaminated material with an option to place that material in the PCCS cell. An option for IFL to construct and utilise an on-site containment cell will remain (although it is not intended that the IFL cell be constructed).

PCCS and IFL are presently preparing applications under 75W of the EP&A Act to modify the approvals for the existing two remediation projects.

We advise that, apart from a relatively minor increase in the height of the cell and an increase in its volume, the design specifications of the PCCS cell will not change and any potential mine subsidence that may occur in the future as per the conditions that the MSB has specified is assessed as not likely to adversely impact the performance of the cell. The modifications to the cell continue to meet the requirements of Condition 3.4 of the existing Part 3A approval i.e. the cell must be designed so as not to be damaged by the predicted levels of mine subsidence. A set of the concept design drawings for the revised cell are attached.

With reference to your letter of 29 January 2009 (FN70-04444LO) and on the assumption that the s.75Ws are approved, PCCS will provide you with a copy of the final construction drawings when available (expected in November 2012) which will note that the containment cell has been designed to continue to function effectively if subject to the mine subsidence parameters provided by the Board.

Further, on completion of the containment cell, a certification will be provided by a qualified geotechnical/structural engineer to the effect that all relevant works have been constructed in compliance with the construction drawings.

The corollary of this outcome is that the certification of the IFL cell will no longer be necessary.

If you have any queries please do not hesitate to contact the undersigned on 0417 246 146.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'A. Freeman', with a long horizontal flourish extending to the right.

Andrew Freeman

General Manager

Urban Development | Planning | Property

WSP Environment & Energy

Enclosed: PCCS Cell Concept (Revised) Design Plans

Tel: 02 89256765
Fax:

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DIFFERENCE

