

Pre-lodgement Advertisement

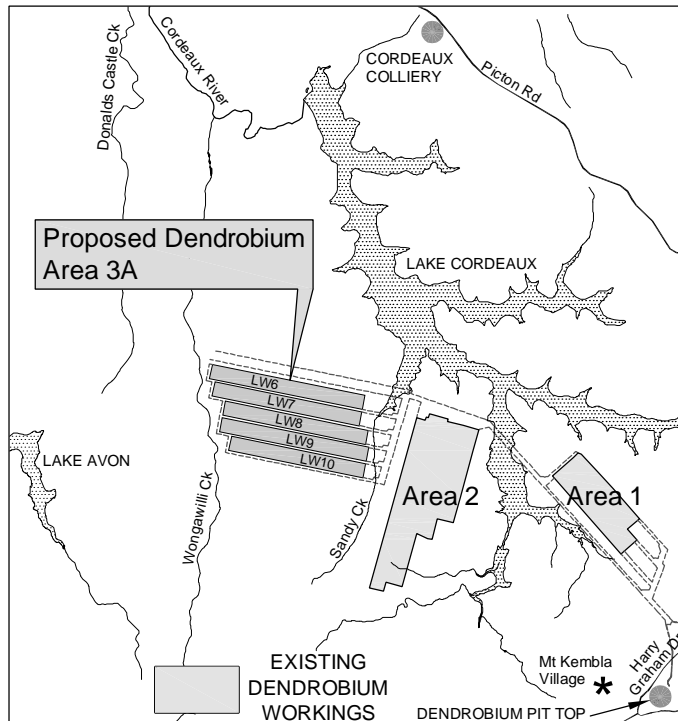


ILLAWARRA COAL

Dendrobium Area 3A Subsidence Management Plan Application

Illawarra Coal is currently preparing a Subsidence Management Plan (SMP) to accompany an application to the Department of Primary Industries (Minerals) for longwall extraction in Dendrobium Area 3A.

This area will be serviced by existing Dendrobium mine surface infrastructure, located in Mt Kembla, 16km West of Port Kembla, and is required to ensure continuity of coal supply to customers.



After submission of the SMP to the Department of Primary Industries, there will be an advertised exhibition period when the documents may be reviewed by the public and submissions may be made.

Submissions regarding the SMP can be sent to:

Director Environment,
Department of Primary Industries
PO Box 344, Hunter Region Mail Centre, NSW 2310

OR

Manager Mining Approvals, Illawarra Coal,
PO Box 514, Unanderra, NSW 2526.

For any information please contact:
Wendy.E.Gray-Spence@BHPBilliton.com
or Ph (02) 4255 3313, Fax (02) 42553204

**DCCC Update 23/8/07 –
Presentation**

Dendrobium Mining Area 3

Community Consultative Committee
Update

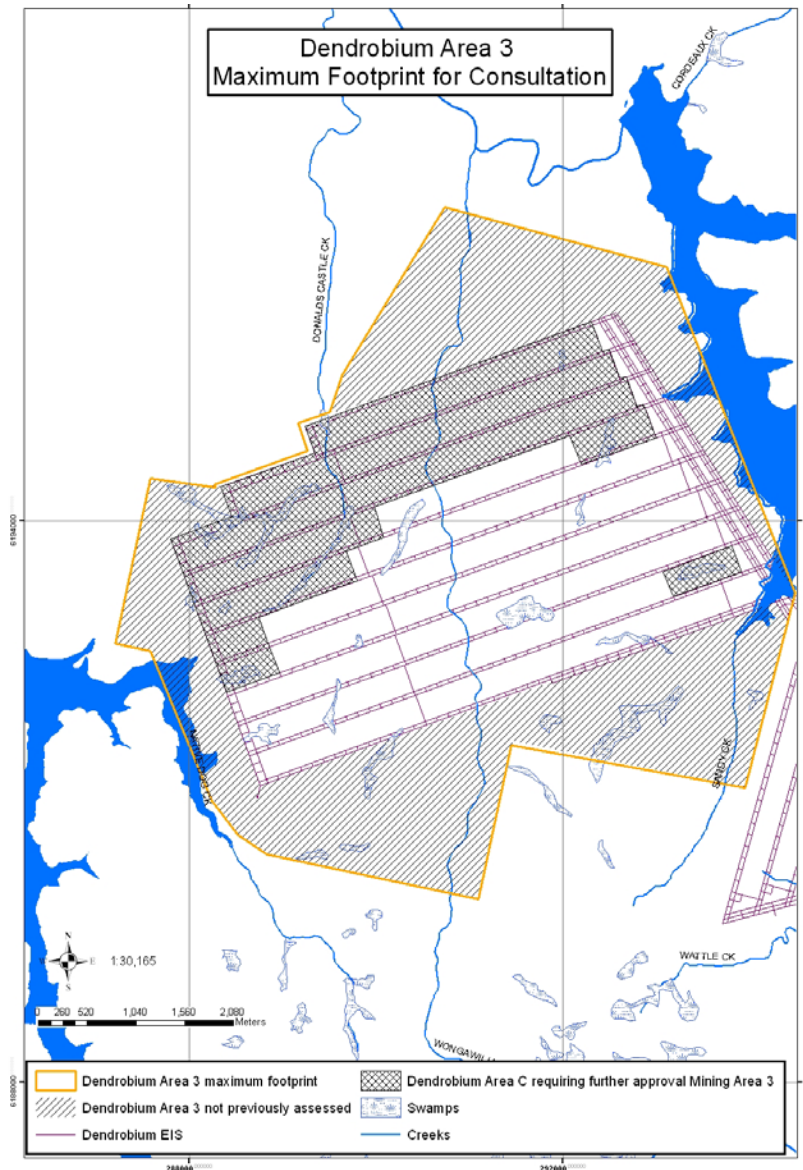
Approval issues for Area 3

- Development consent requires ‘further approval’ for Staged Development Area C – see condition 1.1 (b) (iii)
- SMP required
- Contemporary information/data used in the development of Area 3 mine plans
 - Review of Area 3 sub-domain mining footprints
 - Geology and coal seam exploration data
 - Environmental considerations
- Refinement of Area 3 mining domain

Area 3 approval footprints

Things to note:

- Existing approval to mine under Wongawilli and Donalds Castle Creek
- Maximum footprint, unlikely to have mining throughout due to geological/environmental/economic constraints
 - 81% of Area 1 was extracted compared to approved consent area
 - 61% of Area 2 to be extracted compared to approved consent area

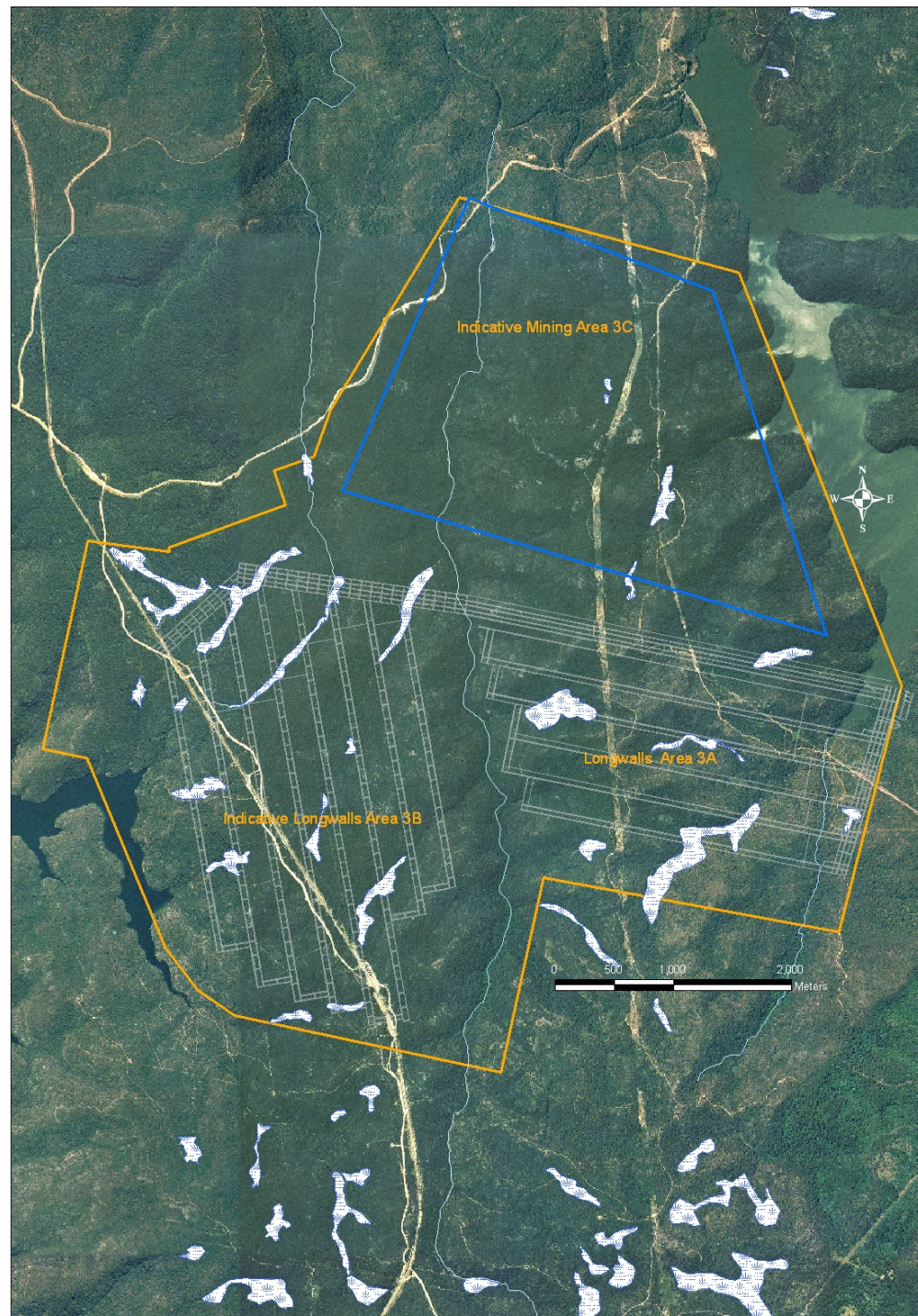


Change to Area 3 footprint

IC requested s75W modification of Development Consent for footprint of Area 3

- Approval of s75W approach by Minister for Planning on 13 April 2007
- DGR's for Environmental Assessment from DoP on 11 July 2007
- DGR's for SIS from DECC on 17 April 2007
- Issues to include in EA:
 - Issues set out in Condition 1.1 (b) (iii) of Development Consent (subsidence predictions and impacts, surface and groundwater impacts, swamps and sensitive habitat, flora and fauna (SIS), any need for offsets, Aboriginal CH, National Environmental Significance, consultation)
 - Stored waters and SCA assets
 - Surface and groundwater
 - Aboriginal cultural heritage
 - Greenhouse gases
- DEW confirmed on 30 July 2007 that existing EPBC approval is adequate for revised Area 3

Area 3A, 3B & 3C

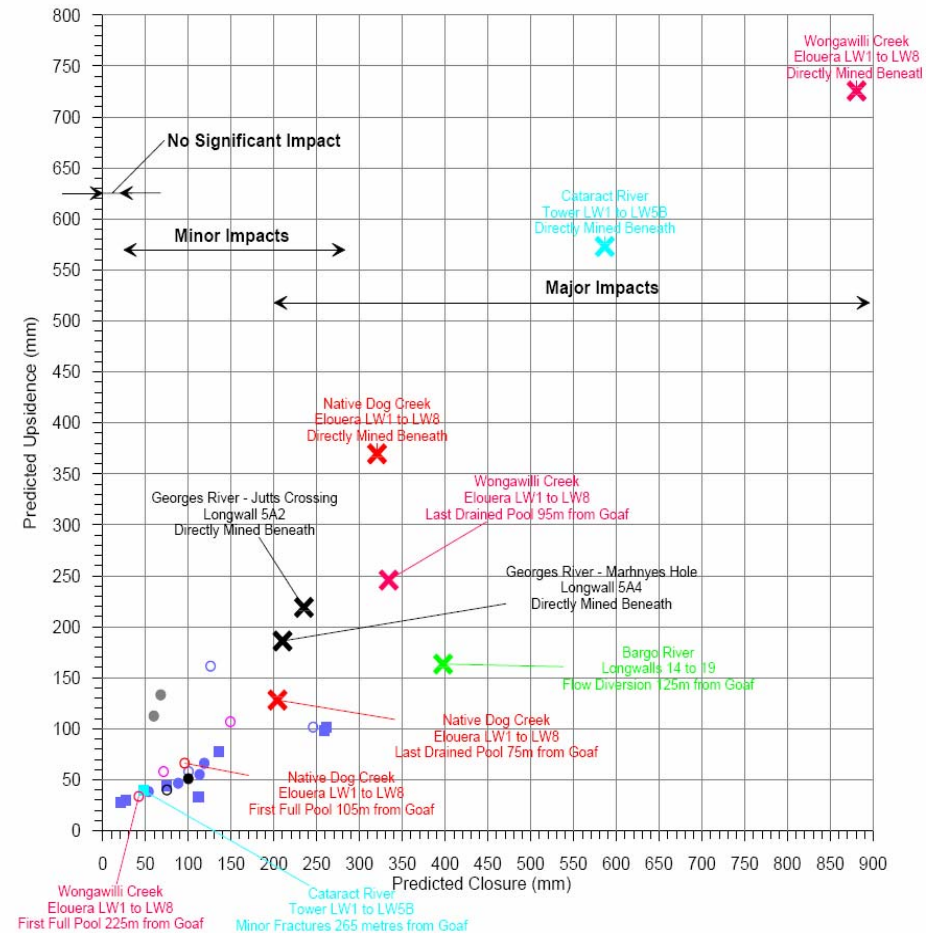


Subsidence assessment criteria

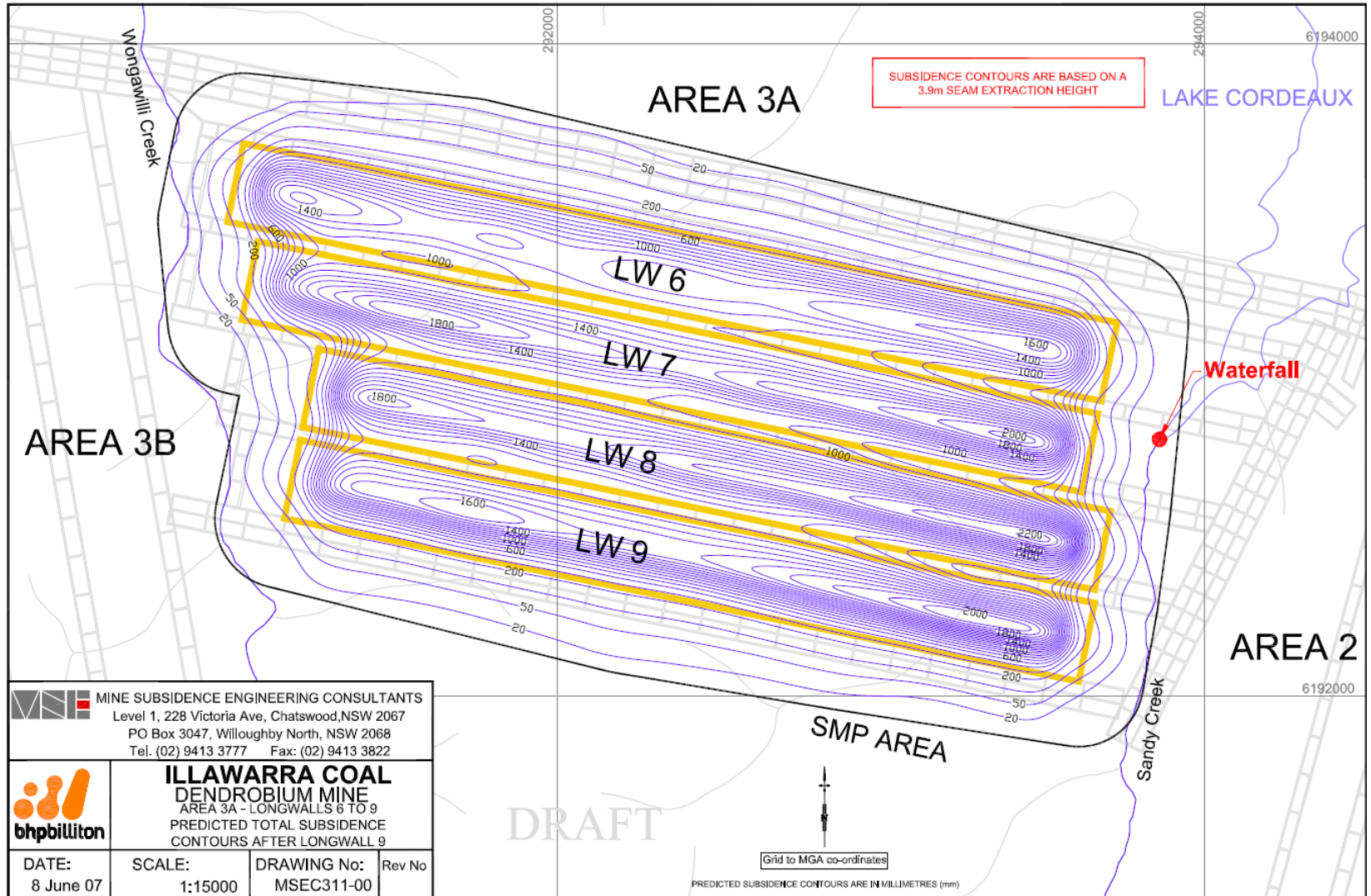
Mine plan developed on the basis of avoiding/minimising impact to waterways

- Review of case studies of subsidence monitoring vs observed waterway impacts
- NB: difference between mining underneath creeks compared to offset
- Achieve by <200 mm valley closure or small systematic subsidence
- Implementation by LW offsets to Sandy and Wongawilli Creeks, protection of Sandy Creek waterfall

Predicted Upsidence and Closure with Observed Impacts for Selected Case Studies



Area 3A – systematic subsidence predictions



Valley Related Movements – Sandy & Wongawilli Creeks

**Dendrobium - Area 3A - Longwalls 6 to 10
Sandy Creek Long Section
Predicted Profiles of Subsidence, Upsidence and Closure**

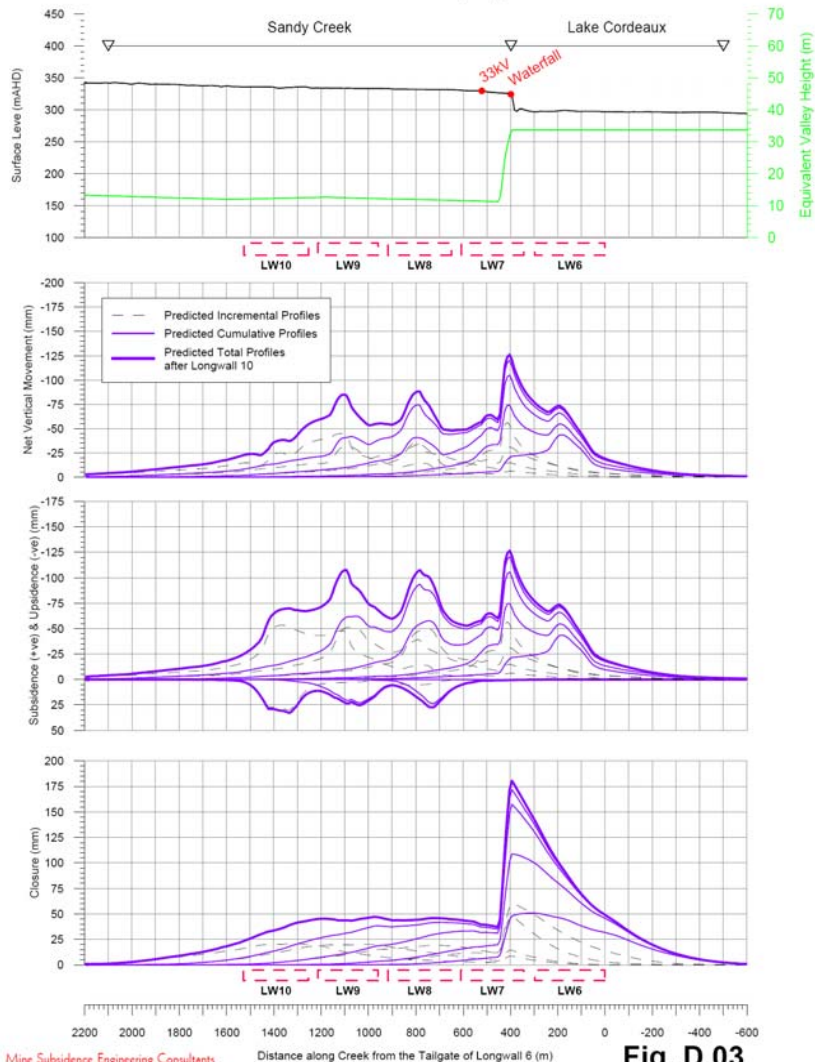


Fig. D.03

**Dendrobium - Area 3A - Longwalls 6 to 10
Wongawilli Creek Long Section
Predicted Profiles of Subsidence, Upsidence and Closure**

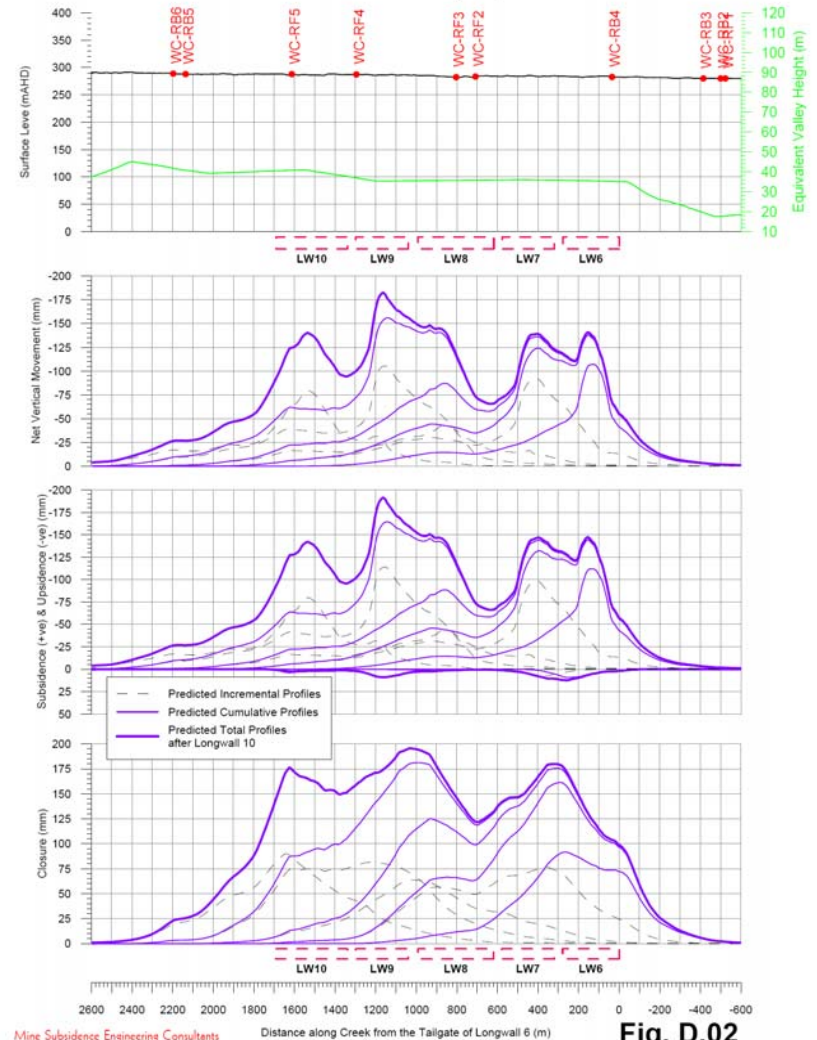


Fig. D.02

s75W EA and SMP

- IC will concurrently submit s75W EA for whole Area 3 and SMP for Area 3A
- Submission date aiming for September 2007
- s75W – Part 3A consultation process, 30 day exhibition
- Normal SMP process

DCCC Update 23/8/07 – Meeting Minutes

Minutes

SUBJECT: Community Consultative Committee meeting

LOCATION: Dendrobium Pit Top – Conference Room

DATE: 23rd August, 2007

ATTENDEES:	Tony Kent Jan Waples Alex Becarri Cate Stevenson Steve Bow Scott Coleman James Anderson Milton Morris Andrew Schofield Judith Egan Bruce Blunden	Wollongong City Council Community Representative Community Representative Community Representative Dendrobium Mine Dendrobium Mine Logistics, Illawarra Coal Chairman Wollongong City Council Department of Primary Industries Illawarra Coal
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APOLOGIES:	Julie Sheppard Zina Ainsworth	Environmental Group Representative Illawarra Coal
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1	PURPOSE
	<p>The CCC is a mechanism to bring the community and BHP Billiton together to:</p> <ul style="list-style-type: none">▪ Review documents, including the Environmental Management Strategy and associated Environmental Management Plans;▪ Allow community and environmental groups to raise issues concerning the Dendrobium project;▪ Give members a 'feel' for the project and how things are done.
2	AGENDA
	<ul style="list-style-type: none">▪ Business arising from last meeting:<ul style="list-style-type: none">○ Accept minutes of last meeting▪ Update on Area 3 Application▪ Update on Environment and Community Issues▪ Update on Rail Operations▪ Update on Dendrobium Operational Issues▪ General Business▪ Scheduling of next meeting
3	BUSINESS ARISING FROM PREVIOUS MEETING
	<p>The committee adopted the minutes from the previous meeting</p>
4	PRESENTATIONS
	<p>Update on Area 3 Application (Bruce Blunden) <u>Change to Dendrobium Area 3 Footprint</u> The committee was informed that Illawarra Coal has requested a modification of Development Consent for footprint of Area 3. The outline of the modified footprint was shown to the committee, along with the</p>

current configuration of LW blocks in Area 3A. The modified footprint was developed based on avoiding/minimising impacts to waterways and also geological constraints.

Q. Why is it necessary to show the plans goes underneath the dams?

A. The modified footprint is to provide ongoing flexibility in the development of mine plans that take into consideration geological, engineering and environmental information as it becomes available, without having to seek modifications to the mining footprint prescribed in the development consent. There is a lot of exploration work and mine planning going on at the moment with the LW layout yet to be confirmed for Areas 3B and 3C. There is no intention of longwall extraction below the stored water. Each new sub-area (or set of LWs) will require SMP approval prior to the commencement of mining.

Subsidence Prediction for Area 3A

A map outlining the Subsidence predictions for Dendrobium Area 3A was shown to the group along with predicted valley related movements for both Sandy Creek and Wongawilli Creek. See attached presentation for more detail regarding the expected subsidence and valley related movements.

S75W Environmental Assessment and SMP

The committee was informed that Illawarra Coal will concurrently submit s75W Environmental Assessment for the whole of Area 3 and the SMP for Area 3A – this is likely to occur in September 2007, with a 30 day public exhibition period following the submission.

Update of Environment and Community Issues (Scott Coleman)

Community Complaints

2 noise related complaints received in June (1 related to the Kemira Valley rill tower and 1 related to the pit top site). No non-rail related community complaints have been received since June 2007. Rail related complaints have also been declining predominately as a result of the extensive rail improvement works that were undertaken earlier this year.

Heritage Festival

The committee was shown photos from the recent Mt Kembla Heritage Festival.

CCC Field Trips

The committee was informed that two CCC members (Jan and Julie) had recently been taken out to inspect the observed impacts above Area 2, this field trip occurred in August 07. The committee was informed that the approval for the rehabilitation works for the cracks above LW3 has only just been received and that the rehabilitation had commenced last week however due to the wet conditions it has had to have been postponed. Jan extended his thanks to the BHPB representatives that made there time available for both himself and Julie to inspect the impacts and recommended that other members of the CCC attend future field trips if possible.

There was also a joint inspection with the Appin Area Community Working Group to inspect the rehabilitated emplacement area at West Cliff and the Stage 3 Application Area in August 07 – Julie Sheppard attended this field trip.

General Update

Water and Energy Saving Initiatives: The committee was informed about some of the water and energy savings initiatives that are currently being undertaken at Dendrobium Mine.

Community Survey: The committee was informed that a community survey has just been completed and the subsequent survey report is currently being finalised. The results from the survey will be presented to the CCC at the next meeting.

Blood Bank Bus visit to Mt Kembla: The committee was informed that the Blood Bank Bus had recently come up to Mt Kembla with a total of 18 people donating blood, the majority of the people donating blood

were from the mine with only a small amount of people donating from the community. The total number of donations was significantly lower than the previous effort of which over 40 people donated however it was still a good effort.

CCC Member Selection process: A draft CCC member selection process was presented to the committee. The process, which allows for a more open and transparent member selection process, was endorsed by the committee. An advertisement is to be drafted up and sent around to the CCC members for comments.

The process includes:

- i. Dendrobium CCC advertisement to be placed in relevant local publications
- ii. Mail out and direct recruitment of members to be undertaken on behalf of Dendrobium CCC to targeted organisations/individuals
- iii. Individuals interested in Dendrobium CCC membership to be sent application form, and contact number of existing Dendrobium CCC members
- iv. On lodgement of application, the application is to be discussed at the proceeding Dendrobium CCC meeting and a decision made
- v. Chairman to notify the Director-General of DoP of committee's decision
- vi. Director-General of DoP advises chairman of Dendrobium CCC whether nomination is endorsed
- vii. Applicants to be notified of decision of Dendrobium CCC

Update on Logistics (James Anderson)

Tree Planting

Tree planting has been organised and is scheduled to go ahead – the committee was shown the area where the tree planting is scheduled to occur. The work will be completed during the longwall shutdown.

Stump Grinding

The stumps located near the bottom of William James Drive are scheduled to be cut off at ground level which will increase the visual amenity of the area.

Update on Mining operations (Steve Bow)

Operational Update

Currently midway through LW3 with Longwall change-out currently scheduled for November 2007 (i.e. moving from LW3 to LW4). Development is continuing in MG4 and has just started in MG5. Driveage in North West Mains is also continuing.

No.2 and 3 Shaft Site Update

The No.3 shaft has been drilled to depth and the liners for the shaft are currently being installed – the last of the liners is due to be installed on Saturday. The drilling of the No.2 shaft is scheduled to commence in November 2007 and is likely to continue through to May 2008.

Underground Water Management Update

The committee was informed of the details surrounding the water inflow event which occurred in June 2007 in which there was an increased water flow into the goaf area of LW3. The water flow exceeded the pump capacity and hence operations ceased immediately and extra pumps were installed to allow for the situation to be controlled. External parties including DPI, DSC, SCA and DoP were notified of the event and were regularly liaised for a number of weeks following the event. At the time of the event, representatives from Illawarra Coal inspected the area above the LW to determine if there was any fresh cracking which could have potentially resulted in the water inflow event – this inspection did not uncover any such impacts that could have led to the inflow event.

An extensive water testing regime was instigated underground in order to pick up any changes in water quality that could potentially provide information on where the water had come from. The results from the

water testing, which were reviewed by the relevant government agencies and is currently being reviewed by a water chemist, indicate that the inflow water was some decades old as there was an elevated of dissolved minerals in the water. The committee was also informed that the inflow levels returned to normal within a week and no significant changes in the water inflow rate has been detected since the event.

6 GENERAL BUSINESS

Arrangement's to replace Karen Marshall

The committee was informed that Karen Marshall had recently resigned from BHPBilliton to move to China. Prior to Karen's position being filled permanently (the position is due to be advertised this weekend), the following interim arrangements have been put in place:-

- Bruce Blunden – Government Relations and Strategic Environmental Management
- Zina Ainsworth – Community Relations
- Scott Coleman – Site Environmental Management and Community Complaints

State of the Environment Report

The committee was informed that Dendrobium Mine has not got any definitive advice from the DoP regarding when the report is scheduled to be finalised. Bruce Blunden to follow up

Brine Proposal

The committee was informed that there are currently two conceptual models being looked at for the brine disposal from the Appin West Water Filtration Plant; a proposal is currently being developed for the project. Joanne Page, the Environment and Community Manager for Appin West, is to come to a future CCC meeting to present the brine proposal.

SEMP for LW5A and LW5 extension

The SEMP for the proposed LW5A and LW5 extension was distributed to the group in electronic format

7 ACTIONS

- Dendrobium Mine to contact Wollongong City Council regarding the damaged (i.e. cracked) section of Cordeaux Road
- Minutes from CCC meetings to be prepared and sent to CCC members within 14 days of the meeting
- Joanne Page to present brine proposal to the CCC

8 NEXT MEETING

Thursday 18th October @ 6pm

9 CLOSE OF MEETING

Meeting Closed: 7:45pm

Thank you all for attending.

**Letter to DoP 11/04/07 Re. s75W
Application to Modify Area 3**

Illawarra Coal



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New South Wales 2505 Australia
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New South Wales 2526 Australia
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bhpbilliton.com

8 February 2007

The Director General
Department of Planning
(Attention: Howard Reed)
GPO Box 39
SYDNEY NSW 2001

Dear Sir

**Dendrobium Mine Development Consent (DA 60-03-2001)
Modification of Area 3 footprint and Staged Development Area C**

Thank you for the opportunity to meet with Howard Reed on 5 February 2007 to discuss the administration of the Dendrobium Mine development consent in regard to the approval process for a modification to the Area 3 mine layout to extend beyond the footprint considered in the Environmental Impact Statement, and the further approval required by the Minister for Planning for mining within Staged Development Area C.

We seek approval from the Minister for Planning to lodge an application in accordance with s75W of the Environmental Planning and Assessment Act 1979/c8J(8) Environmental Planning and Assessment Regulation 2000 to modify the Dendrobium Mine Development Consent (DA 60-03-2001) to incorporate an increased footprint for mining Area 3. Notwithstanding the increased mining footprint area, the development is consistent with the existing development consent. A map of the proposed maximum footprint for mining Area 3 at the Dendrobium Mine is attached to this letter.

Further to the Ministers approval to modify the Dendrobium Mine development consent for the proposed maximum footprint for mining Area 3, we request that the Director General provide the requirements for the environmental assessment with respect to Area 3.

Condition 1.1 (b) of the Dendrobium Mine development consent requires that the form and content of environmental assessment reports for the staged development areas described in the development consent be determined by the Director General, in consultation with other relevant agencies, the Independent Expert Review Panel and the Community Consultative Committee. We request that you provide the 'whole of government' requirements in respect of the form and content of the environmental assessment report required for Area 3 Staged Development Area C. As required by Condition 1.1 (b) (iii), we will seek Director Generals' Requirements from the Department of Environment and Conservation for the revised Species Impact Statement.

Illawarra Coal Holdings Pty Ltd
ABN 69 093 857 286

A member of the BHP Billiton Group which is headquartered in Australia
Registered Office: 180 Lonsdale Street Melbourne Victoria 3000 Australia
ABN 49 004 028 077
Registered in Australia

It is our intention to submit a single Environmental Assessment to support the s75W application and the further approval required for Staged Development Area C. As such, consolidation of your Director Generals Requirements to consider all of Area 3 would be appreciated.

In order to expedite our application to modify the development consent and to seek for further approval for Staged Development Area C, we request that the Department provide advice on the expected requirements (if any) of community consultation required by the Department given that the original development application was the subject of comprehensive consultation, including an exhaustive Commission of Inquiry.

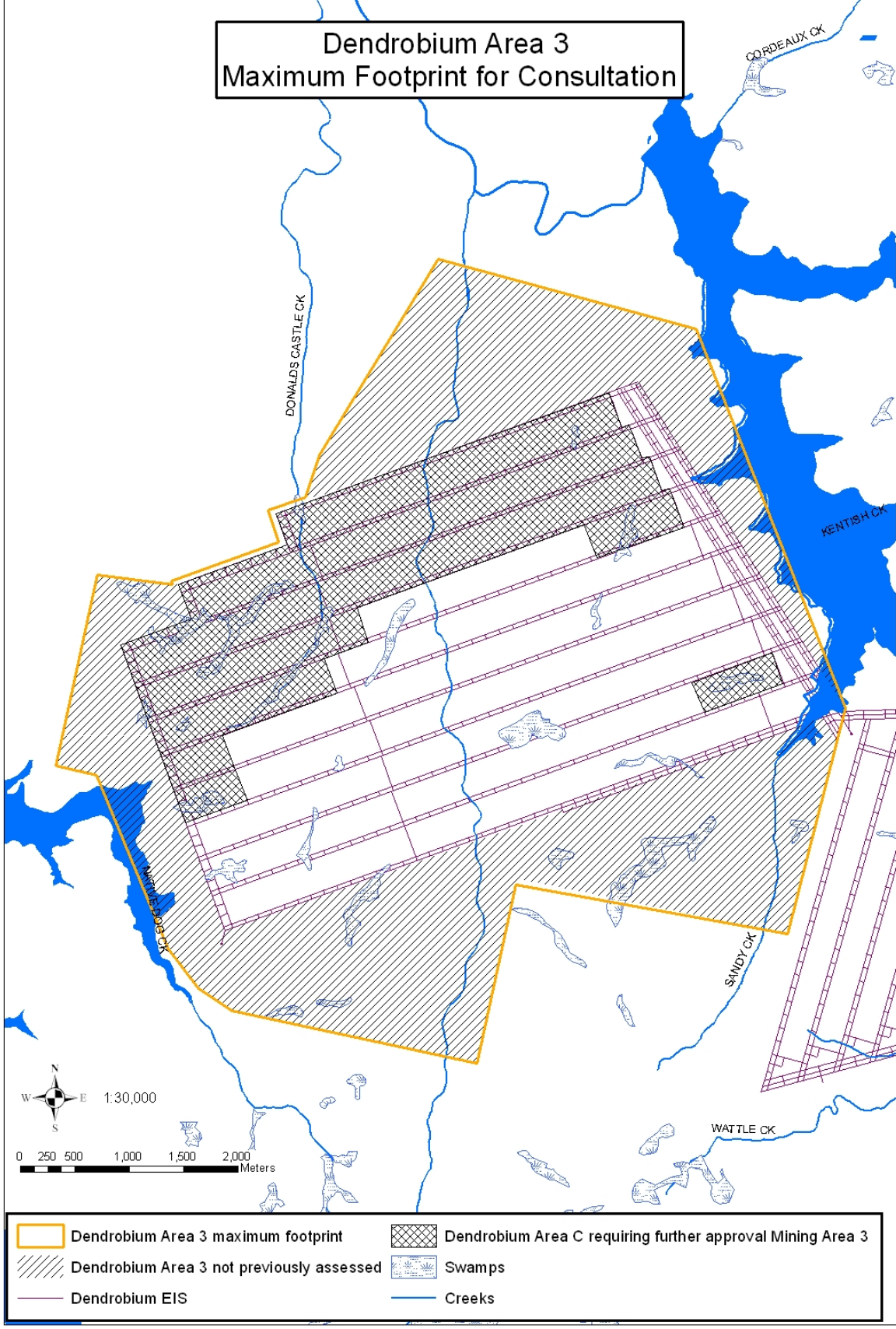
Roadway development for Area 3 is planned to commence in January 2008, given the tight schedule for this application, we request that you confirm your advice at your earliest convenience. If you require further information on this matter please contact the undersigned.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Richard Walsh', written in a cursive style.

Richard Walsh
Manager – Mining Approvals

Dendrobium Area 3 Maximum Footprint for Consultation



- | | |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
|  Dendrobium Area 3 maximum footprint |  Dendrobium Area C requiring further approval Mining Area 3 |
|  Dendrobium Area 3 not previously assessed |  Swamps |
|  Dendrobium EIS |  Creeks |

**Letter to DoP – Cover Letter for
Environmental Assessment**

Illawarra Coal



BHP Billiton Illawarra Coal
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PO Box 514 Unanderra
New South Wales 2526 Australia
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bhpbilliton.com

11 April 2007

The Director General
Department of Planning
(Attention: Howard Reed)
GPO Box 39
SYDNEY NSW 2001

Dear Sir

**Dendrobium Mine Development Consent (DA 60-03-2001)
s75W Application to modify Mining Area 3, incorporating the requirements of Staged
Development Area C, and administrative review of the conditions of consent.**

Please find attached a Preliminary Environmental Assessment (PEA) to support our application dated 8 February 2007 to seek approval from the Minister for Planning in accordance with s75W of the Environmental Planning and Assessment Act 1979/c8J(8) Environmental Planning and Assessment Regulation 2000 to modify the Dendrobium Mine Development Consent (DA 60-03-2001) to incorporate a revision to the footprint of Dendrobium Mining Area 3, and to concurrently seek further approval for Staged Development Area C. A description of the land of the proposed Mining Area 3 at the Dendrobium Mine is attached to this letter.

As agreed at a meeting on 7 March 2007 between officers of the Department and Illawarra Coal, we request that the Director General provide the requirements for the Environmental Assessment with respect to the modified Area 3 footprint. It was agreed at this meeting that the Environmental Assessment prepared to support the modified footprint for Area 3 would also incorporate the requirements for Staged Development Area C. You indicated at the abovementioned meeting that this s75W application to modify the existing Dendrobium Mine development consents in respect of Mining Area 3 will be assessed in accordance with the methodologies prescribed for Part 3A applications. Roadway development for Area 3 is planned to commence in January 2008. We look forward to the receipt of the Director Generals Requirements as soon as possible.

The Department expressed a preference for the administrative review of the conditions of consent to be considered as part of this s75W application. Illawarra Coal agrees with this approach on the proviso that negotiation of a more relevant and contemporary development consent does not prolong the assessment and approval of the Area 3 application. If the review of the conditions of consent becomes protracted, we request that the approval for the modified Area 3 be issued without delay.

As agreed at the abovementioned meeting, Illawarra Coal will provide you with a table comparing the existing consent conditions with more contemporary development consent

Illawarra Coal Holdings Pty Ltd
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conditions with references to these instruments and justification for proposed changes as a starting point for our negotiations. Further, we agreed that the objective of the administrative review of the development consent was to; remove external duplication with other instruments, simplify conditions and remove internal duplication, be consistent with other developments in similar circumstances, be outcomes focussed and not overly prescriptive, provide a better structure for the instrument, and develop conditions where determination of compliance can be readily achieved.

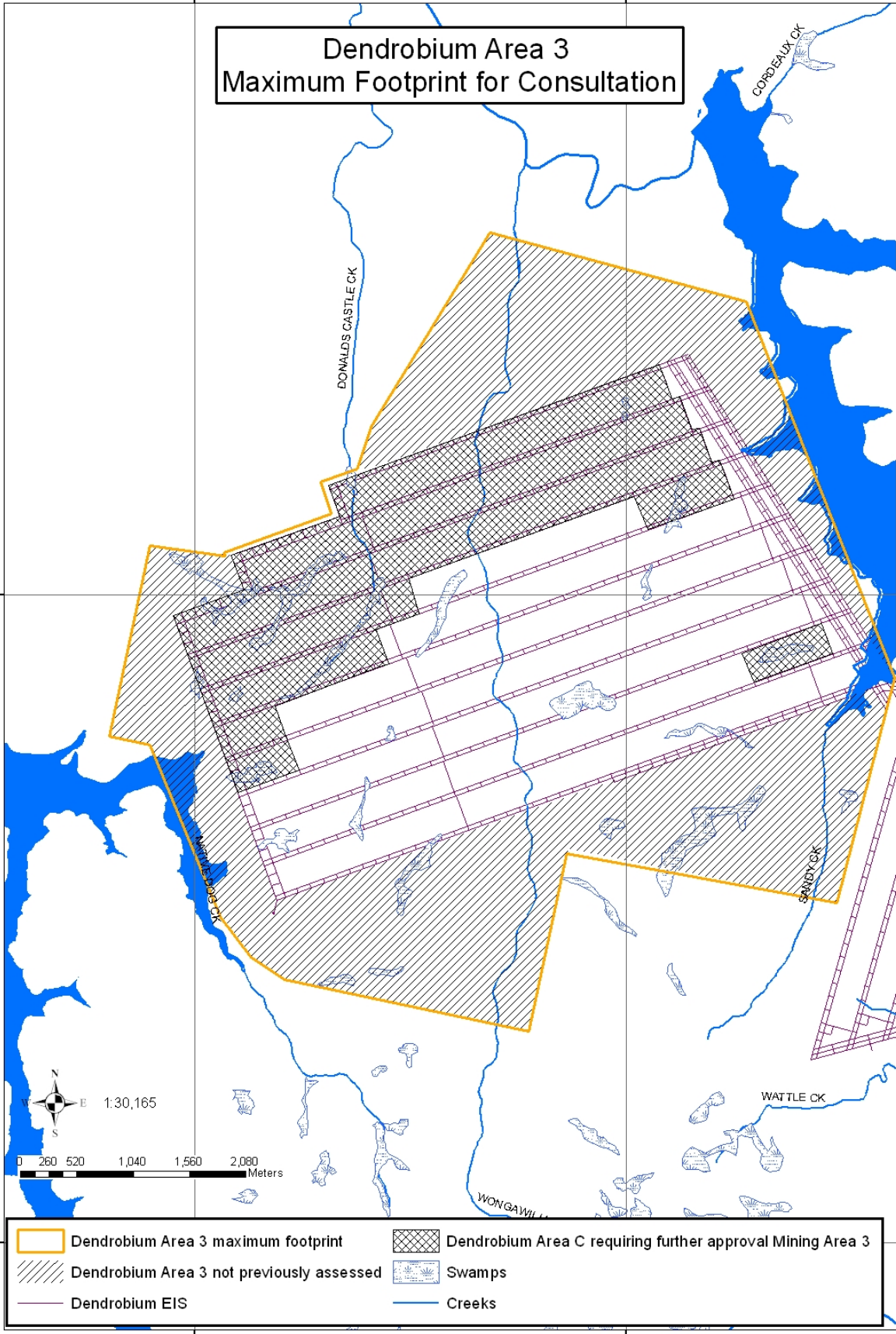
If you require further information on this matter please contact the undersigned.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Richard Walsh', with a stylized flourish at the end.

Richard Walsh
Manager – Mining Approvals

Dendrobium Area 3 Maximum Footprint for Consultation



- | | |
|-------------------------------------------|------------------------------------------------------------|
| Dendrobium Area 3 maximum footprint | Dendrobium Area C requiring further approval Mining Area 3 |
| Dendrobium Area 3 not previously assessed | Swamps |
| Dendrobium EIS | Creeks |

288000 292000

**Director General's Requirements for
an Environmental Assessment and
Agency Responses to Preliminary
Environmental Assessment**



NSW GOVERNMENT
Department of Planning

Mining & Extractive Industries
Major Development Assessment
Phone: (02) 9228 6483
Fax: (02) 9228 6466
Email: colin.phillips@planning.nsw.gov.au
Level 4 Western Gallery
23-33 Bridge Street
GPO Box 39
SYDNEY NSW 2001

Mr Richard Walsh
Manager – Mining Approvals
BHP Billiton Illawarra Coal Holdings Pty Ltd
PO Box 514
UNANDERRA NSW 2526

Our ref: S03/01444

Dear Richard

**Director-General's Requirements
Environmental Assessment for the Dendrobium Coal Mine
Staged Development Area C, Mining Area 3 and Review of Consent Conditions
s. 75W Modification (DA 60-03-2001 Mod 5)**

The Department has received your application seeking approval for a modification to the Dendrobium Coal Mine development consent (DA 60-03-2001) under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). L

On 13 April 2007, the Minister approved the development consent for the Dendrobium Coal Mine being treated as an approval for the purposes of section 75W of the EP&A Act, in relation to the proposed modification as outlined in your letter dated 8 February 2007. A copy of the Minister's approval is attached for your reference.

I wish to advise that the Department has prepared Director-General's requirements for the Environmental Assessment of the modification. A copy of these requirements is attached. The correspondence that the Department has received from the various agencies concerning the proposal is attached for your further information.

Please also note that under section 75F(3) of the EP&A Act, the Director-General may alter these requirements at any time.

I would appreciate it if you would contact the Department before you propose to submit your Environmental Assessment for the proposal to determine:

- the fees applicable to the application;
- consultation and public exhibition arrangements that will apply;
- whether the proposal requires an approval under the EPBC Act and any assessment obligations under that Act; and
- number and format (hard-copy or CD-ROM) of the Environmental Assessment that will be required.

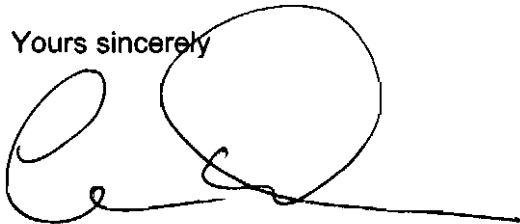
As you may know, the Department will review the Environmental Assessment in consultation with the relevant agencies to determine if it adequately addresses the Director-General's requirements. If the Director-General considers the Environmental Assessment to be inadequate, you will be required to revise it prior to making it publicly available.

The Director-General's requirements will be placed on the Department's website along with other relevant information which becomes available during the assessment of the project. As a result, the Department would appreciate it if the documents submitted to the Department are in a suitable format for the web. In addition, it would be appreciated if you would arrange for an electronic version of the Environmental Assessment for the project to be hosted on your website and provide a link to place on the Department's website.

If your proposal contains any action that is likely to significantly impact matters of National Environmental Significance, it will require an additional approval under the *Commonwealth Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Department of Environment and Water Resources in Canberra (6274 1111 or <http://www.environment.gov.au>) to determine if the proposal is likely to significant impact on matters of National Environmental Significance, and would require an approval under the EPBC Act. The Commonwealth Government has accredited the NSW environmental assessment process for assessing any impacts on matters of National Environmental Significance. As a result, if it is determined that an approval is required under the EPBC Act, please contact me immediately as supplementary Director-General's requirements will need to be issued.

If you have any enquiries about these requirements, please contact Colin Phillips of the Department's Mining & Extractive Industries team (02 9228 6483).

Yours sincerely



11.7.07

Chris Wilson
Executive Director
Major Project Assessment
As delegate for the Director-General

Application number	DA 60-03-2001 Mod 5
Modification	Modification to the Dendrobium Coal Mine development consent (DA 60-03-2001), involving an expansion of Mining Area 3, approval to mine within Staged Development Area C, and review of certain conditions of consent.
Location	Between Lake Cordeaux and Lake Avon, about 20 km west of Wollongong.
Proponent	BHP Billiton Illawarra Coal Holdings Pty Limited
Date of Issue	July 2007
Date of Expiration	July 2009
General Requirements	<p>The Environmental Assessment must include</p> <ul style="list-style-type: none"> • an executive summary; • a detailed description of the modification including the: <ul style="list-style-type: none"> - need for the modification; - alternatives considered; - various components of the modification; and - the likely inter-relationship between the proposed modification and existing or approved mining operations in the region; • consideration of any relevant statutory provisions; • a general overview of the environmental impacts of the modification, identifying the key issues for further assessment, and taking into consideration the issues raised during consultation; • a detailed assessment of the key issues specified below, and any other significant issues identified in the general overview of environmental impacts of the modification (see above), which includes: <ul style="list-style-type: none"> - a description of the existing environment; and - an assessment of the potential impacts of the modification including potential cumulative impacts that may arise from the combined operation of the modified development, together with the other approved and existing mines in the region; • a description of the measures that would be implemented to avoid, minimise, mitigate, offset, manage, remediate and/or monitor the impacts of the modification, and how the existing environmental monitoring and management programs/plans at the Dendrobium Coal Mine would be revised to accommodate the proposed modification; • include relevant material from documents considered by the Dendrobium Commission of Inquiry, particularly the Environmental Impact Statement, Species Impact Statement and Environmental Effects of Subsidence; • a Statement of Commitments, outlining environmental management, mitigation and monitoring measures; • a conclusion justifying the modification, taking into consideration the environmental impacts of the project, and the benefits of the project; and • a signed statement from the author of the Environmental Assessment report certifying that the information contained in the report is neither false nor misleading.
Key Issues	<ul style="list-style-type: none"> • For the expanded Mining Area 3 (including Area C) – address all issues set out under condition 1.1(b)(iii) of the consent in accordance with requirements set out in that condition; • Stored Waters and SCA assets – assess the potential impacts on Lake Cordeaux and Lake Avon (including inflows and water quality), assess the likelihood and consequence of loss of stored waters, assess potential impacts (including likelihood and consequence) on Cordeaux and Avon Dams and other SCA assets; • Surface and Ground Water – assess the potential impacts on Donalds Castle, Wongawilli and Sandy Creeks; upland swamps and aquifers;

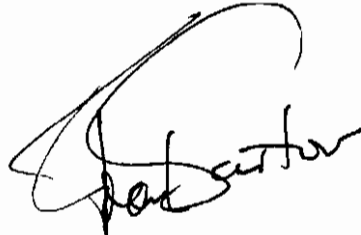
	<ul style="list-style-type: none"> • Aboriginal Cultural Heritage; and • Greenhouse Gases – a full greenhouse gas assessment (including a quantitative analysis of the greenhouse emissions associated with the combustion of product coal, and a qualitative assessment of the impacts of these emissions on the environment).
References	The Environmental Assessment must take into account relevant State and Commonwealth Government technical and policy guidelines. While not exhaustive, guidelines which may be relevant to the project are included in the attached list.
Consultation	<p>During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups or affected landowners. The consultation process and the issues raised must be described in the Environmental Assessment.</p> <p>In particular you should consult with all agencies and other parties identified in condition 1.1(b)(iii) and the Dendrobium Community Consultative Committee;</p> <p>The consultation process and the issues raised must be described in the Environmental Assessment.</p>
Deemed refusal period	60 days

Aspect	Policy /Methodology
	<ul style="list-style-type: none"> • <i>Guideline for Application for Subsidence Management Approvals</i> (DPI); • <i>New Approval Process for Management of Coal Mining Subsidence</i> (DPI);
	<ul style="list-style-type: none"> • <i>Guidelines for Assessment of Aquatic Ecology in EIA</i> (DoP); • <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (DPI - Fisheries); • <i>Draft Guidelines for Threatened Species Assessment (2005)</i> (DECC); • <i>Draft Threatened Species Survey and Assessment Guidelines for Developments and Activities (2004)</i> (DECC); • <i>NSW Groundwater Dependent Ecosystem Policy</i> (DWE); • <i>Biobanking: an investigation of market-based instruments to secure long-term biodiversity objectives</i> (DECC);
	<ul style="list-style-type: none"> • <i>AGO Factors and Methods Workbook</i> (Australian Greenhouse Office);
	<ul style="list-style-type: none"> • <i>Mine Rehabilitation (2006)</i> (Commonwealth DITR); • <i>Mine Closure and Completion (2006)</i> (Commonwealth DITR);
	<ul style="list-style-type: none"> • <i>Managing Urban Stormwater: Soils & Construction</i> (Landcom); • <i>Guidelines for Fresh and Marine Water Quality</i> (ANZECC); • <i>Rehabilitation Manual for Australian Streams</i> (Land and Water Resources Research and Development Corporation); • the various <i>State Groundwater Policy</i> documents (DWE); • any <i>Water Sharing Plan</i> under the <i>Water Management Act 2000</i> applicable to the site; • <i>Approved Methods for the Sampling and Analysis of Water Pollutants in NSW</i> (DECC); • <i>Drinking Water Catchments Regional Environmental Plan No. 1</i>; • <i>SCA Special Area Strategic Plan of Management 2007</i> (SCA);
	<ul style="list-style-type: none"> • <i>Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation</i> (DECC); • <i>Aboriginal Cultural Heritage Standards and Guidelines Kit</i> (DECC); • <i>Interim Community Consultation Requirements for Applicants</i> (DECC);
	<ul style="list-style-type: none"> • <i>Environmental Guidelines: Assessment and Classification and Management of Liquid and Non-Liquid Wastes</i> (DECC); and
	<ul style="list-style-type: none"> • <i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999: Guide to Implementation in NSW May 2007</i> (DoP).

Approval

Clause 8J(8)(b) of the *Environmental Planning and Assessment Regulation 2000*

Pursuant to clause 8J(8)(b) of the *Environmental Planning and Assessment Regulation 2000*, I, the Minister for Planning, approve of the development consent (DA 60-03-2001) for the Dendrobium Coal Mine being treated as an approval for the purposes of section 75W of the *Environmental Planning and Assessment Act 1979* for the proposed modification described in Schedule 1.



Frank Sartor MP
Minister for Planning

Sydney

13th April

2007

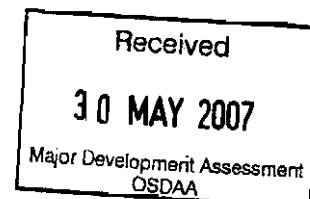
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Schedule 1

The proposed modification by BHP Billiton Illawarra Coal Holdings Pty Ltd at the Dendrobium Coal Mine, approximately 20 kilometres west of Wollongong, involving:

- extending the footprint of underground longwall mining beyond the existing Area 3;
- approval of mining, by longwall methods, within Area C;
- transporting, by conveyor and rail, additional mined coal to the Dendrobium Coal Preparation Plant located at the Bluescope Wollongong steelworks; and
- various alterations to the conditions of consent to reduce duplication with other regulatory processes.

Our reference : FIL07/6539:DOC07/16262:CP
Contact : Craig Patterson, (02) 4224 4100



The Director General
Department of Planning
(Attention: Colin Phillips)
GPO Box 39
SYDNEY NSW 2001

Dear Sir

**ENVIRONMENTAL ASSESSMENT REQUIREMENTS
DENDROBIUM COAL MINE - PROPOSED MODIFICATION OF CONSENT
REVISED MINING FOOTPRINT FOR AREA 3, STAGED DEVELOPMENT FOR AREA C**

We refer to your request for the Department of Environment and Climate Change (DECC) to identify key requirements for the preparation of an Environmental Assessment (EA) in regard to the above proposal.

The Dendrobium Underground Mine Development was subject to a Commission of Inquiry (COI) following which it was approved in 2001 by the Minister of Planning subject to amendments and conditions. The amendments to the proposal included a staged development for Area C and restricted mining in Area 3 for the protection of certain high conservation value creeks and upland swamp areas including the catchment of Donalds Castle Creek and Wongawilli Creek.

Under the current proposal, BHP Billiton Illawarra Coal seeks to modify the approved footprint for Dendrobium Area 3 from 18.9km² to a proposed maximum footprint of 33.5km². The Preliminary EA for this project has identified a number of potential subsidence impacts to natural features across the landscape including but not limited to creeks, lakes, cliffs, rock outcrops and archaeological sites.

The NSW Government independent inquiry into the Southern Coalfields is due to commence shortly to review the impacts of underground mining on significant natural features and to examine how these impacts may be assessed, avoided (or minimised) and managed. The DECC recommends that any consideration of the Dendrobium Area 3 should await the outcomes of this inquiry process as its outcomes will inform the EA process in relation to mining related subsidence. This is particularly relevant to Dendrobium Area 3 due its environmental sensitivity as originally identified in the Dendrobium COI.

However, if the Department of Planning wish to issue Environment Assessment Requirements (EARs) for this development, the EA will need to clearly justify the reasons for an expanded Area 3 footprint and demonstrate how the proposal addresses the issues/findings raised in the COI report dated October 2001, as well as those identified in the preliminary EA. In relation to any environmental impacts caused or associated with mine related subsidence the proponent should

The Department of Environment and Conservation NSW is now known as
the Department of Environment and Climate Change NSW

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Level 3, 84 Crown Street, Wollongong NSW
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Department of Environment and Climate Change NSW

adopt the hierarchy of avoid/minimise/mitigate and document those measures in the EA that will achieve these outcomes.

In addition, there are a number of environmental issues that warrant close investigation as part of the EA process and should include an assessment of any environmental impacts caused or associated with mine related subsidence. A summary of these issues is provided below with more detailed information specified in Attachment A.

- Mine subsidence
- Water quantity and quality
- Biodiversity/Threatened Species
- Aboriginal cultural heritage
- Air quality impacts
- Waste

We note that the Preliminary Environmental Assessment Report refers to background information and studies for the project area. The DECC considers that it is essential that the proponent ensures its assessment is current, specific to the project and addresses our requirements in Attachment A using the Guidance Material outlined in Attachment B.

Should you require any further information, please contact the officer listed above.

Yours sincerely

William Dove 28/05/07

WILLIAM DOVE
Acting Manager Illawarra
Climate Change and Environment Protection Group

Att

(N:\EPRD\CP\2007\DOC07-18282 - PART 3A - DENDROBIUM AREA3 EARS.DOC)

ATTACHMENT A

The following are Department of Environment and Climate Change (DECC) key environmental requirements to be addressed in the development of an Environmental Assessment (EA) for the proposed development.

Relationship to existing Environment Protection Licences

The Environment Protection Authority currently licenses Dendrobium Coal Pty Ltd for the activities associated with the Dendrobium Mine. The Environment Protection Licence (EPL) covering these activities is EPL 3241.

The EA should identify any need for the EPL to be varied should consent be granted.

Environmental Impacts of the Project

1. In assessing the environmental impacts caused or associated with mine related subsidence, the EA should address the hierarchy of avoid/minimise/mitigate. Measures to mitigate the environmental impact could include options such as offsetting.
2. The following environmental impacts of the project need to be assessed, quantified and reported on:
 - Mine subsidence
 - Water quantity and quality
 - Biodiversity/Threatened Species
 - Aboriginal cultural heritage
 - Air quality impacts
 - Waste
3. These should be assessed in accordance with the relevant guidelines listed in Attachment B.
4. Details are required on the location of the proposed development including the affected environment to place the proposal in its local and regional environmental context including surrounding landuses, planning zonings, potential sensitive receptors, surface and sub-surface area/ features of conservation significance and environmental sensitivity. These should include areas containing natural and cultural heritage values.
5. Describe the management options that will be used to avoid/minimise/mitigate identified environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

Impacts of Mine Subsidence

Subsidence resulting from longwall mining has the potential to cause a significant impact on the environment by altering local streams, by changing slopes and altering flow velocities and surface flow patterns. Subsidence may also impact groundwater resources by fracturing aquifers and by providing alternative pathways for groundwater accession or discharges to surface waters. In addition, such changes on the landscape can impact biodiversity/threatened species, endangered ecological communities, habitats and areas containing natural and cultural heritage values. In particular, water dependent ecosystems can potentially be seriously impacted as a result of subsidence.

In this regard, any subsidence prediction should consider:

- Detailed geotechnical and hydrological assessments to determine the extent and nature of subsidence impacts including an assessment of both active and any potential residual or cumulative subsidence impacts from successive longwalls as well as any potential subsidence effects. The EA needs to clearly describe the extent of the impacts subsidence/movements

will have on natural features including water flow and quality, biodiversity/threatened species and aboriginal cultural heritage.

- Validation of the modelling predictions. Information and results from monitoring from previously mined areas in the vicinity of the proposed project would assist the assessment.

With any predictive modelling there are limitations on the accuracy of the predictions. The EA should recognise this and provide information on the modelling accuracy across the different landscapes (plateau, incised river valleys, hillslopes) within the project area. The EA should also document the accuracy of the modelling predictions with respect to geological conditions and provide consideration to improved methods of validation as part of the development.

We also suggest that a more sophisticated system of real time detection of ground movement at a landscape scale linked to adaptive management should be investigated to provide real time validation with the current predictive modelling system. Enhanced systems such as remote sensing, for example InSAR or DInSAR (radar interferometry) satellite methods, should be considered to complement land based site investigation techniques or other systems.

In addition, to address any potential risks associated with subsidence, the following should also be considered in the assessment including, but not necessarily limited to:

- Monitoring of early warning signs around areas of waterways, creeks, wetlands, upland swamps and other priority environmental conservation areas
- Contingency planning during active mine subsidence; communication and reporting to appropriate regulatory authorities, the local community and the Independent Expert Review Panel
- Procedures for precautionary and remedial action – including ceasing mining activities in areas where necessary to prevent irrevocable damage – until appropriate alternatives or compromises are agreed; and
- Appropriate remediation strategies where suitable.

Impacts on water quantity and quality

The environmental outcome of the project should ensure:

- there is no pollution of waters (including surface and groundwater)
- it contributes to the protection or achievement over time of River Flow Objectives and Water Quality Objectives
- consistency with the objectives and principles outlined in the NSW State Groundwater Policy.

An assessment needs to be provided in the EA demonstrating how the above objectives will be achieved while considering the avoid/minimise/mitigate hierarchy. The proponent should confirm in the EA, the catchments that the development occurs in to determine the requirements that should apply. The EA should also clearly identify any sensitive areas nearby and provide details on any potential impacts this proposal may have on these areas including any associated measures to avoid/minimise/mitigate the impacts. In regards to sensitive areas, the preliminary EA states that the primary drainage line within the study area is the Wongawilli Creek system which flows into the upper Nepean River via the Cordeaux River. The report also indicates that the site is within close proximity of Lake Cordeaux and Lake Avon.

Mining subsidence is frequently associated with cracking of valley floors and creeklines and with subsequent effects on surface and groundwater hydrology. Cracking and subsequent water loss can result in permanent changes to riparian community structure and composition and impact on aquatic and terrestrial ecosystems.

In this regard, a hydro-geological investigation should be undertaken including identification of all waters courses, groundwater and any associated draw down effects, water dependent ecosystems, etc, which could potentially be impacted by subsidence. The assessment should examine any potential impacts to water quality, flow, aquatic and terrestrial ecosystems and identify those measures that will avoid/minimise/mitigate such impacts. The assessment should

also be undertaken on any potential impacts on down stream flows and environments and how environmental flows will be maintained.

The assessment on water quality should address any issues associated with any potential water quality and environmental impacts as a result of the liberation of gasses due to any active or residual subsidence. This should also include the identification of measures that avoid/minimise/mitigate such impacts.

Details on the management of mine water needs to be addressed in the EA including measures for its collection and subsequent management. The performance of the treatment facilities should also be addressed.

The assessment should also detail surface construction works including the construction of mine vent shaft sites and their locations and the measures proposed to avoid/minimise/mitigate any identified impacts. Options to minimise the footprint area of these sites should also be discussed with appropriate stormwater management and remediation strategies identified for each area.

Impacts of the project on biodiversity/threatened species and their habitat

The DECC has already provided our requirements for the preparation of a revised Species Impact Statement (SIS) which was a requirement under the Dendrobium Underground Coal Mine development consent. The proponent had originally requested these requirements to progress an SIS for the Dendrobium Area 3 to satisfy the consent conditions. The issued requirements (copy attached) also address threatened species matters in relation to an expanded footprint. As the development will now be determined under Part 3A of the Environmental Planning and Assessment Act 1979, we understand that the requirement for an SIS and its associated concurrence provisions will now not apply. In this regard, we suggest that DoP may wish to consider our issued SIS when developing EARs. If not, than an assessment will need to be undertaken in accordance with the attached threatened species guidelines.

Threatened species and ecological communities that depend on aquatic and semi-aquatic habitats are particularly susceptible to the impacts of subsidence due to hydrological changes such as reduction in surface water flows and altered flow regimes. In addition subsidence has the potential to cause a decrease in water quality such as reduced oxygen availability, encouraging bacterial growth, smothering native plants and animals. Subsidence can also increase the amount of iron oxides in the water which has the potential to directly affect biodiversity such as native plants and animals. In this, water dependant ecosystems such as upland swamp complexes have the potential to contain threatened species, populations, endangered ecological communities (EEC) or their habitats.

For your information, subsidence has been listed under the TSC Act 1995 as a key threatening process. The potential impacts as a result of subsidence are numerous and are detailed in the NSW Scientific Committees final determination titled, "*Alteration of habitat following subsidence due to longwall mining - key threatening process declaration*".

Impacts of the project on Aboriginal cultural heritage values

The EA should address and document the information requirements set out in the draft "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" involving surveys and consultation with the Aboriginal community. The EA needs to clearly demonstrate that effective community consultation with Aboriginal communities has been undertaken in determining and assessing impacts, developing options and making final recommendations.

The EA should identify the nature and extent of impacts on Aboriginal cultural heritage values across the project area and describe the actions that will be taken to avoid/minimise/mitigate impacts or compensate to prevent unavoidable impacts of the project on Aboriginal cultural

heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

The impacts of subsidence must also be well assessed to ensure that there is a strong basis for estimating the likely impacts of any underground mining on surface sites or significant components of the cultural landscape. The design of the longwall layout should also ensure subsidence effects are avoided, minimised or mitigated as shelter sites in cliff lines or grinding grooves on sandstone outcrops within creek lines are especially vulnerable to impacts from subsidence where slippage of the bedding planes can crack the surface rocks or cause the shelters to collapse. The layout of the underground workings should be decided after surveys and assessments have been completed to ensure impacts to Aboriginal heritage sites or landscapes are avoided, minimised or mitigated. For example, in relation to a previous underground longwall mine proposal a vulnerable surface series of art sites and cliffs were afforded protection by relocating an underground access road. However, should unavoidable impacts on significant Aboriginal heritage be identified in the development proposal, and these impacts cannot be mitigated, then a process to address these unavoidable impacts should be developed and documented for consideration by DECC.

Impacts on air quality

The environmental outcome for the project in relation to air quality is to ensure sensitive receptors are protected from any adverse impacts from dust and odour. The EA should include information on the management of gas including drainage, collection and subsequent use. In addition, an air impact assessment of any mine ventilation systems also needs to be undertaken in accordance with the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales*. In addition, the development should ensure:

- emissions should not cause adverse impact upon human health or the environment, and there must be no offensive odour beyond the boundary of the premises
- National Environment Protection Measures (NEPM) ambient air quality goals should not be compromised
- visible dust emissions from material handling, storage, processing, haul roads, transport and material transfer systems are minimised and
- vehicular kilometres travelled are minimised.

Greenhouse gas emissions

The EA should include a comprehensive assessment of and report on the project's predicted greenhouse gas emissions (tCO₂e). Emissions should be reported on a:

- a) Greenhouse intensity (emissions per unit of production) basis
- b) Total annual emissions basis; and
- c) Total project lifetime basis, including construction, operation and decommissioning.

The assessment should include direct emissions (that is, those occurring on the project site), indirect emissions (for example, those offsite as a result of the project, such as through electricity use) and any significant upstream and/or downstream emissions associated with the project.

The emissions should be estimated using an appropriate methodology, in accordance with the Department of Planning's Draft "Guidelines: Energy and Greenhouse in EIA" (2002) and the Australian Greenhouse Office's "Factors and Methods Workbook" (2006).

Emissions should be compared in the EIA against:

- a) Industry 'best practice' emissions intensity for the activity; and
- b) Total annual NSW emissions, so the impact of the proposal on NSW emission reduction targets can be evaluated.

The proponent should also evaluate and report on the feasibility of measures to further reduce greenhouse gas emissions associated with the project.

Waste

The goal of the development should ensure:

- It is in accordance with the principles of the waste hierarchy and cleaner production
- The handling, processing and storage of all materials used at the premises does not have negative environmental or amenity impacts
- The beneficial reuse of all wastes generated at the premises are maximised where it is safe and practical to do so; and
- No waste disposal occurs on site except in accordance with an EPA licence.

ATTACHMENT B

Guidance Material

Water quality

- National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000)
- NWQMS Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC 2000)
- NSW Government Water Quality and River Flow Environmental Objectives (See <http://www.environment.nsw.gov.au/ieo/>)
- Regional Environmental Plan, REP No1 - Neutral or Beneficial Effect on Water Quality Assessment Guidelines
- The relevant targets within the State Water Management Outcomes Plan
- EPA technical guidelines '*Bunding and Spill Management*'

Groundwater

- State Groundwater Policy Framework Document (DLWC 1997)
- The NSW State Groundwater Quality Protection Policy (DLWC 1998)
- (Draft) NSW State Groundwater Quantity Management Policy
- NSW State Groundwater Dependent Ecosystems Policy (DLWC, 2002)
- National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ & ANZECC, 1995)

Stormwater

(Note: some of these documents will be revised in 2006)

- Managing Urban Stormwater: Soils and Construction (NSW Landcom, 2004)
- Managing Urban Stormwater: Source Control (EPA 1998)
- Managing Urban Stormwater: Treatment Techniques (EPA 1998)

Wastewater

- National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC 1997)
- National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC 2000)
- Environmental Guidelines for the Utilisation of Treated Effluent by Irrigation (NSW DEC 2004)
- Environment and Health Protection Guidelines: 'Onsite Sewage Management for Single Households', February 1998 (Silver Book)

Biodiversity/Threatened Species

- Draft Guidelines for Threatened Species Assessment July 2005 - Available from Dept of Planning.
- Draft Threatened Species Survey and Assessment Guidelines for Developments and Activities (DEC 2004) - Information on this guideline can be obtained found on the DECC website.
- Green Offsets for Sustainable Regional Development: Concept Paper (NSW Government, May 2002)

Aboriginal Cultural Heritage

- Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation - Available from Dept of Planning.
- Aboriginal Cultural Heritage Standards and Guidelines Kit
http://www.nationalparks.nsw.gov.au/PDFs/aboriginal_heritage_guidelines_kit_final.pdf
- Interim Community Consultation Requirements for Applicants.
<http://www3.environment.nsw.gov.au/npws.nsf/Content/Protecting+Aboriginal+objects+and+places>

Air quality

- Legislative requirements under the Protection of the Environment Operations Act 1997 and its associated Regulation.
- Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales (August 2001)
- Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (July 2001)

Waste

- Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes

FILE COPY

Our reference : LIC06/280-02:DOC07/4958:PW
Contact : Paul Weame, (02) 4224 4100

BHP Billiton Illawarra Coal
(Attention: Mr Richard Walsh)
PO Box 514
UNANDERRA NSW 2526

Dear Sir

DIRECTOR-GENERAL'S REQUIREMENTS FOR A SPECIES IMPACT STATEMENT FOR THE DENDROBIUM AREA 3 STAGE DEVELOPMENT AREA C

We are writing in reply to your letter dated the 8 February 2007 requesting the Department of Environment and Conservation (DECs) requirements for the development of a new Species Impact Statement (SIS) for the above proposal.

The Dendrobium Underground Mine Development was subject to a Commission of Inquiry (COI) following which it was approved in 2001 by the Minister of Planning as a staged development subject to conditions. As part of staged development long wall mining or any associated infrastructure undertaken in Area C was subject to an assessment process including a separate approval from the Minister for Planning. This included the development of a revised SIS where Director-General Requirements (DGRs) are required to be sought from the former National Parks and Wildlife Service.

DEC has agreed to provide BHP Billiton these SIS requirements (attached) to assist in undertaking additional flora and fauna survey work. However, the SIS requirements should not be considered in isolation but form part of an overall and integrated assessment of the proposal in accordance with the above consent requirements.

In this regard, we consider that some of the elements of the consent condition which relate to matters such as subsidence modelling, impacts on matters of national environmental significance, surface and groundwater impacts, impacts of subsidence on hanging swamps and other sensitive habitat and compensatory packages are elements for consideration in the development of an SIS. We also consider that in providing a contextual assessment of the site, that it should not be limited to the area bounded by the red line in the submitted information but should also examine the surrounding area. This should also include off site areas to understand any linkages to the site and to provide contextual information.

The attached requirements also address the outcomes of discussions provided at the meeting on Wednesday, 14 March 2007, with representatives of DEC, BHP Billiton and their consultants, Biosis Research, where it was agreed that a targeted Flora and Fauna Survey could be undertaken as part of the SIS due to the results of past and current monitoring work. However, the SIS would need to outline the reasons for this revised methodology including justification for not including certain species.

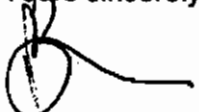
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To assist BHP to proceed with survey work at the site, we have undertaken a review of the list of species included in the Preliminary Scoping Document titled *Dendrobium Area 3 Species Impact Statement Natural and Cultural Heritage Assessment* dated March 2007. From this list, we have identified in the attached requirements a number of subject species that require assessment. In addition to the list of species which will be targeted during the survey, we also recommend the inclusion of the Giant Dragonfly (*Petalura gigantean*).

In addition to the above matters, please find attached the Director-Generals requirements for the development of an SIS.

Should you require any further information on these requirements please contact Paul Wearne on (02) 4224 4100.

Yours sincerely



PETER BLOEM 1714107
A/Manager Illawarra
Environment Protection and Regulation

Att

cc: Department of Planning
 (Attention: Mr Howard Reed
 GPO Box 39
 SYDNEY NSW 2001

(N:\THREATENED SPECIES\SIS\DGRs DENDROBIUM AREA 3.DOC)

For action/approval

ORIGINATOR	PW
ALPPV-GW	EW 16.A
ALME	✓
mail@mpwr.gov.au	OK 14/10/07
OB	OK 14/10/07
PW	

ATTACHMENT

DIRECTOR-GENERAL'S REQUIREMENTS FOR A SPECIES IMPACT STATEMENT FOR THE PROPOSED DENDROBIUM AREA 3 STAGE DEVELOPMENT AREA C

The purpose of a Species Impact Statement (SIS) is to:

- allow the applicant or proponent to identify threatened species issues and provide appropriate amelioration for adverse impacts resulting from the proposal
- assist consent and determining authorities in the assessment of a Development Application under Part 4 or request for Part 5 approval under the *Environmental Planning and Assessment Act 1979* (EP&A Act)
- assist the Director-General of DEC in deciding whether or not concurrence should be granted for the purposes of Parts 4 or 5 of the EP&A Act
- assist the Director-General of DEC or the Minister for the Environment when consulted for the purposes of Parts 4 or 5 of the EP&A Act, and
- assist the Director-General of the DEC in the assessment of Section 91 Licence applications lodged under the Threatened Species Conservation (TSC) Act.

DEFINITIONS

The definitions given below are relevant to these requirements:

development has the same meaning as in the EP&A Act

activity has the same meaning as in the EP&A Act

proposal is the development, activity or action proposed

subject site means the area directly affected by the proposal

study area is the subject site and any additional areas that are likely to be affected by the proposal, either directly or indirectly

locality is the area within a 5 km radius of the subject site

subject species means those threatened species that are known or considered likely to occur in the study area.

All other definitions are the same as those contained in the TSC Act.

MATTERS WHICH HAVE BEEN LIMITED OR MODIFIED

We consider that the following Section 110 matters need not be addressed by your SIS:

- Section 110(2)(e). This section is a replication of Section 110(2)(a);
- Section 110(2)(g) and 110(3)(d). The matters raised in these sections of the TSC Act have been clarified by the requirements below.

We consider that Section 110 matters in relation to any threat abatement plans or recovery plans need only be addressed where relevant. In relation to key threatening processes, the following is relevant to this proposal:

- Alteration of habitat following subsidence due to longwall mining
- Alteration to natural flow regimes of rivers and streams and their floodplains and wetlands
- Bushrock removal
- High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition, and
- Clearing of native vegetation.

All reference to critical habitat. At the time of printing, the areas of declared critical habitat are not relevant to this proposal.

The proponent should be aware that recovery plans may be approved, critical habitat may be declared and key threatening processes may be listed between the issue of these requirements

and the granting of consent. If this occurs, these additional matters will need to be addressed in the SIS and considered by the consent, determining or concurrence authority.

MATTERS TO BE ADDRESSED

The TSC Act provides that the SIS must meet all the matters specified in Sections 109 and 110 of the TSC Act with the exception of those matters limited above. The requirements outlined in Sections 109 and 110 (excluding the matters limited above) have been repeated below (*italics*) along with the specific Director-General's Requirements for your proposal.

1 FORM OF THE SPECIES IMPACT STATEMENT

- 1.1 *A species impact statement must be in writing (Section 109 (1)).*
- 1.2 *A species impact statement must be signed by the principal author of the statement and by:*
 - (a) *the applicant for the licence, or*
 - (b) *if the species impact statement is prepared for the purposes of the Environmental Planning and Assessment Act 1979, the applicant for development consent or the proponent of the activity proposed to be carried out (as the case requires) Section 109(2)).*

The applicant or proponent must sign the following declaration:

"I...[insert name], of ..[address], being the applicant for the development consent...[insert DA number, Lot & DP numbers, street, suburb and Local Government Area (LGA) names] have read and understood this species impact statement. I understand the implications of the recommendations made in the statement and accept that they may be placed as conditions of consent or concurrence for the proposal"

2. CONTEXTUAL INFORMATION

2.1 Description of proposal, subject site and study area

A species impact statement must include a full description of the action proposed, including its nature, extent, location, timing and layout (Section 110 (1)).

A full description of the action includes a description of all associated actions, including, but not restricted to: installation and maintenance of utilities; fire protection zones; access and egress routes; and changes in surface water flows. These actions may occur on or off the subject land.

2.2 Provision of relevant plans and maps

A plan of the subject area, including the scale of the plan. An aerial photograph (preferably colour) of the locality (or reproduction of such a photograph) shall be provided, if possible. This aerial photograph should clearly show the subject site and the scale of the photograph.

A topographic map of the site and immediate surrounds at a scale of 1:25000 should be provided. This map should detail the location of the proposal and location of works on site. The map should also show forested and cleared areas in the immediate area and current activities/usage of this land including mining, rural and agricultural.

A map of the locality, showing any locally significant areas for threatened species such as parks and reserves, and areas of high human activity such as townships, regional centres and major roads will also be provided. The location, size and dimensions of study area shall be provided.

2.3 Land tenure information

Information about the land tenure across the study area. Any limitations to sampling across the study area (for example, denied access to private land) shall be noted.

3 INITIAL ASSESSMENT

A general description of the threatened species or populations known or likely to be present in the area that is the subject of the action and in any area that is likely to be affected by the action (Section 110 (2)(a)).

3.1 Identifying subject species

3.1.1 Assessment of available information

In determining these species (the subject species), consideration shall be given to the habitat types present within the study area, recent records of threatened species or populations in the locality and the known distribution of threatened species.

We also consider that some of the conditions of the Dendrobium Coal Mine Development Consent (DA) which relate to matters such as subsidence modelling, impacts on matters of national environmental significance, surface and groundwater impacts, impacts of subsidence on hanging swamps and other sensitive habitat and compensatory packages are elements for consideration in the development of an SIS. We also consider that in providing a contextual assessment of the site, that it should not be limited to the area bounded by the red line in the submitted information but should also examine the surrounding area. This should also include off site areas to understand any linkages to the site and to provide contextual information.

Threatened species and ecological communities that depend on aquatic and semi-aquatic habitats are particularly susceptible to the impacts of subsidence. Subsidence has the potential to cause a decrease in water quality such as reduced oxygen availability, encouraging bacterial growth, smothering native plants and animals. Subsidence can also increase the amount of iron oxides in the water which directly affects native plants and animals. In this, water dependant ecosystems such as upland swamp* complexes have the potential to contain threatened species, populations, endangered ecological communities (EEC) or their habitats and in this regard should be included in any survey.

The original flora and fauna assessment and SIS prepared for the Dendrobium Coal Mine development and information and monitoring undertaken for Areas 1 and 2 could be used to assist as background information in the development of the new SIS for the proposed Area 3 site. We would also require the information and outcomes provided in the COI relating to ecological matters to be addressed in the SIS.

Databases such as DEC Atlas of NSW Wildlife, Australian Museum and Royal Botanic Gardens should be consulted to assist in compiling the list. It should be noted that if DEC Atlas is the only database that is referred to, due to data exchange agreements, the data provided by DEC will only include that which DEC is a custodian for. In many cases, this may only be a small subset of the data available. Other databases must also be consulted to create a comprehensive list of subject species.

The following species shall be considered for inclusion in the list of subject species:

Threatened Flora Species

Scientific Name	Common Name	Status
<i>Acacia baueri ssp aspera</i>	Acacia baueri ssp aspera	V
<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	V
<i>Epacris purpurascens var purpurascens</i>	Epacris purpurascens var purpurascens	V
<i>Grevillea parviflora ssp. parviflora</i>	Small-flower Grevillea	V
<i>Leucopogon exolasius</i>	Woronora Beard-heath	V
<i>Melaleuca deanei</i>	Deanes Paperbark	V
<i>Pomaderris brunnea</i>	Brown Pomaderris	V
<i>Pultenaea aristata</i>	Prickly Bush-pea	V
<i>Solanum celatum</i>	Solanum celatum	E

Threatened Fauna Species

<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V
<i>Litoria aurea</i>	Green and Golden Bell Frog	E
<i>Litoria littlejohni</i>	Littlejohn's Tree Frog	V
<i>Mixophyes balbus</i>	Stuttering Barred Frog	E
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V
<i>Botaurus poiciloptilus</i>	Australasian Bittern	V
<i>Pezoporus wallicus wallicus</i>	Eastern Ground Parrot	V
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E*
<i>Neophema pulchella</i>	Turquoise Parrot	V
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V*
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bent-wing Bat	V
<i>Myotis adversus</i>	Large-footed Myotis	V
<i>Petrogale penicillata</i>	Bush-tail Rock-wallaby	E*
<i>Potorous tridactylus</i>	Long-nosed Potoroo	V
<i>Hoplocephalus bungaroides</i>	Broad Headed Snake	E
<i>Petalura gigantea</i>	Giant Dragon Fly	E

Endangered Ecological Communities

O'Hares Creek shale forest
Shale/sandstone transition forest

* indicates species that are listed on the Environment Protection and Biodiversity Conservation Act 1999.

(This list is not exhaustive. One of the roles of a SIS is to determine which species may be utilising a development site given the limitations of existing databases.)

4 SURVEY

4.1 Requirement to survey

A Fauna and Flora Survey is to be conducted in the study area. Targeted surveys shall be conducted for all subject species determined in accordance with Section 3 above. Previous surveys and assessments may be used to assist in addressing this requirement. Species of taxonomic uncertainty shall be confirmed by a recognised authority such as the Australian Museum or National Herbarium at the Royal Botanic Gardens, Sydney.

4.2 Documentation of survey effort and technique

4.2.1 Description of survey techniques and survey sites

Survey technique(s) should be described and a reference given, where available, outlining the survey technique employed.

Survey site(s) should be identified on a clearly keyed map. The size, orientation and dimensions of quadrat or length of transect should be clearly noted for each type of survey technique undertaken. Full AMG grid references for the survey site(s) should be noted.

4.2.2 Documenting survey effort and results

Attachment 1 provides survey proformas for use by field staff when applying a range of standard fauna survey techniques. Digital copies of these proformas are available by electronic mail. Please contact the nominated contact officer below. These proformas should be used by field staff when undertaking fauna surveys and completed data sheets are to be included as an appendix to the SIS.

The time invested each time a survey technique is applied shall be summarised in the SIS, based on completed proformas. For example - Number of person hours/transect, duration of call playback, number of nights traps set.

It is not sufficient to aggregate all time spent on all survey techniques. Effort must be expressed each time a survey technique is applied.

Personnel details including name of surveyor(s) and contact phone number. The person who identified records (for example, anabat, hair tubes, scat analysis) should also be identified.

Environmental conditions during the survey should be noted at the commencement of each survey technique.

4.3 Specific survey requirements

Survey techniques and the timing of such surveys should be commensurate with the understanding of the biology/ecology of the relevant threatened species and undertaken such that the survey effort and timing will maximise the likelihood of detection. For example, the Broad-headed Snake is more likely to be detected in their rocky retreats during the winter months whereas the Rosenberg Goanna is more readily detected, (unless trapping is employed), in Autumn when they begin to frequent the vicinity of their over-wintering refuges. Most frog species are of course more readily detected during the warmer months but after substantial rainfall.

The survey methodology must also be consistent with:

- a) DEC *Threatened Biodiversity Survey and Assessment: Guidelines for Developments* Working Draft November 2004.

5 ASSESSMENT OF LIKELY IMPACTS ON THREATENED SPECIES AND POPULATIONS

Section 5 needs only be addressed if threatened species or endangered populations are likely to be affected.

Assessment of impacts **MUST** include the assessment of indirect impacts and those of associated activities, including, but not restricted to: installation and maintenance of utilities; access and egress routes; and changes in surface water flows. These actions or impacts may occur on or off the subject land.

Assessment of impacts **MUST** also include an assessment of impacts from the provision of fire protection zones. If, as part of the development, there will be a requirement to provide fuel free and/or fuel reduced zones in retained bushland, the impacts of this on any threatened species and/or populations must be addressed as part of the impacts of the overall proposal. Proponents should also consider recommendations in 'Planning for Bushfire Protection' (PlanningNSW 2002) and consider the use of perimeter roads as an option in providing fuel free zones and reducing impacts on retained bushland.

From the information provided for this proposal, it would appear that impacts on threatened species from the proposed development are likely to particularly arise from:

- direct effects of transport route establishment and upgrading and the associated indirect impacts of dust and changes to water quality and water flow regimes
- direct effects of large scale clearing of 65Ha for refuse emplacement, and
- indirect impacts on threatened species populations in the study area and locality generally due to loss of significant area of habitat.

5.1 Assessment of species likely to be affected

An assessment of which threatened species or population known or likely to be present in the area are likely to be affected by the action (Section 110(2)(c)).

This requirement is asking you to refine your list of subject species and populations (given the outcome of survey and analysis of likely impacts) in order to identify which threatened species or endangered populations may be affected and the nature of the impact.

The remaining requirements in this section need only be addressed for those species that are likely to be affected by the proposal.

5.2 Discussion of local and regional abundance

An estimate for the local and regional abundance of those species or populations (Section 110 (2)(d)).

5.2.1 Discussion of other known local populations

A discussion of other known populations in the locality shall be provided. The long-term security of other habitats shall be examined as part of this discussion. The relative significance of the subject site for threatened species or endangered population in the locality shall be discussed.

5.2.2 Discussion of habitat utilisation

An estimate of the numbers of individuals utilising the area and how these individuals use the area (for example, residents, transients, adults, juveniles, nesting, foraging) and discussion of the significance of these individuals to the viability of the threatened species or endangered population in the locality.

5.2.3 Description of vegetation

The vegetation present within the study area and the area covered by each vegetation community should be mapped and described. Include reference to the vegetation classification system used (for example, Specht) AND the ecological communities determined as endangered by the Scientific Committee. Classification must have regard to both structural and floristic elements.

5.2.2 Discussion of corridors

If movement corridors for threatened species or endangered populations are present within the subject site, the impact of the proposal on these areas shall be discussed.

5.3 Assessment of habitat

A full description of the type, location, size and condition of the habitat (including critical habitat) of those species and populations and details of the distribution and condition of similar habitats in the region (Section 110 (2)(f)).

5.3.1 Description of habitat values

Specific habitat features shall be described (for example, frequency and location of stags, hollow bearing trees, culverts, rock shelters, rock outcrops, crevices, caves, drainage lines, soaks, etc) and the density of understorey vegetation and groundcover.

The condition of the habitat within the study area shall be discussed, including the prevalence of introduced species, species of weeds present and an estimate of the total weed cover as a percentage of each vegetation community, whether trampling or grazing is apparent, effects of erosion, prevalence of rubbish dumping, history of resource extraction or logging and proximity to roads.

Details of the subject site's fire history (for example, frequency, time since last fire, intensity) and the source of fire history (for example, observation, local records), shall be provided.

5.4 Discussion of conservation status

For each species or population likely to be affected, details of its local, regional and State-wide conservation status,...[and]... its habitat requirements ... (Section 110(2)(c)).

Assessment should include reference to the threatening processes that are generally accepted by the scientific community as affecting the species or population and are likely to be caused or exacerbated by the proposal. Assessment should also include reference to any approved or draft recovery plans (See Attachment 2) which may be relevant to the proposal.

5.5 Description of feasible alternatives

A description of any feasible alternatives to the action that are likely to be of lesser effect and the reasons justifying the carrying out of the action in the manner proposed, having regard to the biophysical, economic and social considerations and the principles of ecologically sustainable development (Section 110(2)(h)).

Where a Statement of Environmental Effects (SEE), Environmental Impact Statement (EIS) or Review of Environmental Factors (REF) deals with these matters, the SIS may refer to the relevant section of the SEE, EIS or REF.

In relation to the proposal, discussion should be provided on possible alternative locations for emplacement and whether the life of the existing emplacements can be extended with a view of avoiding or minimising impacts on threatened species.

6 ASSESSMENT OF LIKELY IMPACTS ON ENDANGERED ECOLOGICAL COMMUNITIES

Section 6 need only be addressed when EEC are likely to be affected.

Assessment of impacts **MUST** include the assessment of indirect impacts and those of associated activities, including, but not restricted to: installation and maintenance of utilities, access and egress routes; and changes in surface water flows. These actions or impacts may occur on or off the subject land.

Assessment of impacts **MUST** also include an assessment of impacts from the provision of fire protection zones. If, as part of the development, there will be a requirement to provide fuel free and/or fuel reduced zones in retained bushland, the impacts of this on any endangered ecological communities must be addressed as part of the impacts of the overall proposal. Proponents should also consider recommendations in 'Planning for Bushfire Protection' (planningNSW 2002) and consider the use of perimeter roads as an option in providing fuel free zones and reducing impacts on retained bushland.

6.1- Assessment of endangered ecological communities likely to be affected

A general description of the ecological community present in the area that is the subject of the action and in any area that is likely to be affected by the action (Section 110(3)(a))

This **MUST** include reference to the ecological community as described by the NSW Scientific Committee, including maps of the extent and condition of the community with particular reference to those parts of the community that may only be represented by soil stored seed with no above ground components of the community present.

6.2 Assessment of habitat

A full description of the type, location, size and condition of the habitat of the ecological community and details of the distribution and condition of similar habitats in the region (Section 110 (3)(c)).

6.2.1 Description of disturbance history

If the site shows signs of disturbance, details should be provided of the site's disturbance history and an assessment should be made of the ability of the ecological community to recover to a pre-disturbance condition.

6.2.2 Extent of habitat removal

The location, nature and extent of habitat removal or modification which may result from the proposed action including the cumulative loss of habitat from the study area (including all proposed DAs and those areas in the subject area already with development consent or identified for development) and the impacts of this proposal on threatened species habitat or viability of any EEC in the locality.

This shall include an assessment of the proportion of the EEC to be affected by the proposal, in relation to the total extent of the EEC, and the impact of this on the viability of the EEC in the locality.

6.3 Discussion of conservation status

For each ecological community present, details of its local, regional and State-wide conservation status...[and]... its habitat requirements...(Section 110(3)(b)).

Assessment should include reference to the threatening processes that are generally accepted by the scientific community as affecting the endangered ecological community and are likely to be caused or exacerbated by the proposal. Assessment should also include reference to any approved or draft recovery plans (See Attachment 2) which may be relevant to the proposal.

6.3.1 Significance within a local context

An assessment of the community on the subject site in relation to other sites in the study area and in the locality. The tenure and long term security of other localities shall be examined as part of this discussion.

The relative significance of the subject site for the EEC shall be discussed. The assessment of the community should be considered in terms of the following features, including, the size of the remnant, the quality of the habitat and the level of disturbance on this site in comparison to other sites in the locality.

6.3.2 Discussion of corridor values

The potential of the proposal to increase fragmentation of the community and increase edge effects.

If corridors that allow connectivity between localities of EEC are present within the subject site, the impact of the proposal on these areas shall also be discussed.

6.4 Description of feasible alternatives

A description of any feasible alternatives to the action that are likely to be of lesser effect and the reasons justifying the carrying out of the action in the manner proposed having regard to the biophysical, economic and social considerations and the principles of ecologically sustainable development (Section 110(3)(e)).

Where a SEE, EIS or REF deals with these matters, the SIS may refer to the relevant section of the SEE, EIS or REF.

This condition **MUST** include details of the condition and use of other parts of the subject area and why these can or cannot be considered as feasible alternatives.

7 AMELIORATIVE MEASURES

7.1 Description of ameliorative measures

A full description and justification of the measures proposed to mitigate any adverse effect of the action on the species and populations and ecological community including a compilation (in a single section of the statement) of those measures (Section 110 (2)(i) and Section 110 (3)(f)).

7.1.1 Long term management strategies

Consideration shall be given to developing long term management strategies to protect areas within the study area which are of particular importance for the threatened species or endangered populations likely to be affected. This may include proposals to restore or improve habitat on site where possible.

7.1.2 Compensatory strategies

Where significant modification of the proposal to minimise impacts on threatened species or endangered communities is not possible, then compensatory strategies should be considered. These may include other offsite or local area proposals that contribute to long term conservation of the threatened species, population or EEC.

In relation to offsets the DEC considers that:

- any offset should aim to result in a net improvement in biodiversity over time, and
- offsets should be agreed prior to the impact occurring.

The SIS will need to provide details of any proposed offset package including an assessment on the biodiversity value of the land being lost against the value of the off set lands. For example, in one instance DEC agreed to an offset as high as 20:1 to obtain a similar biodiversity value to the proposed developed area.

Where such proposals involve other lands, or where involvement of community groups is envisaged in such proposals, such groups are to be consulted and proposals should contain evidence of support from these stakeholders and relevant land managers.

Compensatory benefits likely to result from such measures proposed for alternative sites are to be discussed and evaluated along with a discussion of mechanisms of how they might best occur.

7.1.3 Ongoing monitoring

Any proposed pre-construction monitoring plans or on-going monitoring of the effectiveness of the mitigation measures shall be outlined in detail, including the objectives of the monitoring program, method of monitoring, reporting framework, duration and frequency. Generally, ameliorative strategies which have not been proved effective should be undertaken under experimental design conditions and appropriately monitored.

7.1.4 Translocation

DEC does not consider that translocation of threatened species, populations and ecological communities is an appropriate ameliorative strategy for the purposes of considering impacts of a particular development/activity. DEC strongly supports the view that development proposals which may impact on a significant local population of threatened species, populations or ecological communities as determined by the SIS should aim to:

- Minimise the impacts by considering all possible alternatives to the development, such that a significant impact is not likely, and
- Manage the remaining habitat (if any) to ensure that the local population continues to exist in the long term.

The translocation of threatened species, populations and ecological communities is only supported by DEC in specific conservation programs (for example, recovery planning) but only as a last resort, and only when in-situ conservation options have been exhausted. Such programs should only be reconsidered following extensive investigation of a demonstrated long term financial commitment on behalf of the applicant.

7.1.5 Informing Future Land Owners

Measures must be proposed identifying mechanisms which will be implemented to inform current and future land owners of threatened species, populations or ecological communities and their habitat located on the property. This should also include the identification of appropriate management strategies to manage the remaining habitat (if any) to ensure that the local population continues to exist in the long term.

8. ASSESSMENT OF SIGNIFICANCE OF LIKELY EFFECT OF PROPOSED ACTION

An Assessment of Significance (Section 5A EP&A Act) is to be provided for each of the affected species (threatened species, populations or ecological communities) identified in the SIS, incorporating relevant information from Sections 5.1 to 7 of the SIS. On the basis of these assessments, a conclusion is to be provided concerning whether, based on more detailed assessment through the SIS process and consideration of alternatives and/or ameliorative

measures proposed in the SIS, the proposal is still considered likely to have a significant effect on threatened species, populations or ecological communities or their habitats.

9 ADDITIONAL INFORMATION

9.1 Qualifications and experience

A species impact statement must include details of the qualifications and experience in threatened species conservation of the person preparing the statement and of any other person who has conducted research or investigations relied on in preparing the statement (Section 110(4)).

9.2 Other approvals required for the development or activity

A list of any approvals that must be obtained under any other Act or law before the action may be lawfully carried out, including details of the conditions of any existing approvals that are relevant to the species or population or ecological community (Sections 110(2)(j) and 110(3)(g))

In providing a list of other approvals the following shall be included:

- Where a consent is required under Part 4 of the EP&A Act, the name of the consent authority and the timing of the development application should be included, or
- Where an approval(s) is required under Part 5 of the EP&A Act, the name of the determining authority(ies), the basis for the approval and when these approvals are proposed to be obtained should be included.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

An action will require the approval of the Federal Minister for the Environment (in addition to any State or Local Government approval or determination) if that action will have, or is likely to have, a significant impact on a matter of national environmental significance. Threatened species and communities listed in the EPBC Act 1999 are considered to be a matter of national environmental significance.

Many of the species and ecological communities listed in the TSC Act (NSW) are also listed in the Commonwealth EPBC Act. Further information regarding the operation of the EPBC Act (including Federally listed threatened species and communities) may be obtained from the Commonwealth Department of Environment and Water Resources.

A bilateral agreement relating to environmental impact assessment has recently been signed by the Commonwealth and NSW Governments and given effect under s45 of the EPBC Act. That agreement relates to the level of assessment that is necessary and acceptable for "controlled actions" that are subject to either the Part 3A, Part 4 or Part 5 approval processes under the *NSW Environmental Planning and Assessment Act*.

The agreement does not turn-off the need for referrals to, or approvals from, the Commonwealth on projects that fall within this ambit. Rather, it simply specifies the type of shared assessment information that can be applied in the NSW processes to also meet Commonwealth requirements. In this regard, advice should be obtained from the Commonwealth Department of Environment and Water Resources, if there is any significant impact to any nationally listed threatened species, populations or ecological communities or their habitats.

9.3 Licensing matters relating to the survey

Persons conducting flora and fauna surveys must have appropriate licences or approvals under relevant legislation. The relevant legislation and associated licences and approvals that may be required are listed below.

National Parks and Wildlife Act 1974:

- General Licence (Section 120) to harm or obtain protected fauna (this may include threatened fauna)
- Licence to pick protected native plants (Section 131)
- Scientific Licence (Section 132C) to authorise the carrying out of actions for scientific, educational or conservation purposes.

Threatened Species Conservation Act 1995:

- Licence to harm threatened animal species, and/or pick threatened plants and/or damage the habitat of a threatened species (Section 91).

Animal Research Act 1985:

- Animal Research Authority to undertake fauna surveys.

9.4 Section 110 (5) reports

Section 110(5) of the TSC Act 1995 has the effect of requiring the DEC to provide that information regarding the State-wide conservation status of the subject species as it has available, in order to satisfy Sections.110(2)&(3) of the Act. To this end, a number of publications have been produced:

- a) DEC has produced a set of profiles for a number of threatened species, populations and ecological communities and are available on DEC website <http://www.threatenedspecies.environment.nsw.gov.au/index.aspx>. This will also provide links to the Scientific Determinations and other DEC threatened species publications.

Proponents and consultants should note that DEC has no further published information available to satisfy Section 110(5) of the Act and that purchase or receipt and use of the above profiles can be taken to have satisfied the requirements of Sections110(2)&(3) in relation to the State-wide conservation status of the listed species, populations and ecological communities.

30/4/2007

N.I.A.C. ABN 80475697297**Northern Illawarra Aboriginal Collective Inc.**
representing Wulungulu, Gundungara, Wadi-Wadi and Korewal traditional owner groups

2/3 Birch Crescent, East Corrimal, NSW 2518. ph/fax (02) 42833009

To the Director General of DEC (attⁿ Fiona Hamilton) 99956900
 the Director General of NSW Dept. Min. & Energy (attⁿ ~~Ian Abbott~~) ~~99316666~~
 the Dept. of Planning (attⁿ the Hon Frank Sartor) 92286466 ⁹⁴⁸⁴¹³¹⁰
 the Minister for Aboriginal Affairs (the Hon. Paul Lynch) 98211807
 the Biosis and BHP-Billiton 96902577

- re BHP-Billiton's "Aboriginal Cultural Heritage assessments" using
 the firm Biosis, especially on "Major Projects" such as
 coal mines eg. Dendrobium, Appin, Westcliff,
 Douglas Park Substation etc' —

Sirs/madam,

NIAC formally requests a joint meeting with Fiona Hamilton of DEC, & Ian Abbott of Minerals & Energy [or equivalent public servants], BHP-Billiton's Garry Brassington, Biosis, and Frank Sartor, for the purpose of resolving issues which BHP-Billiton's consultants Biosis keep throwing up and using as a foil to obstruct thorough and competent assessments by appropriate Aboriginal traditional owner groups in relation to Major Project approvals. Fiona Hamilton and Ian Abbott were previously asked in Dec. 2006 and Jan 2007 to assist but failed to respond, as a result major projects have NOT had any sort of culturally appropriate Aboriginal input and we have accordingly had to oppose them (ref. our fax to Hon Frank Sartor 11/4/2007) eg at Douglas North Substation & Dendrobium. Biosis have now indicated a willingness to attend such a mediation.

C. R. Illert (C. R. Illert)

**BIOSIS**
R E S E A R C H

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FACSIMILE TRANSMISSION**Attention: Chris Illert****Date: 30 April 2007****At: NIAC****Fax: (02) 4283 3009****From: Jamie Reeves****Pages (including cover sheet): 1****Subject: Dendrobium Area 3 Consultation**

Dear Chris

Thank you for your fax dated 26 April and as requested, I have passed a copy of the the fax we recieved on to BHP Billiton for their consideration.

We still wish to arrange a meeting to discuss the project and cultural heritage assessment with the Aboriginal interests represented by NIAC. We will await your advice regarding organising this meeting.

Many thanks

Jamie Reeves
Archaeologist
Mobile: 0400 813 228
jreeves@biosisresearch.com.au

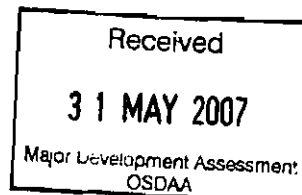
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29 May 2007

Mr David Kitto
Director Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001



BY WAY OF FAX: 02 9228 6466

Dear Mr Kitto

Re: Proposed Modification of Consent for Dendrobium Coal Mine

I refer to your letter dated 26 April 2007 regarding the proposed modification to the development consent for the Dendrobium coal mine and request for requirements for the environmental assessment of the proposal. The Department of Primary Industries (DPI) provides the following comments.

The project modification needs to be wholly within existing mining leases or lease applications.

Key issues identified for the proposed mine modification include:

- Subsidence impacts
- Water
- Ecological aspects, including potential impacts on fish habitats
- Aboriginal and non-aboriginal heritage
- Socio-economic impacts
- Community issues and concerns, such as greenhouse issues and fugitive methane gas emissions

The depth of cover of the proposed Area 3 longwalls is between 225 and 400 metres. The surface overlying the subject area is within the Sydney Catchment Authority (SCA) Special Area and parts of the proposed longwalls would potentially be beneath or adjacent to the Avon and Cordeaux reservoirs.

The request by Illawarra Coal for approval to mine close to both the Avon and Cordeaux reservoirs and to increase the project footprint is of major concern to DPI. However, DPI recognises that the mine requires access between Area 2 and Area 3.

Given the environmental sensitivity of the area, the proposed increase in the extraction footprint/mine layout from the approved footprint is considered

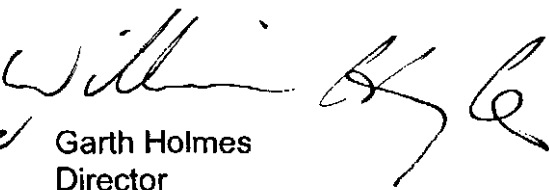
significant. DPI recommends that the company commences early detailed feasibility studies regarding subsidence to identify constraints to the proposed mine plans, which would facilitate these plans being reconfigured if required.

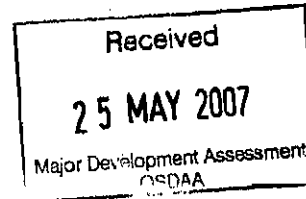
In its detailed subsidence and environmental studies the company will need to fully consider the potential for subsidence impacts, including cracking that could result from longwall mining beneath Wongawilli Creek and potential impacts to swamps/wetlands. The company should also give consideration to any potential impacts that may result from the proposed width of the longwall panels (300 metres).

The company needs to prepare a list of surface features within the project area that need to be assessed regarding potential subsidence impacts. The company also needs to demonstrate that current remediation and rehabilitation associated with the mine is effective and successful, as a basis for future development.

Should you have any enquires regarding this matter please contact William Hughes, Principal Adviser Coal and Strategic Projects, Development Coordination on (02) 8289 3931.

Yours sincerely


pe Garth Holmes
Director
Development Coordination



Your Reference: DA-60-03-2001
Our Reference: 1479-2 kc:kc

Mr David Kitto
Director
Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

23 May 2007

Attention: Colin Phillips

Dear Sir,

Dendrobium Coal Mine – Proposed Modifications of Consent (Incorporating Revised Mining Footprint for Area 3; Staged Development for Area C; and Administrative Review of Conditions of Consent.

Council recently sent a submission to Dendrobium Coal Pty Ltd expressing concern over the proposed emplacement of coal wash at Westcliff Colliery as part of the original mining proposal for Area 3. This letter stated as follows:

“Westcliff Emplacement Plant Area 3 is proposed to cover an area of 65ha and contains relatively undisturbed indigenous habitat. According to your plan, it is proposed to cover some 5ha per year over the life of the Dendrobium Mine. With both Area 2 and 3 emplacements a total of 107 ha are proposed to be covered in coal wash. No details of alternative proposals to emplacement were detailed in the plan. It is requested that Council be advised of the following:

- *Investigations into alternatives for ground emplacement of coal wash.*
- *The level of success achieved in the revegetation of existing emplacement areas.*
- *The potential impacts of extra emplacement on the scenic and landscape value, impacts on threatened species and habitat for threatened species and ecological communities.*
- *The potential impacts on items and places of Aboriginal significance (proposed conservation plans) and methods for effective consultation with Aboriginal groups and representatives before preparing any proposed conservation plans (including any proposed Section 90 applications to NPWS).*
- *The potential impacts on surface and ground water. The water collected in Brennans Creek Dam is subject to a License to Pollute in accordance with the POEO Act and any proposed changes should be the subject of consultation and prior approval from*

Department of Environment and Conservation and Department of Primary Industry (Fisheries). It is noted that the water from Brennans Creek Dam is the main water source that keeps the Georges River flowing at the moment due to the loss of water through river bed damage from mining. Further contamination of this water will impact on the quality of water flowing in the Georges River.

- *The life-cycle cost benefit analysis of the emplacement versus retaining the land in its natural state.*

It is noted also that in the Conceptual Plan for Decommissioning and Closure Dendrobium Coal Mine Management Plan June 2001, as updated May 2004, that it is proposed to access areas already filled by coal wash should marketing of coal wash prove successful.

- *Details of how this proposal would operate, particularly in relation to revegetation of disturbed sites, need to be clarified.*
- *In accordance with conditions of development consent, an additional Land and Landscape Management Plan for enhancement of the vegetated buffer along Bulli Appin Road to provide an effective visual screen for the Westcliff emplacement areas, stockpiles and other buildings and infrastructure at Westcliff is required.*

With regard to the proposed modification of consent the following further comments are made:

The proposed modification is to extend the footprint for longwall mining in Area 3 from 18.5 km² to 33.5km² which is a significant increase on an already large area. This will bring the footprint considerably closer to Lake Avon and Lake Cordeaux and increases concerns regarding loss of water from the catchment and damage to various flora and fauna dependant on water related habitat in particular.

This proposed much larger footprint raises concerns Wollondilly Shire in terms of future proposals for management of coal wash. There is a potential for a vastly increased need for either emplacement area at Westcliff Colliery which raises a range of related impact issues as discussed in the previous submission outlined above. It suggests that some form of recycling or reuse for coal wash is urgently needed. No discussion of coal wash management was included in the report which indicates that the proposal has not seriously considered the ramifications of such a huge increase in mining area.

Accordingly Council strongly feels that the following matters be addressed when assessing this proposal:

- The government should change its policy to ensure industry develops an alternative and more environmentally sustainable solution, as coal wash emplacements should not be located in sensitive indigenous bushland areas.
- It is noted that BHP Billiton has been required to investigate alternative solutions and uses of coal wash over the last 25 years but little progress has been made as there appears to have been little incentive and land filling of gullies has been allowed to continue.
- It is now time the industry is required to invest seriously in developing environmentally sustainable solutions such as returning coal wash underground in association with longwall mining operations.

Council requests that methods for managing coal wash other than emplacement be incorporated in any consent granted for the proposed modification. Council also requests a copy of the conditions imposed with any consent and reasons outlining the rationale for these conditions.

Should you have any further questions on the matter please contact the undersigned on 4677 8230 Monday to Friday 8.00am to 4.30pm.

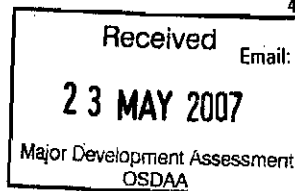
Yours faithfully,



Kitty Carter

Development Assessment Planner

LAND USE PLANNING AND ENVIRONMENT



Director
Major Development Assessment Branch
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Mr Colin Phillips

Your Ref	DA-60-03-2001
Our Ref	D.AS
File	E07/14556
Date	18 May 2007

Dear Mr Phillips

Dendrobium Coal Mine – Proposed Modification of Development Consent (DA 60-03-2001) including Revised Mining Footprint for Area 3: Staged Development for Sub Area C of Area 3: Subsidence Management Plan (SMP) approval for Area 3a; and Subsidence Environmental Management Plan (SEMP) approval.

I refer to your letter of 26 April 2007 requesting our requirements for the environmental assessment of the above-described proposed modifications to the Dendrobium Underground Coal Mine Consent (DA 60-03-2001) for Area 3.

Council is supportive of the coal mining industry in the Illawarra and we appreciate the desire of Illawarra Coal (IC) to maximize its potential coal extraction using longwall techniques in Area 3. However, we consider it very important for the impacts of this proposal to be thoroughly assessed and understood.

In this regard we have some concerns about the possible impact of the proposal on Lake Cordeaux and Lake Avon, Wongawilli Creek, upland swamps, ground water systems and surface features. This proposal constitutes a significant change to the mining footprint of Dendrobium Area 3 being almost double in size (It has grown from 18.9 km² to 33.5 km²) with the potential to significantly impact on the Sydney Catchment Authority Special Area.

Council has completed its review of the Preliminary Environmental Assessment report for the proposal. The preliminary report provides a good description of the existing environment in Dendrobium Area 3 and a brief description of potential issues and impacts from the proposed mining operation. However, we believe that a rigorous assessment of the proposal, presentation of alternatives, justification for the proposal, detailed risk assessment and detailed analysis of anticipated environmental impacts is required in the comprehensive environmental assessment. Council would also encourage IC to explore every measure to prevent impacts in the Sydney Catchment Special Area.

In light of these comments, Council recommends the following critical issues be addressed in the comprehensive Environmental Assessment (EA):

Scope of Project

- The EA should clearly detail the scope of the mining project. In simple terms it should explain who the mining operator is, where the mining will occur, why the mining footprint has been enlarged, how the coal will be mined and what will be the impacts of

the mining operation. It should identify the current approved area and all proposed changes and the maximum footprint being requested for Area 3 (What does Area 3 A, B and C mean?). It should detail the proposed mining technique (ie: longwall mining) all underground and surface infrastructure required and access arrangements through the catchment lands.

- This should include a discussion of alternative solutions for Area 3 and a justification for the IC review of Area 3 and justification for the adoption of the proposed option for Area 3.
- The scope should also outline all the constraints that will impact on the mining operation (ie: geological, restricted areas, dams, surface features etc)
- The EA should discuss the requirements of the Dams Safety Committee Notification Area and the requirements of the Staged Development Area C in the Dendrobium Consent and how those requirements are being met as part of this proposal.

Legislative Requirements

- To understand the scope of the project it is important that the EA accurately and clearly outlines all the legislative and conditional requirements for the proposed modification to Area 3.
- The EA should clearly outline all the statutory approvals being sought and how they relate to the existing Dendrobium Consent (DA 60-03-2001). This should include detailed reference to Dendrobium Condition 1.1 (b) (i) and (iii) Staged Development and Condition 3.3 Subsidence Management and Monitoring.
- The EA should list all the relevant pieces of legislation under which the Dendrobium Area 3 proposal will be assessed and the approvals required.
- The EA should demonstrate compliance and consistency with all existing planning approvals and detail linkages with other statutory approvals from DPI, DSC, DEC, SCA etc.
- A description of the approval process would be of assistance in understanding the approval process and protocols for Dendrobium. This could be by way of a flowchart diagram.

Risk Assessment

- A detailed qualitative and quantitative risk assessment should be undertaken for Dendrobium Area 3. This should include: identification of all the risks, level of risk, severity of risk, causes, impacts, risk reduction, risk avoidance, and actions and strategies and actions for mitigation.
- The risk assessment should not be limited to economic impacts but consider all environmental impacts of the proposed Dendrobium Area 3.
- In particular Council is concerned about the potential significant impacts to ground water, surface features, Wongawilli Creek and the stored water in the SWC Cordeaux and Avon reservoirs. Consideration should be given to pulling the footprint of the mining area back from the reservoirs.
- An analysis of whether or not the risk is acceptable should be included.

Subsidence

- Clearly the greatest potential impact of mining in this area is subsidence impacts including cracking of creekbeds, loss of ground water supply, effects on aquifers, impacts on upland swamps, cliff face and rock outcrop collapse etc. The EA should clearly detail the existing environment and outline all potential subsidence impacts from the mining activity.

the proposed Area 3 expansion. This study should follow the methodology set down by Biosis Research in Appendix B of the preliminary report. The study should also attempt to value the Aboriginal sites and the impact of damage or loss of these sites due to the mining activity.

- The EA will need to clearly define all legislative requirements and consent condition requirements relating to Aboriginal Archaeology in Area 3.
- The EA should also undertake a risk assessment of the impact of the mining operation on the sites.

Air Quality/Ventilation Shafts

- The Dendrobium Area 3 lies beneath an area of relatively undisturbed native vegetation. There are no known sources of air pollution in the study area except for vehicles accessing the area. However, there are possible air impacts from ventilation shafts associated with the mining activity in terms of updrafts carrying coal dust etc.
- Therefore the EA should address this issue and detail the proposed location of all ventilation shafts, access points, size and configuration, potential of air emissions and mitigation measures to reduce or avoid impacts on the catchment area.

Environmental Management Plans (EMP)

- The EA will need to clearly define all legislative requirements and consent condition requirements relating to EMP's for the Dendrobium Area 3. This will of course include the SMP and SEMP, Soil and Water Management Plans, Ground Water Management Plan etc
- The EA should also outline how the various EMP's are implemented and monitored.


Rehabilitation

- The EA should outline the Rehabilitation Plans for surface lands in Area 3 including ventilation shafts, exploration sites, access roads, borehole sites etc.
- With regard to the Ventilation Sites this should address emplacement of spoil from the sinking of the shaft, removal of infrastructure, storage and handling of hazardous materials and chemicals , revegetation plans for the site etc.

I trust this is of assistance in drafting your requirements for the proposed modification of Dendrobium Area 3. Should you have any further enquiries or wish to discuss this matter further, please do contact me on the number below.

Please contact me should you require further information.

Yours sincerely



Andrew Schofield
Senior Development Project Officer
Wollongong City Council
Direct Line (02) 4227 7608



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Received
18 MAY 2007
Strategic Assessments

Facsimile

To	DoP	Ref	
Attention	Colin Phillips		
Fax	92286466	Tel	
From	Malcolm Hughes	Office	Penrith
Fax		Tel	47252139
Date	16 May 2007	No. of pages	4
		(including cover)	
Subject	Dendrobium D-G Requirements		

Message:

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Tel 1300 722 468 Fax 02 4732 3666
Email info@sca.nsw.gov.au
Website www.sca.nsw.gov.au

Our Ref: D2007/03149
Your Ref: Da-60-03-2001

David Kitto
Director
Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Colin Phillips

Dear Mr. Kitto

**DENDROBIUM COAL MINE AREA 3 – PROPOSED MODIFICATION OF CONSENT
(Incorporating Revised Mining Footprint for Area 3; Staged Development for
Area C; and Administrative Review of Conditions of Consent)**

I refer to your request for the Sydney Catchment Authority's (SCA) requirements for the Environmental Assessment (EA) in regard to the above proposal.

The SCA considered the details of the proposal as provided by you and has identified requirements to be addressed in the EA. The proponent should ensure that the EA is sufficiently comprehensive and detailed to define the extent of the impacts of the proposal.

Subsidence and Potential Environmental Impacts

The EA must provide details of predicted subsidence and details of predicted environmental impacts arising from the subsidence on the surface environment including both natural and built environment features. The subsidence predictions must be based on the proponent's mine layout plan for maximum extraction in each of the proposed 3a, 3b and 3c mining areas. The predicted subsidence and its impacts in Area 3 to be detailed in the EA must have regard to the actual subsidence and impacts that have occurred in Area 1.

Options and Proposed Measures to Address Potential Impacts

The EA must include a description of the options and proposed measures that would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the environmental impacts of the proposal. Particular attention should be given to avoiding adverse impacts on dams, water storages (Lake Cordeaux and Lake Avon), watercourses (Donalds Castle, Wongawilli and Sandy Creeks), groundwater and major swamps.

SCA Assets

The EA must provide details of potential impacts including management of the identified impacts on SCA assets including dams, water storages and roads.

The EA must assess the issue of potential loss of stored waters and this must be supported by comprehensive geological investigations. The geological investigations must assess the igneous sill (Dendrobium Nepheline) intrusion into the sedimentary rocks particularly in Area 3a and include lithological mapping, stratigraphy based on surface and subsurface information, the likely occurrence of the igneous intrusion, and regional and detailed structural features.

Surface and Groundwater Resources

The EA must detail potential impacts on the quantity and quality of water in watercourses, water storages and groundwater. The EA must consider the interconnectivity between groundwater and surface water, swamps and water storages and must include detailed modelling to support the impact assessment on water resources.

The water quality assessment in the EA must consider the *Drinking Water Catchments Regional Environmental Plan No 1* and must include an assessment of whether the proposal will have a 'neutral or beneficial effect on water quality'. The assessment should consider surface waters, groundwaters and stored waters.

Ecological Integrity of the Catchments

The EA must detail potential impacts of the proposal on terrestrial and aquatic ecosystems with regard to protection of the ecological integrity of the catchments including watercourses and swamps.

The EA must consider the SCA Special Areas Strategic Plan of Management 2007 (SASPoM 2007).

Risk Assessment

The EA must include details of subsidence risk assessment undertaken by the proponent that includes consideration of the risk of loss of stored waters in the reservoirs. This assessment should be undertaken in consultation with the SCA and the Dams Safety Committee.

Baseline Monitoring

Baseline environmental monitoring must be of sufficient duration to provide for reasonably accurate predictions.

Cumulative Impacts

The EA must assess the cumulative environmental impacts of all components of the proposal with previous and proposed mining; and neighbouring previous mining.

Consultation

The proponent must consult with the SCA in preparation of the EA and describe the consultation process and issues raised during the consultation in the EA.

The SCA also requests the Department to convene a Planning Focus Meeting with all key stakeholders and the proponent. The SCA would prefer this to occur in the near future.

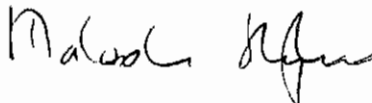
Administrative Review of Conditions

The SCA supports the Department's proposed administrative review of the Conditions of Consent. The SCA considers this review should include an assessment of whether there could be amendments to existing conditions which overlap or which have been made less relevant in light of more recent policy decisions of the government.

The SCA requests the opportunity to continue to be involved in the assessment of the application. In particular the SCA would like to be informed of issues raised in submissions and by the Department which have potential implications for the SCA. The SCA would also like to be involved in the further assessment of key issues that have potential implications for the SCA.

Should you wish to discuss any issue above please do not hesitate to contact me or Dr. Ravi Sundaram on 4725 2594. We would be pleased to meet with staff from the Department to discuss the details of this submission.

Yours sincerely



MALCOLM HUGHES
A/Manager Statutory Planning

16/5/07

Colin Phillips - DENDROBIUM COAL MINE - Proposed Modification of Consent

From: Keti Nikolovski
To: Colin Phillips
Date: 14/05/2007 16:31
Subject: DENDROBIUM COAL MINE - Proposed Modification of Consent

Hi Colin,

Your Ref: DA-60-03-2001
Our Ref: ERM 2005/04220

Please find attached this Department's requirements regarding the above development consent. Should you require anything further, please do not hesitate to contact me.

Keti Nikolovski
Corporate Support Officer
Department of Water and Energy
Ph: (02) 4224 9673
Fax: (02) 4224 9650
Email: Keti.Nikolovski@dnr.nsw.gov.au



Director General's Requirements - Water Act (1912) Coal Mines and Associated Infrastructure

In accordance with the EIS Guidelines (NSW DUAP 2000) the following Director-General's Requirements for the preparation of an environmental impact statement (EIS), statement of environmental effects (SEE) or review of environmental factors (REF) for the subject development include the following specific technical assessments.

Existing environment

1. A baseline assessment of the groundwater system based on a reasonable period of monitoring of sufficient duration to account for environmental variability at appropriate locations including:-
 - a. The depth to the watertable, hydraulic gradient, flow directions and rates, location of any recharge areas and discharge sites (seeps or springs).
 - b. The geological and geomorphological characteristics of the area in relation to the vulnerability of the groundwater to pollution.
 - c. The ambient quality of groundwater in the area (including nitrogen, phosphorus, salinity and chloride concentrations) and comparison with relevant water quality objectives and standards for the locality or the receiving environment downstream of discharge locations.
 - d. The presence of environmentally sensitive areas in the vicinity of the proposal site, determination of the occurrence of any flora or fauna species of significance, and identification of the likely interaction of the ecosystems or communities with groundwater.
 - e. The location and condition of any bores within one kilometre of the proposed development and the current and potential uses and users of groundwater in the area.
2. Provision of maps, scaled plans and aerial photographs clearly identifying the location of the proposal and its elements (such as mining area, overburden and infrastructure) relative to watercourses and water bodies (both intermittent and ephemeral), including wetlands, aquifers and water storages, and identification of nearby bores and groundwater dependent ecosystems.
3. Provision of maps, scaled plans and aerial photographs indicating the vegetation communities (including species composition and condition) and fauna habitats to be cleared, filled, subsided or subjected to hydrological or hydrogeological changes.
4. A description of the relationship between the hydrological and hydrogeological setting of bores and groundwater dependent ecosystems within one kilometre of the proposal location, water table depths and the minimum and maximum mining depth.

Current activities

5. A description of the previous and existing operations associated with the project, including:-
 - a. Reviews of current and past environmental performance, including the impacts of the operation on the environment and the effectiveness of rehabilitation works.
 - b. Identification of previous and existing environmental management controls.
 - c. Outlines of proposals for integration of the project with previous operations, including rehabilitation or restoration works proposed for previously disturbed or impacted areas.
 - d. Identification of all development consents, approvals or authorisations current for the project or site and list all previous studies, including environmental impact assessments (copies of previous study reports may be requested by agencies).

Potential future impacts

6. A description of the predicted levels and geological characteristics and impacts of subsidence, including the area likely to be affected, any impacted structures and land uses, and the risk of interconnections forming between surface and subsurface layers.
7. A detailed analysis of the potential impacts of the proposal on the environment, (including a description of the predictive methods used, an indication of the level of confidence in the prediction outcomes, and an assessment of the resilience of the environment to cope with the impacts of the project), with specific reference to:-
 - a. The potential for fracturing of the bed or banks of streams leading to loss of water to underground workings, salinity accessions to watercourses, scouring and erosion due to subsidence, or water quality degradation.
 - b. The potential for acid-related impacts to occur due to the presence of acid sulphate soils, including consideration of disturbance of soils containing sulphidic material, alteration of water table levels, acid runoff from stockpiles, or the sale or use of material containing sulphides.
 - c. The potential sources of water pollution including consideration of increased turbidity and sedimentation resulting from erosion of disturbed areas, leakages from sewerage infrastructure as a result of subsidence damage to septic tanks or sewers, or leachates or other impurities such as salinity derived from stockpiles or other disturbed areas.
 - d. The water quality and flow regime impacts on watercourses, water bodies or environmentally sensitive areas from changes to topography, as a result of subsidence, or surface and groundwater hydrology.
 - e. The water balance and description of the water supply and waste disposal requirements of the project, including consideration of any dependence on off site water sources, the impacts of water usage from any river, stream or groundwater source on the environment or other users, and the storage and possible reuse options for any wastewater generated.

Director General's Requirements - Water Act (1912)
Coal Mines and Associated Infrastructure

- f. The potential mine water inflows, including identification of the contributing geological units, any potential mitigation or control measures and a qualitative and quantitative assessment of the potential discharge impacts on any receiving waters.
- g. The potential effects on the local and regional water tables from mine dewatering.
- h. The potential impacts on groundwater including consideration of the ambient groundwater conditions in the area of the project, any adverse effects on groundwater recharge areas, and the likely transference of any contaminants to groundwater.
- i. Evaluation of groundwater movement through natural or induced fracture systems including consideration of the adequacy of measures to ensure that no contamination of groundwater occurs during and after mining and providing a risk assessment of the potential for induced fracturing to redirect contamination or saline water to streams, rivers, wetlands or groundwater.
- j. The impacts on groundwater recharge or aquifer intake areas and the adequacy of protection measures applied to these locations.
- k. The potential impacts on environmentally sensitive areas, with particular consideration of species, populations, ecological communities or habitats, either directly through removal by clearing and disturbance, or indirectly through changes to groundwater quality, quantity, flow or pressure, and the effect on the number, size and distribution of habitats.

Cumulative impacts

- 8. An assessment of any cumulative impacts (additive, synergistic or antagonistic effects resulting from numerous activities having impacts in an area) in the short-term and long-term with particular consideration of surface and subsurface water quality, groundwater recharge or discharge areas, and any water quality objectives that are current for the management of the catchment or groundwater source in the area of the project.

Operational and post-mining management

- 9. A description of the proposed mitigation, management and monitoring program and identification of the level of confidence that the measures will effectively mitigate or manage the impacts.
- 10. An outline of the proposed environmental management plan for the project, including:-
 - a. The impacts to be monitored during construction and operation, the criteria to be applied and the reasons for doing so, with reference to the predictions made in the EIS.
 - b. Identification of the performance indicators to be applied, such as subsidence parameters, the quality of any water discharged, waste management indicators for recycling and reuse, and the water quality of the receiving environment (including surface or subsurface receptors).
 - c. Identification and justification of the monitoring locations, intervals and durations.

*Director General's Requirements - Water Act (1912)
Coal Mines and Associated Infrastructure*

- d. A description of the procedures to be undertaken if monitoring identifies a non-compliance or abnormality.
 - e. A description of strategies to feedback information from the monitoring program into the management practices and action plans to improve the environmental performance and sustainability of all components of the project, and, in particular, contingency arrangements should monitoring indicate a non-compliance or unanticipated impacts occur.
 - f. A description of the proposals for the progressive rehabilitation of the site and final end use.
 - g. An indication of how compliance with licensing and approval requirements will be achieved and due diligence attained.
 - h. A description of the reporting procedures to the relevant authorities or agencies to meet licensing or approval requirements.
 - i. A description of the quality assurance and quality control measures proposed for the monitoring program.
11. A description of the contingency arrangements to compensate any affected water users.
12. A discussion of the proposed final use of the site impacted by the project including a final land formation plan and the compatibility of the final rehabilitated land form with the surroundings.
13. An identification of all approvals, licenses or authorisations required for the project and a demonstration that the proposal can meet all approval, licensing or authorisation requirements.

Groundwater policy considerations

14. Demonstration of consistency with the spirit and principles of the NSW State Groundwater Policy Framework Document (NSW Government 1997), the NSW State Groundwater Quality Protection Policy (NSW Government 1998) and the NSW State Groundwater Dependent Ecosystems Policy (NSW Government 2002).

End of requirements

References

NSW DUAP 2000. *Coal Mines and Associated Infrastructure – EIS Guideline*. New South Wales Department of Urban Affairs and Planning. Report No 2000/22, April. ISBN 0 7347 0107 1.

NSW Government 1997. *The NSW State Groundwater Policy Framework Document*. Prepared by the New South Wales Department of Land and Water Conservation, Sydney. Report No. HO/64/97, August. ISBN 0 7313 0333 4.

NSW Government 1998. *The NSW State Groundwater Quality Protection Policy*. Prepared by the New South Wales Department of Land and Water Conservation, Sydney. Report No. HO/37/98, December. ISBN 0 7313 0379 2.

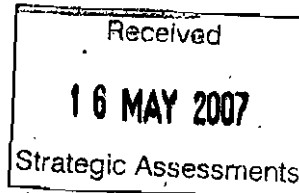
NSW Government 2002. *The NSW State Groundwater Dependent Ecosystems Policy*. Prepared by the New South Wales Department of Land and Water Conservation, Sydney. Report No. HO/10/00, April. ISBN 0 7347 5225 3.

14 May, 2007

David Kitto
Director Major Development Assessment
Department of Planning
GPO Box 39
Sydney NSW 2001

Our ref: 10.123.095

Your ref: DA-60-03-2001

**Attention: Colin Phillips**

Dear Sir,

Dendrobium Coal Mine - Proposed Modification of Consent

I refer to your letter of 26 April.

The Committee has the function of ensuring the safety of the dams and their stored waters in NSW. It has statutory powers under the Dams Safety Act and Mining Act. A separate approval process will be required for any proposed mining within notification areas defined by the Committee. Strictly then, the Committee has no requirements for the environmental impact assessment required under Part 3A of the EP&A Act.

However, based on a brief review of the preliminary impact assessment, I make the following comments:

1. The discussions in the preliminary EA are brief and, for the Committee's purposes, somewhat superficial. No doubt the full EA will contain more detail. It was noted in regard to the original EIS that the level of information provided was insufficient for the Committee's purposes, while acknowledging that the EIS is not designed to meet these.
2. There appears to be no mention of the Avon Notification Area, which is defined around Avon Dam and reservoir. The risk of loss of stored waters from Avon will need to be assessed in the same manner as that for Cordeaux reservoir.
3. The main source of risk in regard to the loss of stored waters probably relates to the presence of structural geological features, which are not



discussed. Measurements of the hydrogeological and mechanical properties of structural features would enable a more accurate determination of the risk.

4. The revised footprint extends under the stored waters of both Avon and Cordeaux dams. At this time it is not possible to determine if mining will be permitted under or close to these storages.
5. The proposed footprint extends closer to the Cordeaux dam wall than the existing footprint. There does not appear to be a discussion of the impact of mining on the dam wall. The plans in the report do not allow a precise determination of the distance to mining. At this early stage it seems unlikely that the DSC would endorse mining within 1 km of the dam structure (including the spillway). Given the High Consequence rating for Cordeaux dam restrictions on mining at a distance greater than 1 km may be required. The DSC raised the possibility of a larger barrier around the dam structure with Illawarra Coal in 2001.
6. The incremental subsidence prediction technique is proposed. This is suitable for the general case, however care is required when applying any empirical method to areas for which there is limited data. Such cases might include the impact of mining on Cordeaux dam structure, or the impact of mining on geological features.

If you have any queries in this regard please contact Peter Reid on 9895 7353.

Yours faithfully,


N. J. Himsley
Executive Engineer

DoP Meeting 11/9/07 – Presentation

Dendrobium Mining Area 3 & Development Consent Revision

Department of Planning
11 September 2007

Agenda

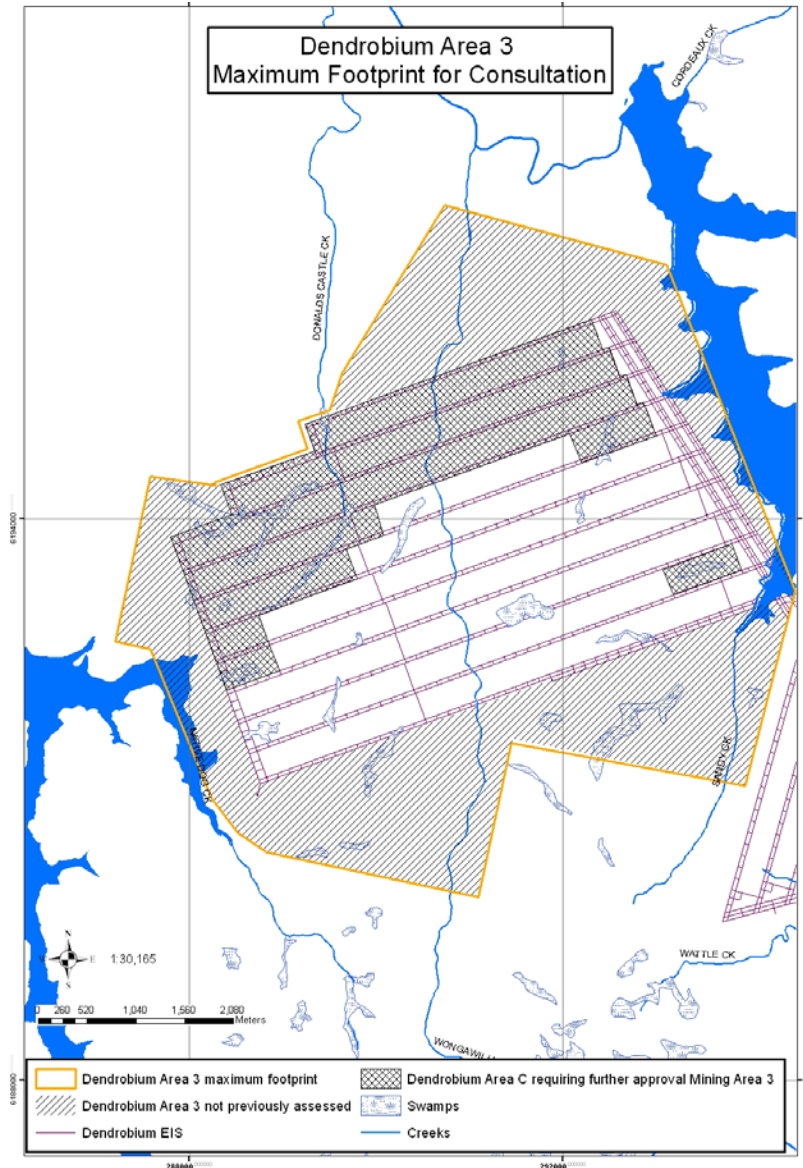
- Area 3 s75W modification and SMP
 - Specifics of Area 3A
 - Discussion of outcomes based commitments for Area 3

- Development consent revision
 - Agree on scope
 - Process to progress

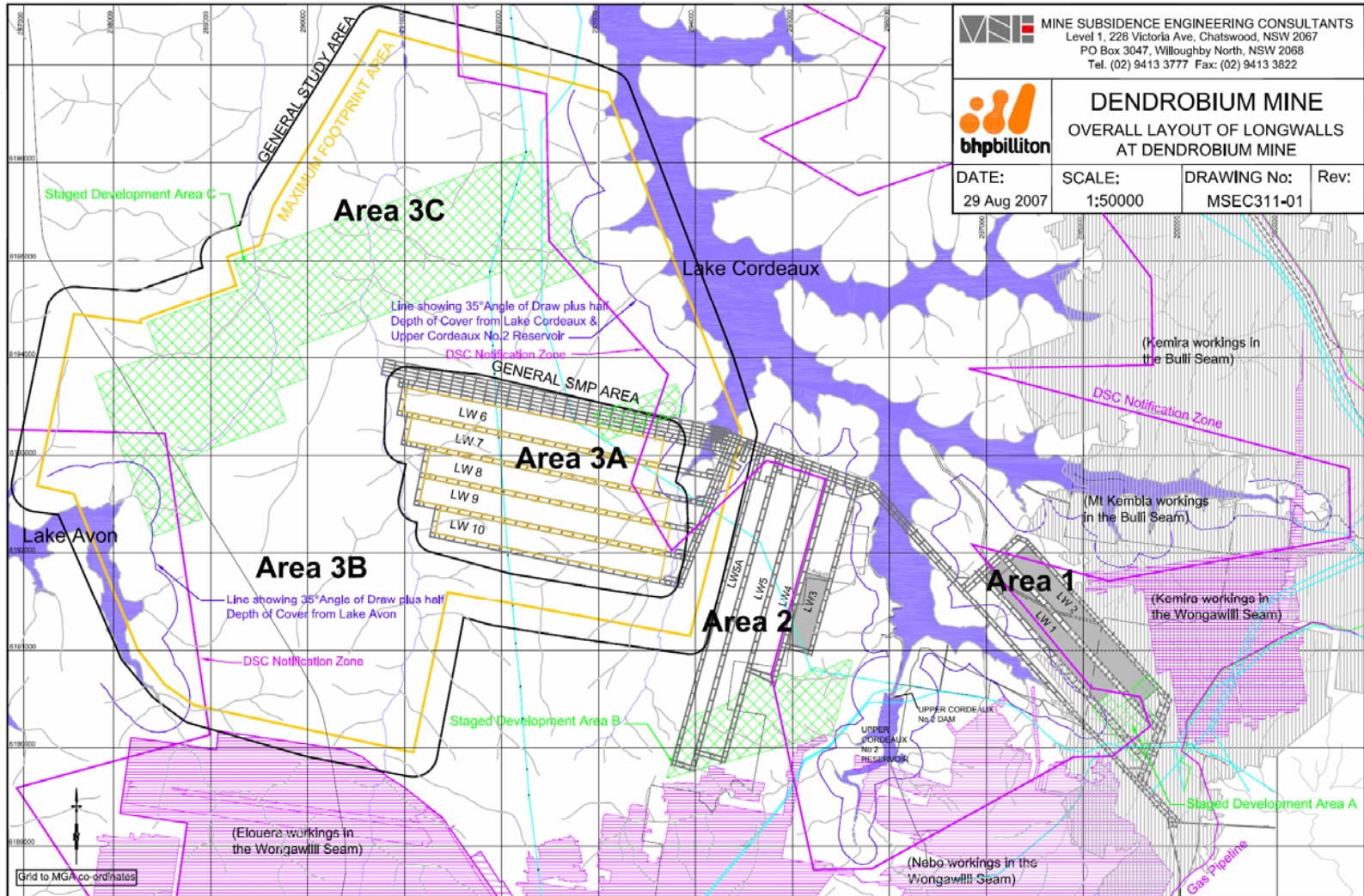
Area 3 approval footprints

Things to note:

- s75W application to modify Area 3. EA as per DGRs. Concurrent SMP application for Area 3A.
- Existing approval to mine under Wongawilli and Donalds Castle Creek
- Maximum footprint, unlikely to have mining throughout due to geological/environmental/economic constraints
 - 81% of Area 1 was extracted compared to approved consent area
 - 61% of Area 2 to be extracted compared to approved consent area



Area 3 comprising 3A, 3B & 3C

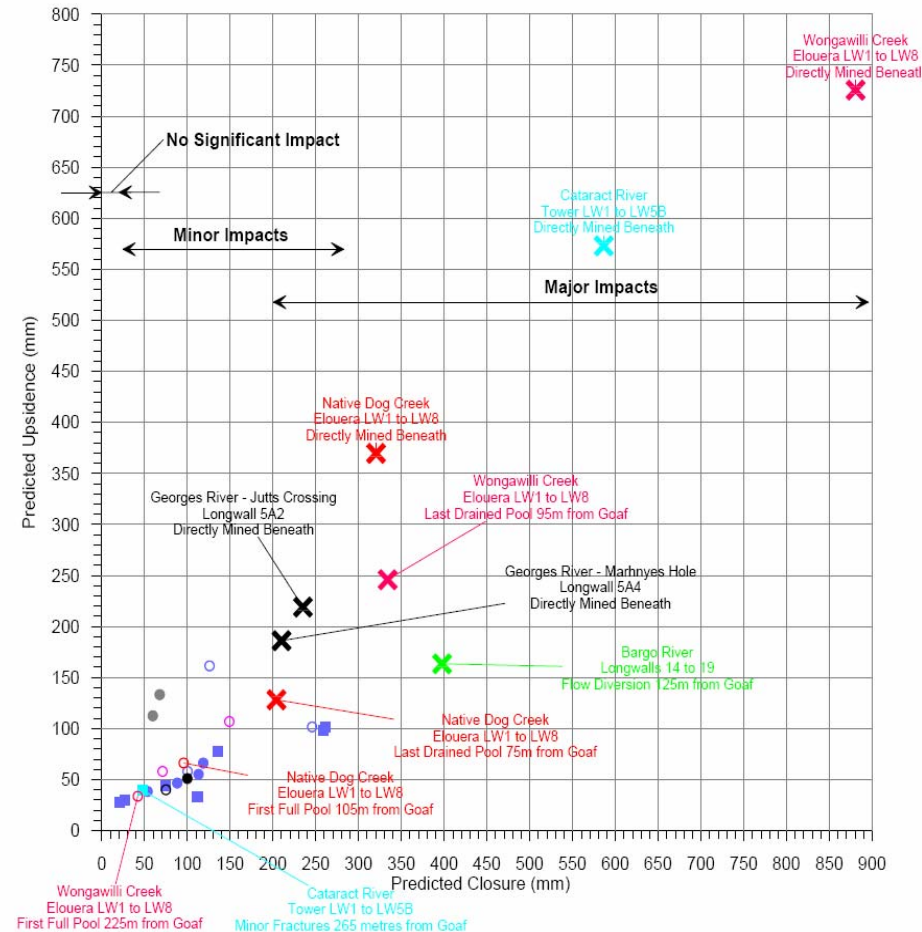


Subsidence assessment criteria

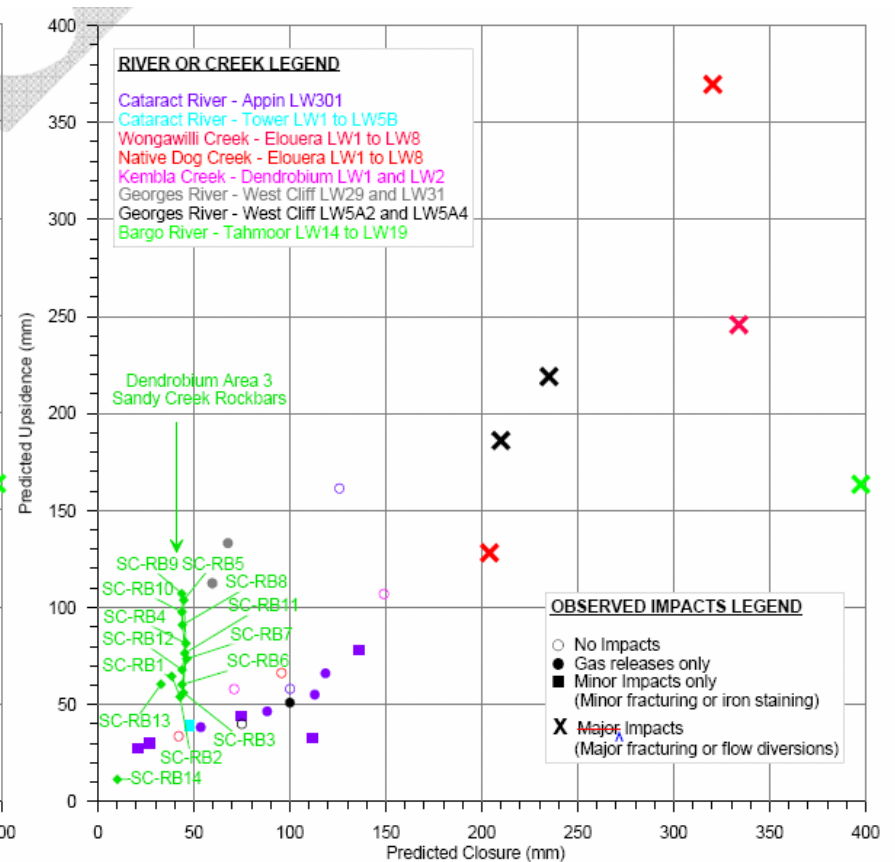
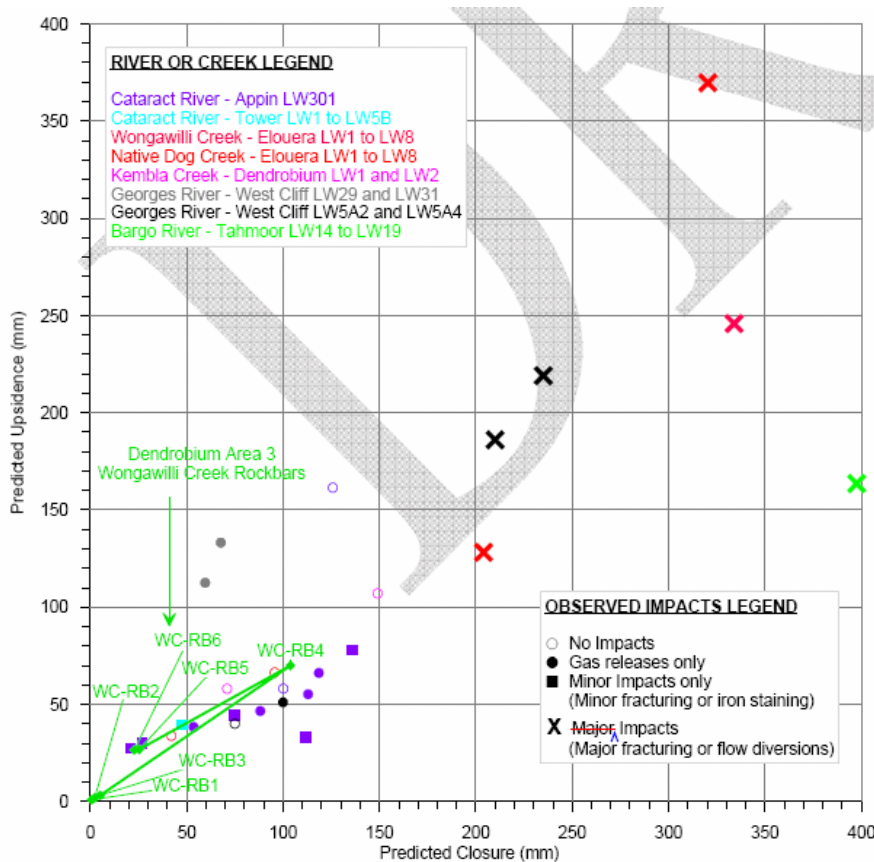
Outcomes based commitments on the basis of avoiding/minimising impact to features (eg. Waterways):

- Review of case studies of subsidence monitoring vs observed waterway impacts
- NB: difference between mining underneath creeks compared to offset
- Achieve by <200 mm valley closure or small systematic subsidence < 0.5 mm/m tension or <2 mm/m compression strain

Predicted Upsidence and Closure with Observed Impacts for Selected Case Studies



Area 3A – subsidence/impact predictions for creek features



Valley Related Movements – Sandy & Wongawilli Creeks

**Dendrobium - Area 3A - Longwalls 6 to 10
Sandy Creek Long Section
Predicted Profiles of Subsidence, Upsidence and Closure**

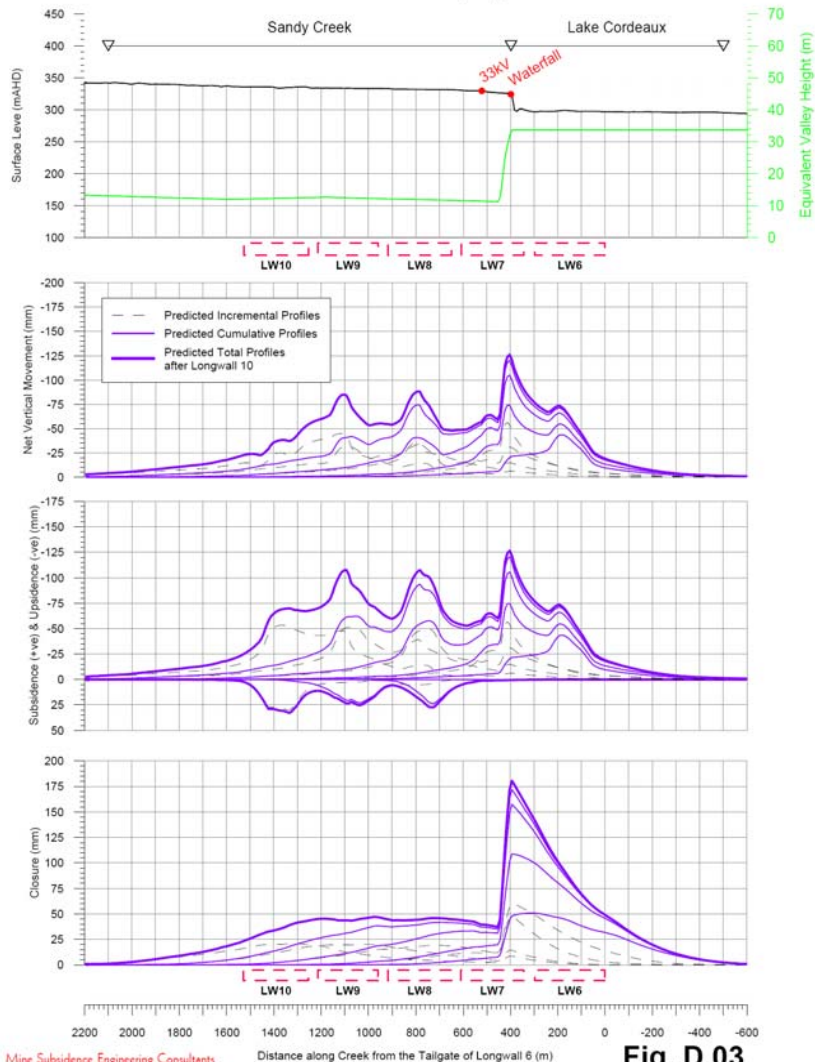


Fig. D.03

**Dendrobium - Area 3A - Longwalls 6 to 10
Wongawilli Creek Long Section
Predicted Profiles of Subsidence, Upsidence and Closure**

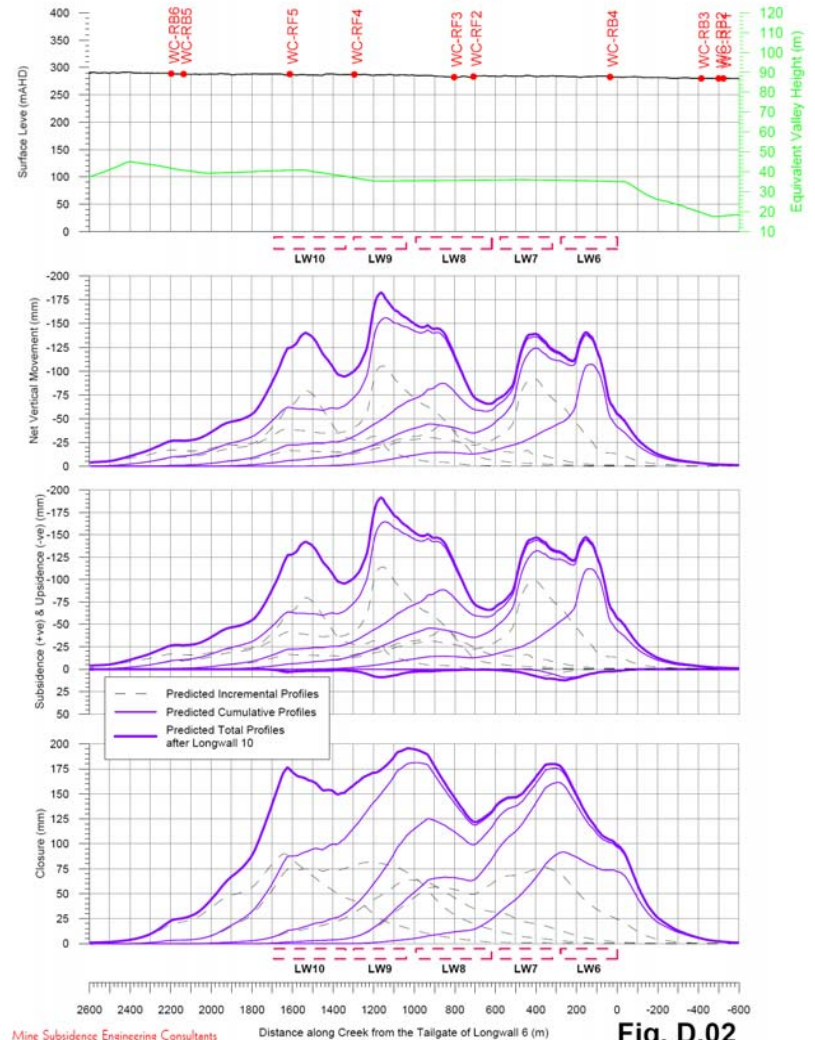
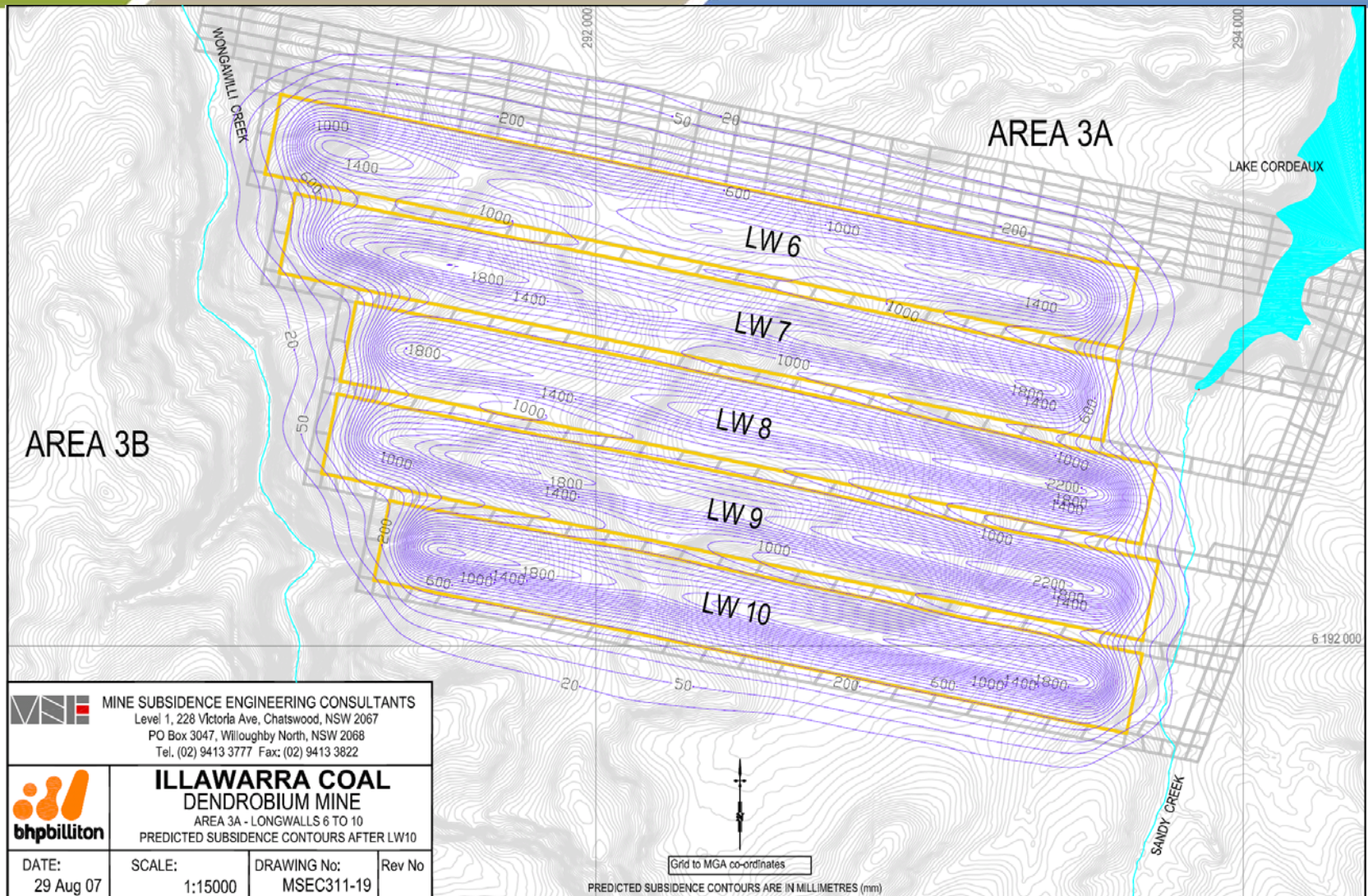


Fig. D.02

Area 3A – systematic subsidence prediction



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ILLAWARRA COAL
DENDROBIUM MINE
 AREA 3A - LONGWALLS 6 TO 10
 PREDICTED SUBSIDENCE CONTOURS AFTER LW10

DATE: 29 Aug 07	SCALE: 1:15000	DRAWING No: MSEC311-19	Rev No
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Area 3 EA approach

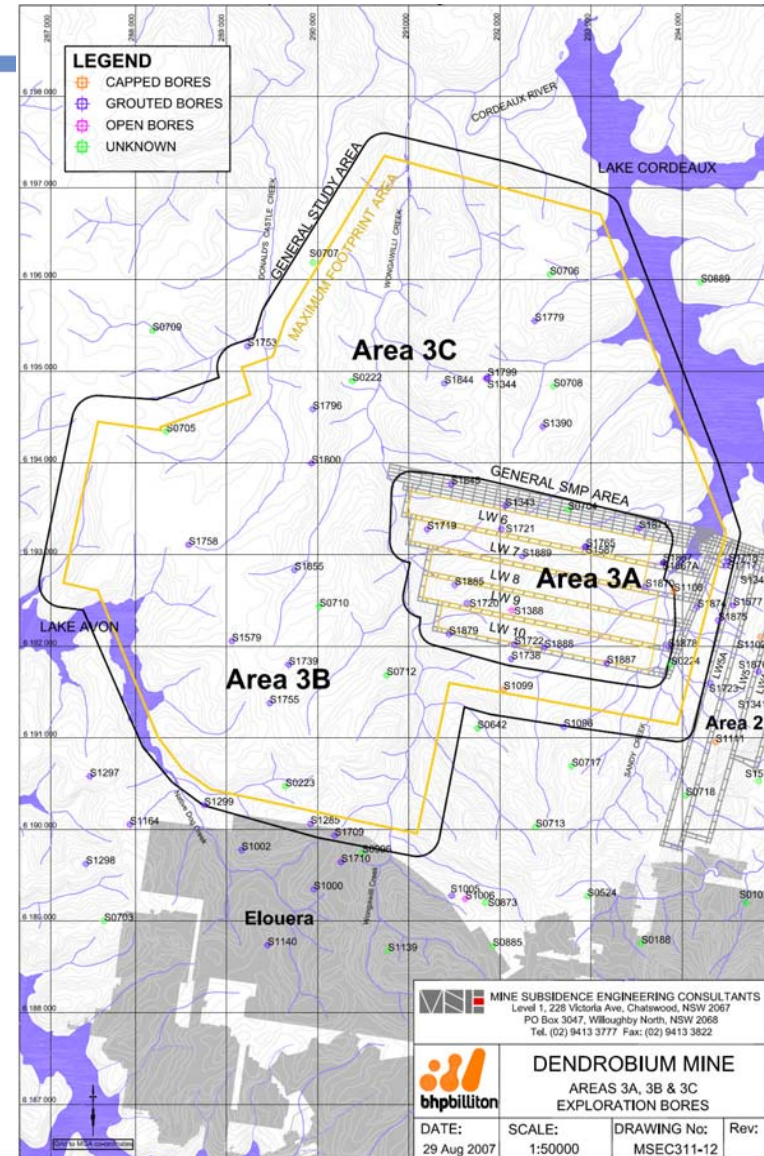
From detailed impact assessment required for SMP for Area 3A, extend assessment criteria to Areas 3B & 3C and make outcomes based commitments to this level of impact in the future.

Statements like:

It is proposed that future longwalls in Areas 3B and 3C would also be set back from Wongawilli Creek such that maximum predicted total closure along the creek, resulting from the extraction of all proposed and future longwalls in Areas 3A, 3B and 3C, is unlikely to result in significant cracking within the creek. Based on this, it would be assessed that it is unlikely that significant surface flow diversions would occur along Wongawilli Creek as a result of the extraction of future longwalls in areas 3B and 3C.

Area 3 EA approach

- Using this approach, EA developed from Area 3A to whole of Area 3 for all natural and anthropogenic features.
- Outcomes based commitments used in the development of mine plans for Areas 3B & 3C.



Development consent revision

- Previously agreed the development Consent should be:
 - Fit for purpose
 - Consistent across similar circumstances
 - Cost effective
 - Scientifically and socially rigorous
- To enable:
 - Determination of compliance
 - Impact assessment
 - Continuous improvement
 - Community right to know
 - Identifying & understanding of emerging issues

The revised consent

- Administrative process only – related to development as is. No EA justification – based on good regulation governance. Part of s75W application.
- Smaller (say 30 rather than 100 pages) and easier to understand/administer, less detailed prescription and more outcomes focussed
- No change to the fundamental limits/requirements, where duplication with EPL leave to DECC to regulate. More flexibility and responsiveness in EPL variation process.
- Consistent with other U/G coal mines

Process – for discussion

- IC to provide DoP with draft Development Consent consistent with agreed principles.
- DoP review draft. Iterations with IC until draft agreed.
- Consultation with:
 - CCC
 - Agencies (SCA, DECC, DPI-M)
- Finalise review and issue revised conditions with Area 3 footprint modification.
- Review process must not stall Area 3 approval.

DoP Meeting 11/9/07 – Minutes

MINUTES OF MEETING



Project Title: Dendrobium Area 3	
Date: 11-9-2007	Meeting No.: 2 Project No.: 107055-01
Recorded By: Chris McEvoy	Sheet: 1 of 2
Purpose of Meeting: Clarify BHPBIC Approach to Dendrobium Area 3 EA, Current Dendrobium Consent Rationalisation, Bulli Seam Part 3A Approval, and obtain DoP Feedback	
Attendance: Howard Reid DoP Bruce Blunden BHPBIC Richard Walsh BHPBIC Gary Brassington BHPBIC Luca Rocci BHPBIC Chris McEvoy Cardno	Distribution: All
Apologies:	

Item	Description	Action By	Date Reqd
1.	HR asked if the Area 3 footprint represents the “maximum mining footprint”. Maybe this needs relabelling as “maximum mining footprint”. Was this issue about whether this was the goaf area or also included first workings – in this case I think it is worth having a note on the plan – “this boundary represents the maximum extent of development roadways and longwall extraction” – this satisfies the issue of longwall mining under the dams etc.	All	Note
2.	HR wants Waratah Rivulet subsidence impact data integrated into the predicted closure vs observed impacts graph. IC noted that the mine company did not make that data available to IC but that MSEC were aware of the nature of the observations and were consistent with IC data.	All	Note
3.	HR suggests dates on the data points on the predicted closure vs observed impacts graph so DoP see when the impacts have occurred. Agree – Chris could you talk to MSEC about this.	All	Note
4.	HR wants to see the risk of water loss from pools described in the EA. Not sure I recall the exact context of this – I believe that the MSEC report addresses this	All	Note
5.	HR wants discussion of the pertinent features around which the mine plan has been designed around using closure and systematic subsidence predictions eg. Sandy creek waterfall, sandy creek, Wongawilli creek in the EA. Yes - I believe that the MSEC report addresses this	All	Note

Item	Description	Action By	Date Reqd
6.	<p>HR suggested the EA present a few of the 20 or so mine plan variations, showing the effect of different set backs from the creeks for variations in the mine plans –eg. MSEC can tell the story with regard to the effectiveness of the set backs ie, show 3 set of graphs with the respective mine layouts. That info should be ready to go – the mine layout options were well documented as we went through. Chris – can you pls work with MSEC to identify a few variations that are not likely to get people excited about using them instead of the plan we selected – we want to be the decision maker and the decision has already been made. Need to be careful how this is presented.</p>	MSEC	ASAP
7.	<p>HR suggested to get rid of Areas 3A, B & C to avoid confusion with the Dendrobium consent and perhaps instead show area 3, 4, 5.</p> <p>IC mentioned this was difficult as IC already has an Area 4 so this was not ideal. IC to consider. My vote is to ignore this request.</p>	All	Note
8.	<p>Howard suggested the EA show a contour plan for “closure” and systematic subsidence parameters such as tensile/compressive strains that have been used as the main mine planning tools. Agree this is good – but pls compare the effectiveness of a contour map Vs a rainbow plot – like what we used for upsidence in the Nepean river EIS.</p>	MSEC	ASAP
9.	<p>HR noted agencies were concerned about SMP’s not giving enough detail about:</p> <ul style="list-style-type: none"> -the impacts -the mitigation of impacts <p>HR suggested populating the management plan section of the SMP with more details about subsidence avoidance (such as planning creek setbacks via closure predictions etc. and amending mine layouts) & then focussing on monitoring, management and rehabilitation.</p>	MSEC Cardno IC	In revised reports, SMP & EA
10.	<p>The subsidence avoidance model should go up front in the management plan. Yes aggress – Chris pls make sure that this theme runs through the EA and SMP. Use the management hierarchy pls avoid, minimise, mitigate, rehabilitate.</p> <p>HR said agencies were still concerned about the size of the SMP documents compared to the size of the management plan.</p>	All	Note
10.	<p>IC noted this was being addressed. Chris the key to the size of your documents will be - Trigger Action Response Plans are better defined in tables than words – effective referencing of the specialist reports rather than copy and paste</p>	All	Note

Item	Description	Action By	Date Reqd
11.	<p>HR still keen to see a conceptual mine plan for clarity to the community. This would not be part of the approval & not be attached to the approval.</p> <p>IC is concerned that:</p> <ul style="list-style-type: none"> - any such layout is perceived by community to be the final approved mine layout - such a layout may be attached to the approval as the approved mine layout - any future variations of such a layout would necessitate yet another expensive and lengthy modification approval process. <p>HR suggested the conceptual mine layout may be a simple polygon of a mine area that would be supported by clarifying text on the plan and in the document regarding the flexibility around those layouts. Chris – can you pls work with MSEC to generate this polygon based on systematic subsidence less than 0.5mm/m tensile and 2mm/m compression to Wonga Creek.</p>	All	Note
12.	<p>Bulli Seam Part 3A Approval – IC proposes to use the same planning process for determining setbacks and mine plan. IC will make commitments to avoiding major impacts on the major creeks and rivers of high value.</p> <p>HR is supportive of this approach.</p>	All	Note
13.	<p>HR wants to see the mining domains proposed – he would prefer to see indicative longwall layouts.</p> <p>HR will undertake to ensure such a layout would not appear in the approvals.</p>	HR	When consent is drafted
14.	<p>GB suggested a polygon or blanked out mine layouts with the minimum setbacks from creeks.</p> <p>Any such plan must have qualifiers noting it is subject to change due to geological uncertainties.</p>	All	Note
15.	<p>HR is agreeable to indicative polygons for the conceptual mine plans presented in the EA.</p>	All	Note

Item	Description	Action By	Date Reqd
16.	<p>IC confirmed they will show a conservative mine plan area in the EA. (IC to prepare plan and distribute to consultant team) No – we agreed on polygons – MSEC to develop conceptual longwall mining area polygons based on systematic subsidence only.</p>	IC	ASAP
17.	<p>HR noted he was happy with the way IC were addressing impacts for</p> <ul style="list-style-type: none"> -Area 3A (via feature specific detailed subsidence predictions) -Areas 3B & 3C as a whole (maximum predicted subsidence predictions based on seam height, depth of cover etc. for each feature) 	All	Note
18.	<p>HR agreed the same process for assessing impacts is appropriate to use for the Bulli seam Part 3A approval.</p>	All	Note
19.	<p>HR noted that if required, the DoP may request extra information for the Dendrobium EA, and that this did not constitute a resubmission of the EA.</p>	All	Note
20.	<p>In regards to the Revised Dendrobium consent HR advised:</p> <ul style="list-style-type: none"> - IC should write some broad words around what IC wants re revised consent conditions within the EA - IC request DoP to rationalise the consent within the new Dendrobium Area 3 approval. - The EA must request this revised consent in say, 2-10 pages, focussing on the major issues eg, make a case for the IERP process to be abandoned and that the Southern coalfields enquiry obviates the need for the IERP, remove reference to Staged approvals, remove reference to SEMP's. 	IC	ASAP
21.	<p>RW suggest an appendix be attached to the EA with the consent suggesting which conditions should change, remain, be modified.</p> <p>HR agreed with this suggestion, but noted submission of draft conditions from IC for DoP consideration would be viewed as inappropriate.</p>	All	Note

Cultural Heritage Advertisement

DENDROBIUM COLLIERY NOTIFICATION AND REGISTRATION OF ABORIGINAL INTERESTS

BHP Billiton Illawarra Coal operates the the Dendrobium Colliery in the vicinity of Wollongong, NSW.

BHP Billiton Illawarra Coal may be applying to the NSW Department of Environment and Conservation for approvals under Part 6 of the National Parks and Wildlife Act 1974 for a permit(s) in relation to Aboriginal archaeological sites in the vicinity of Dendrobium Mining Area 3.

BHP Billiton Illawarra Coal invites groups and individuals to register their interest in the Aboriginal Cultural Heritage management program of the project.

For more information or to register in writing please contact:

Jamie Reeves, Biosis Research Pty Ltd

15-17 Henrietta St, Chippendale NSW 2008

Tel: 02 9690 2777

Fax: 02 9690 2577

**REGISTRATIONS MUST BE RECEIVED
BEFORE 5.00PM, 23 MARCH 2007**