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TRANSCRIPT OF PROCEEDINGS

TRANSCRIPT IN CONFIDENCE

O/N H-1332224

INDEPENDENT PLANNING COMMISSION

MEETING WITH APPLICANT

RE: DENDROBIUM EXTENSION

PANEL:	**STEPHEN O'CONNOR (Chair)** **JOHN HANN** **STEPHEN BARRY** **JULIAN ARDAS** **CASEY JOSHUA (Secretariat)**
APPLICANTS:	**JASON ECONOMIDIS** **GARY BRASSINGTON** **JAMES STEELE**
DATE:	**11.06 AM, MONDAY, 16 NOVEMBER 2020**

THIS PROCEEDING WAS CONDUCTED BY VIDEO CONFERENCE

MR S. O'CONNOR: Right. Well, if you're ready we might make a start. Thanks, Auscript. Welcome to this stakeholder meeting preceding the Independent Planning Commission's public hearing into the state-significant development application for the Dendrobium Extension Project. I'm Steve O'Connor, and I am chair of this panel. Joining me is my fellow commissioner, John Hann. John and I are being assisted by Steve Barry and Julian Ardas. Before we begin, I would like to acknowledge the traditional custodians of the land on which we variously meet, and pay my respects to their elders past, present and emerging, and to the elders from other communities who may be participating today.

South32 Limited, the applicant, owns and operates the Dendrobium Mine, an underground coal mine located approximately eight kilometres west of Wollongong in the southern coalfields of New South Wales. The mine produces metallurgical coal for steelmaking in Australia and overseas. The applicant is seeking development consent to allow the extraction of an additional 78 million tonnes of run-of-mine coal for two new mining areas, areas 5 and 6, and to extend the life of the mine until 31 December 2048.

The application has come to the commission for determination because it has received more than 50 unique public objections. I note the Department of Planning, Industry and Environment has provided its assessment report, and has recommended approval of the application. The Minister for Planning and Public Spaces has directed the commission to hold a public hearing into the application. He has also asked the commission to determine the application within 12 weeks of the date of the referral from the department. In line with regulations introduced in response to the ongoing COVID-19 pandemic, this meeting will be conducted online. A full transcript of this meeting will also be published on the IPCs website in the next few days.

I usually find it useful, given the whole meeting is being transcribed, if I can just get everyone who is online to introduce yourself and say where you're from. It will help also with the very first time you speak in answering your question if you just say your name, so those transcribing got an idea of who's making the comments. So I might start with asking John to introduce himself, please.

MR J. HANN: John Hann, Commissioner, Independent Planning Commission.

MR O'CONNOR: To Jason now.

MR J. ECONOMIDIS: Jason Economidis, Chief Operating Officer, South32.

MR O'CONNOR: Thanks, Jason. To Gary.

MR G. BRASSINGTON: Good morning, commissioners. Gary Brassington from South 32.

MR O'CONNOR: And to James.

MR J. STEELE: Morning. James Steele from Resource Strategies.

MR O'CONNOR: Is there no-one else from the applicant, I take it? No, that's good. And I will just ask both Steve and Julian to introduce themselves as well.

MR S. BARRY: So I'm Stephen Barry. I'm the planning director at the Office of the Independent Planning Commission.

MR J. ARDAS: And I'm Julian Ardas, a planning consultant working with the Independent Planning Commission.

MR O'CONNOR: Thanks very much, everybody. I will now hand over – I think it's to James – to have you give your presentation. Thanks, James.

MR ECONOMIDIS: Hello, everyone, and thank you for taking the time today, and for the opportunity to present on behalf of South32's Illawarra Metallurgical Coal. I would like to welcome Commissioners Stephen O'Connor and John Hann, and the IPCs Julian Ardas and Stephen Barry. To the IMC team, Gary Brassington and the specialist consultant James Steele from Resource Strategies, thank you for your ongoing work. I hope everyone is keeping safe as we continue to live through COVID-19 and the many other challenges 2020 has presented us with.

I would like to acknowledge the traditional owners and custodians of the land on which we are all meeting today across New South Wales and Queensland, and pay my respects to elders past, present and emerging.

My name is Jason Economidis, Chief Operating Officer for South32. Prior to my role as COO I was vice president of operations at Illawarra Metallurgical Coal or IMC for over two and a-half years. South32 is a globally diversified mining and metals company, producing 10 commodities sold and used across the world to make products that support our everyday lives. We are trusted by our owners and partners to realise the potential of their resources. We produce bauxite, alumina, aluminium, energy and metallurgical coal, manganese, nickel, lead, silver and zinc at our operations in Australia, southern Africa and South America.

Across these regions, we employ around 25,000 employees and contractors worldwide, with approximately seven and a-half thousand of those employed in the Australian mining, refining and smelting operations that I have accountability for as COO. Our commodities can be found in nearly every aspect of our lives. They are used to build our roads, our bridges, high-rise buildings and hospitals, to power our homes, start our cars, and even make our coins and jewellery. Our purpose is to

make a difference by developing natural resources to improve people's lives now and for generations to come.

IMC is located in the Illawarra and Wollondilly region south of Sydney, and within the southern coalfield of New South Wales. With a total of nine operating sites across these regions, we operate two mines, Appin and Dendrobium, and two coal-handling and preparation plants, one located inside the BlueScope Steelworks. IMC produces high-quality metallurgical coal used for steelmaking. Our coal for steel is shipped around Australia and the world from the nearby Port Kembla Coal Terminal. We manage the Port Kembla Coal Terminal or PKCT on behalf of a consortium of partners.

As I will explain shortly, our operations form part of the interdependent industrial ecosystem that creates economic opportunities locally and further afield. IMC has a long history of supporting the Illawarra region, and this project will ensure the continued support of the communities in which we operate. At a high level, the project will see a contribution into the Dendrobium Community Enhancement Trust Fund maintained for the life of the project, providing up to $200,000 each year to support local community projects.

An example of funding that has recently come from our trusts and donations include $64,500 that we have given to rural fire service brigades in the Illawarra and Wollondilly regions to help them purchase new equipment. We have also recently provided a $30,000 grant to Lifeline Macarthur to help it continue its excellent work in the community. IMC contributes on average $500,000 each year through our community trusts and donations programs to support projects in the communities in which we operate. The project will ensure major investment is injected into the local economy through support to local businesses.

In FY20 we spent over $338 million with local businesses and suppliers. We are also very proud to note that, earlier this year, IMC was awarded New South Wales Mining Operation of the Year at the New South Wales Minerals Council's Mining Industry and Supplier Awards. The award recognises achievements across IMCs operations, with the business focusing its efforts on operational excellence, making meaningful contributions to local communities, and ensuring a long-term future in the Illawarra region.

Dendrobium Mine produces some of the world's best-quality metallurgical coal, primarily used for steelmaking at BlueScope Steelworks. As you know, we are seeking approval to continue mining into areas 5 and 6 within our current mining lease. The project is an extension, and will extend the life of Dendrobium Mine until 2048 and ensure the continued supply of metallurgical coal to domestic and international customers. The project will support 500 jobs during operations, plus an additional 200 jobs in the construction and development phase.

While the Dendrobium Mine extension project is of critical importance to South32, the project has also been recognised as being of high strategic importance to

BlueScope, the Illawarra region and the State of New South Wales. As stated in the independent economic analysis commissioned by the New South Wales Government, and included in the Department's own assessment report.

In addition, it is important to outline the interdependent nature of the industries in the Illawarra as described in the Dr Brian Fisher BAEconomics report, the independent economic analysis commissioned by the Department of Planning, Industry and Environment, or DPIE. BAEconomics explains the loss of coal mining and steelmaking industries in the region would result in the loss of 5500 direct jobs in the Illawarra and an estimated 25,000 direct and indirect jobs across the whole economy. The report also highlighted the importance of the project on other operations that rely on South32's business in the Illawarra, such as the Port Kembla Coal Terminal. BAEconomics estimates that the worst-case scenario, if the project is not approved, is an economic loss of up to $10.7 billion per annum, and the majority of these losses to occur in the Illawarra region.

The proximity of metallurgical coal is a key factor in the economic viability of the Australian steel market. BlueScope is located at Port Kembla because of its proximity to world-class steelmaking coal. BlueScope has previously said that Dendrobium's premium metallurgical coal is key to its business. BlueScope has also explained that it would be negatively impacted if it had to source metallurgical coal from outside the southern coalfield due to the significant additional capital and operating costs of stockpiling, inbound port infrastructure and freight costs associated with transporting coal from Queensland, where the only viable alternative is located.

In addition, this would also result in a loss of royalty revenue to the New South Wales government, typically derived from mining in the Illawarra region. There are currently no economically viable alternative methods to make raw steel other than to use metallurgical coal. Steel can be made in an electric arc furnace. However, this relies on sufficient supply of scrap steel to be available to meet needs. Alternative methods such as the use of hydrogen in place of metallurgical coal are being investigated, but are not currently in place at BlueScope, nor are they expected to be commercially available for many years. As noted in the New South Wales Strategic Statement on Coal and the government's assessment report for the project, it is expected that the use of metallurgical coal for steelmaking will continue for decades to come.

In 2016, IMC began discussions about this project with the New South Wales government departments and agencies, along with the Commonwealth Government, Wollongong City Council and the Wollondilly Shire Council. Consultation with near neighbours and the local community has been extensive over the past four years. From introductory letters, regular project updates every few months, to specific project consultation through the Dendrobium Community Consultation Committee and planned community information sessions, IMC has prioritised listening to and engaging with the community throughout all stages of the project. IMCs 2000-strong workforce were also directly involved in the consultation process, with regular

project updates, newsletters and briefings. Direct engagement and virtual engagement during COVID-19 was supported by online information, a community call line, and a project work page on the South32 website.

In addition to these proactive consultation activities instigated by IMC, there were also opportunities for feedback through the thorough government assessment process. The environmental impact statement or EIS was developed through extensive consultation with their stakeholders and examined the environmental aspects of the project, including ground and surface water, air quality and emissions, cultural heritage, noise, traffic and biodiversity. The EIS also explored the economic and social benefits.

The EIS was placed on public display in July 2019, and 775 submissions were received from individual community representatives, organisations and government agencies. 81 per cent of these submissions were in support of the Dendrobium Extension Project. At the conclusion of the EIS public exhibition, IMC provided detailed responses to this feedback in the response to submissions or RTS document, and a further Amendment Report was submitted for the Dendrobium Mine Extension Project in August 2020.

The New South Wales Government's robust assessment also included advice from the independent expert panel of mining in the catchment. The panel's final report was released in December 2019 and did not recommend mining be prohibited in the catchment. The panel made 50 recommendations, the majority of which are consistent with our activities at the existing Dendrobium Mine.

Throughout this consultation, IMC has identified some key areas of interest and concern for community members, Dendrobium Community Consultative Committee representatives, neighbours and employees. These have shaped the project design and planning, and have culminated in a series of commitments, particularly on water, which I will touch on and Gary will cover in further detail later in the presentation.

IMC takes its environment responsibility seriously, and understands the sensitivities of working within the metropolitan special area where the mine is located. One of our key approaches is to avoid impacts. For example, the mine design has been developed to avoid sensitive surface features, and continues South32's commitment to not longwall mine under dams, named watercourses and key stream features. We will do this through underground setbacks of at least 1000 metres from dam walls and 300 metres from the edge of Avon and Cordeaux Dams. Where avoidance is not possible, any potential impacts will be offset in line with government requirements. IMC has secured an additional offset property which would be established as a stewardship site to address biodiversity and swamp offset requirements.

South32 has also committed to fund works that would result in the project being a positive contributor to the metropolitan water supply. By partnering with the New South Wales Government and signing a planning agreement, we can support long-term solutions. This agreement will drive ongoing collaboration and allow the New

South Wales Government to invest in water infrastructure that will provide intergenerational benefits.

These commitments were noted within the Department's recommended conditions for approval of the project and are underpinned by a proven track record of sustainable mining practice, balancing the environmental, social and economic outcomes of our operations. Right now, Dendrobium Mine operates under a well-established regulatory framework, which includes strict performance criteria, a comprehensive water monitoring network of 1,165 separate devices and associated reporting requirements, and this will continue into the future. In addition, South32 has committed to net zero emissions across our operations by 2050, and planning is underway to meet this target.

It is important for cultural heritage and mining to coexist, and we are committed to working with Aboriginal and Torres Strait Islander peoples, government and industry to achieve the best outcome. Our company has developed a set of community and environmental standards that ensures our governance processes and cultural heritage approvals meet legal and stakeholder requirements. In addition, we have conducted extensive engagement with the registered Aboriginal parties throughout the project, and, as mentioned previously, have designed our mine plan to avoid sensitive surface features where possible, including cultural heritage sites.

The project, which is located on the current mine lease, will use the existing facilities located at the Dendrobium Mine pit-top, Kemira Valley coal-loading facility and associated logistics infrastructure, and the Dendrobium coal-handling and preparation plant. Extensive noise mitigation measures in place for the current operation will be continued to ensure we operate in line with the relevant noise criteria and, more importantly, seek to maintain the expectations of our neighbours. Using the existing facilities at Dendrobium Mine, with only minor upgrades, will limit any impact on visual amenity around the operation.

On balance, the department has acknowledged the major economic and social benefits for the region and to New South Wales, and that residual impacts are effectively minimised, managed and compensated for. South32 agrees with the recommended conditions by the department to ensure that the project complies with contemporary criteria and standards. We will now explain these and other commitments in more detail. Again, thank you for this opportunity to present to you today, and I would like to pass over to Gary Brassington, our manager of approvals at IMC.

MR BRASSINGTON: Thank you, Jason. This slide and the following slides step through South32's design philosophy for the project, which seeks to strike a balance between environmental protection and the economic viability of the operation. The project design is based on the current mine design, which has operated successfully to date as noted by the New South Wales Government assessment report, with improvements and additional limitations to further reduce environmental impacts compared to current operations.

The red line on this figure shows South32's tenement. Mining operations are constrained by the existing mining tenements. The purple boundary shows the currently approved Dendrobium Mine area, which will exhaust its minable coal reserves in approximately 2024. The project seeks to continue mining operations beyond these approved areas. The grey areas show historic mine workings, where coal has already been removed. However, additional mining could occur in some areas, as there are multiple seams available to be mined.

This slide shows mapped swamp clusters as the dashed green polygon. For this project, South32 will avoid the main swamp clusters within the existing mining tenement. This area is referred to as area 4. As noted in the New South Wales Government assessment report, the decision not to seek approval to develop area 4 for the project results in the avoidance of impacts to an extensive area of swamps.

This slide illustrates the key surface water features and infrastructure. The setbacks that South32 applies to avoid and minimise surface water impacts are no underground longwall mining of named watercourses, which are the larger and usually perennial watercourses, such as Avon and Cordeaux Rivers; no undermining of the dams, plus a minimum 300-metre setback, shown as the blue dashed lines; setbacks from the dam walls of at least 1000 metres, shown as the yellow shaded areas, so that the safety and serviceability is always maintained.

The New South Wales Government report states that mining at Dendrobium has not resulted in any significant impacts on drinking water supplies to date, and the setbacks successfully used to achieve this outcome will be continued for the project.

This slide now shows the project mining areas, referred to as areas 5 and 6, which are within the orange boundaries. As you can see, the project mining areas avoid the most significant surface water and ecological features within the mining lease. Even ..... boundaries there are additional setbacks, shown as the small white circles. As part of the baseline survey work for the EIS, each drainage line was inspected and relatively significant stream features referred to in the EIS as key stream features were identified. These are defined as larger pools, with a volume greater than 100 cubic metres and larger bedrock steps with a height of greater than five metres where there is a pool at the base of the step. The setbacks from key stream features is an additional criteria adopted for the project, based on stakeholder feedback for the Dendrobium mine.

The figure now shows the longwall layout presented in the EIS and the amendment report. The gaps in the longwalls show that there would be no direct longwall mining below key stream features. The avoidance of environmental features and water assets within our existing tenements results in a significant sterilisation of the state's coal reserves. Therefore, for the remaining footprints covered by areas 5 and 6 we seek to maximise the efficient recovery of metallurgical coal resources through the continued use of 305-metre-wide panels.

The mine plan that avoids all surface features or avoids in no subsidence impacts is not economically viable at Dendrobium. Alternative mine plans that were considered during assessment are covered in the following slides, along with residual impacts to surface features and associated offset measures proposed to address these residual impacts.

The Dendrobium Mine is an existing longwall mining operation. Different mining methods, such as bord-and-pillar mining, are not viable for the dendrobium mine, and so the project can only proceed as a longwall operation. A key consideration of the New South Wales Government's assessment of the project and the independent mining panel was alternative longwall panel widths.

The department commissioned an independent review of the project mine plan, referred to as the Minecraft report. It concluded that for every 25-metre reduction in longwall panel width there would be a resulting reduction in project net present value of $100 million, with the project being not viable at panel widths below 200 metres. South32 agrees with the conclusions of the Minecraft report.

As can be seen, strains exceed the purple line at longwall widths of approximately 75 metres, which is significantly lower than the viable panel width for the project. In consideration of the mining panel conclusions and the Minecraft report, the New South Wales Government assessment report concluded that any incremental reduction in environmental impacts from narrower longwalls would come at unsustainable economic cost.

In terms of impacts from subsidence, the mining panel concludes that reduced panel width would not materially reduce surface impact. This is because subsidence-related effects are high enough at narrower panel widths to result in impacts to surface features, such as cracking and streams. This is illustrated by the graph on the left-hand side, which plots strain against subsidence on the vertical axis against panel width on the horizontal axis. The horizontal purple line represents 0.5 millimetres per metre strain, the level at which surface impacts have been observed. The blue and red lines plot predicted strain for area 5 and 6 longwalls.

This slide summarises our approach to addressing residual impacts to surface features from longwall mining. I should note that impacts from subsidence are entirely different from impacts that would be experienced from open-cut mining. This is why underground mining has been able to occur in the water catchment areas for over 100 years with no material impacts to water supplies.

Key surface features that are not avoided by the project mine plan include ephemeral and unnamed drainage lines and smaller upland swamps located outside the main swamp clusters. The environmental consequences of subsidence-related impacts to these features are potential loss of surface water, localised impacts to water quality from surface cracks that can result in iron staining, potential impacts to aquatic ecology habitat – for example, if there is a reduction in standing pools in the ephemeral streams – and potential impacts to upland swamps.

The previous slides have outlined the avoidance measures adopted in the project design, as well as the consideration of alternatives to minimise impacts. Accordingly, following the avoid, minimise, offset hierarchy, offsets have been developed for the project to account for residual impacts. The following slides provide further detail on these offsets. Overall, the New South Wales Government, through its whole-of-government assessment report, concludes that the project has been designed in a manner that balances the recovery of state-significant metallurgical coal resources and minimises environmental impacts as far as possible.

At South32, we support the preservation of cultural heritage and recognise and respect sites, places, structures and objects that are culturally or traditionally significant. At every site in Australia, we conduct heritage surveys in consultation with traditional and local communities to identify and protect sites and objects. An Aboriginal Cultural Heritage Assessment was prepared for the project in consultation with registered Aboriginal parties to help protect areas and objects of significance. As with other parts of IMC where we are already operating, we will develop an Aboriginal heritage management plan together with these groups. This plan will outline ongoing surveys, monitoring and management protocols.

There are a large number of heritage sites throughout the Illawarra escarpment, and the avoidance measures outlined in the previous slides, including designing our mine to avoid sensitive surface features, limits the interaction of the project with the majority of sites. The surface disturbance elements of the project associated with the ventilation infrastructure that is necessary for the safe operation of the mine has been designed to avoid all known sites. Again, the nature of subsidence impacts from an underground mine is entirely different to the nature and intensity of impacts from open-cut mining.

The Aboriginal Cultural Heritage Assessment describes there is some risk of subsidence-related impacts to sites. However, based on extensive monitoring of past mining areas in the southern coalfield, the risk of impact is relatively low. These factors have been considered by the New South Wales Government in the assessment report, and the recommended conditions require the preparation of a management plan in consultation with the registered Aboriginal parties to confirm monitoring of sites and associated trigger-action response plans to prevent unacceptable impacts.

The previous slides relate to residual impacts of the project to surface features. This slide relates to subsurface fracturing due to longwall mining and the associated effects to groundwater and surface water. Longwall mining results in fracturing of the strata vertically above the coal seam. Where this vertical subsurface fracturing connects to the surface, it can result in surface water reporting to the groundwater system, and, in some cases, reporting to the mine workings. In the case of Dendrobium, this would represent a loss of surface water from the catchment area. The height of vertical subsurface fracturing and the degree to which it results in permanent surface water loss has been the subject of extensive research, and considerable complexity and uncertainty remains, as acknowledged by the independent mining panel.

Therefore, the project has taken the following approach. Firstly, the setbacks from the dams and named watercourses mean there will not be a fracture network connection between the mine areas and these major water features. This is simply illustrated by the figure on the left-hand side of the slide, where it can be seen that any vertical subsurface fracturing will not interact with the reservoir because of the 300-metre setback. For comparison, there are other approved longwall mining operations in the southern coalfield that mine directly beneath reservoirs, and at these operations the precise calculation of the height of subsurface fracturing is important to prevent water draining directly from the reservoir to the mine workings. At Dendrobium, only ephemeral drainage lines overlie the longwalls.

Secondly, the groundwater modelling for the project has adopted a conservative approach, and assume that the vertical fracture network will reach the surface. Other conservative assumptions have also been adopted, such as the assumption that water is always available in the ephemeral drainage lines overlying the project longwalls. This means that the model assumes water is lost from these drainage lines, whereas, in reality, they do not flow during drier conditions. The independent mining panel agrees that this precautionary modelling approach is conservative.

Thirdly, while the quantity of surface water loss as predicted by the conservative modelling is insignificant at the catchment scale, South32 and the New South Wales Government have agreed to a significant surface water offset package for the project to account for surface water losses during the project and post-mining. The independent mining panel stated the use of offsets is a pragmatic approach to addressing this issue and is consistent with the recommendations of the previous independent panel.

Condition 18 of the recommended conditions of approval requires that, if the project is approved, South32 must enter into a planning agreement with the planning secretary and the Minister for Water in accordance with the terms of the water offsets offer that has been agreed between South32 and the New South Wales Government. The water offset comprises multiple components, which are illustrated on this slide.

In summary, it addresses both surface water quantity and quality, notwithstanding the potential impacts are predicted to be negligible at the catchment scale. In regard to quantity, this comprises both an upfront payment to cover predicted post-mining surface water losses and annual payments that would be based on annually calculated surface water losses over the life of the project. These payments were independently calculated by the New South Wales government. The funds would be paid to the New South Wales government and the intended use as investment in water infrastructure that has intergenerational benefits, that will result in the project being a positive contributor to the metropolitan water supply.

In regard to water quality, the offset comprises a contribution that can be used to implement additional management measures designed to improve water quality in the catchment, such as maintenance of unsealed roads to control sedimentation, as well as a transfer of South32-owned land within the catchment area to WaterNSW,

so that access to this land is restricted, as it the case for other land controlled by WaterNSW.

This slide describes the mine closure planning process that will be implemented for the existing Dendrobium Mine and the project. Closure was a key consideration of the mining panel's report, particularly the management of underground water as it recovers to pre-mining levels once active de-watering of the mine working stops following the completion of mining. Closure of the Dendrobium Mine is currently regulated by the existing development consent and mining lease conditions.

The mining panel concluded that the existing closure plans for the project would not be materially affected by the new underground mining areas for the project. However, they recommended a detailed closure plan be prepared early in the project life, namely within the first three years. This recommendation is reflected in the recommended conditions of approval. South32 supports the preparation of an updated closure plan early in the project life, and accepts this recommended condition.

While the New South Wales Government assessment report states that it considers the project strikes the right balance between the economic recovery of state-significant metallurgical coal reserves and minimising environmental impacts. We acknowledge some stakeholders have residual concerns. WaterNSW is a key stakeholder for the project, given it manages the catchment area lands that overlie the project longwalls.

South32 conducts ongoing and frequent consultation with WaterNSW regarding the operation of the existing Dendrobium Mine. In regards to the project, WaterNSW has stated it has remaining concerns related to mine design, namely a request for narrower longwalls and associated surface water losses, water quality and potential impacts to swamps. Each of these issues have been considered in the EIS and submissions report, and by the New South Wales Government in its assessment of the project, which concluded that, when weighing the significant socioeconomic benefits of the project against its impacts, that the project was in the public interest.

In regard to mine design and surface water loss, the earlier slides in this presentation outline why narrower panels are not economic for the project, and would not result in any material reduction in the impact to surface features. In regard to surface water losses, the water offsets have been designed to address this, and South32 will enter into a planning agreement with the Minister for Water, who is the WaterNSW portfolio minister, to formalise these offsets.

In regards to water quality, the mining panel concludes that there is no evidence of adverse impacts to water quality at the catchment scale due to mining to date. The New South Wales Government assessment report concludes that the project would have a neutral or beneficial effect on water quality, including in consideration of the surface water quality offset proposal.

In regard to impacts to upland swamps, the mining panel concludes there is no economically viable mine plan that avoids all upland swamps. Biodiversity offsets would be provided for impacts to swamps, both the vegetation community supported by the swamps, as well as the threatened fauna species that use the swamps as habitat. The offset requirements are addressed in the recommended conditions of approval. South32 would satisfy a portion of these offset requirements using a property purchased for the project that contains upland swamp communities.

Overall, there is no economic mine plan that addresses WaterNSW's concerns. The New South Wales Government assessment report comprehensively addresses these matters in the broader context of considering both the significant benefits of the project and the residual impacts, noting that offset strategies have been developed to address the key issues of surface water quantity, quality and biodiversity. This figure shows the location of the project offset property, which is largely made up of swamp communities. It would be secured in perpetuity via a biodiversity stewardship agreement to provide a portion of the project's offset requirements.

The BCD, which is now the environment, energy and science group within the Department of Planning, Industry and Environment has stated its remaining concerns relate to the offsetting of upland swamps and koala. The BCD considers that swamp offset requirements should be calculated assuming a total loss of value, that is, a level of impact equivalent to open-cut mining. Upland swamps have been extensively mined beneath during the 100 years that mining has occurred in the southern coalfield, and there is extensive data that shows that, while swamps can become drier following mining, they do retain biodiversity values and continue to function as upland swamp vegetation communities.

Accordingly, the ecological experts that prepared the biodiversity assessment for the EIS have calculated offset requirements based on a partial loss scenario using the methodology allowed in the offset calculator. Note that offsets for aquatic fauna, amphibian and dragonfly species have been offset using a methodology that is equivalent to a total loss scenario because the separate offset calculator that applies to threatened fauna does not allow for a partial loss scenario.

This matter has been addressed in the New South Wales Government assessment report, which considers that, based on the evidence, an offset based on a partial loss scenario is reasonable, notwithstanding the recommended conditions of approval require that, if actual impacts are greater than predicted, that is, greater than partial impact, the offset liability must be recalculated and scaled up accordingly. South32 accepts these conditions.

In regard to the koala, the BCD considers that all vegetation to be disturbed for the surface infrastructure associated with the project should be offset on the basis that it provides koala habitat. This position is not supported by two separate rounds of survey at the proposed surface infrastructure sites, which identified only 1.5 hectares of a total of 28 hectares' disturbance as providing habitat. The offset liability for the

koala has therefore been calculated by the ecological experts based on 1.5 hectares of koala habitat.

However, the recommended conditions of approval require South32 to conduct additional koala surveys at the surface infrastructure sites prior to the commencement of construction, and report the outcomes of the surveys to BCD and the department. If the surveys identify use of the area by koalas which was not identified by the two rounds of survey to date, then the offset liability for the koala must be recalculated and scaled up accordingly. South32 accepts these conditions.

Overall, we consider the recommended conditions of approval provide certainty regarding the protection of the environment, while providing for adaptive management that allows consideration of data collected once mining commences. We accept the recommended conditions of approval. However, we request that, in the interests of procedural fairness, if the IPC is considering materially changing any conditions of approval that South32 is provided the opportunity to review such changes to comment on their workability. Similarly, if there are any matters that the IPC considers to be material to its decision-making process, we request that South32 is made aware of such matters and given the opportunity to provide further clarification or information.

MR ECONOMIDIS: Thanks, Gary. And thank you, Commissioners, for allowing us to present this detail on the Dendrobium Extension Project. I wanted to reaffirm South32's commitment to the project and the Illawarra region, and our acceptance of the department's conditions of approval. Overall, we look forward to the opportunity to continue to work in partnership with our local communities and the New South Wales Government to deliver on the commitments we've outlined today and our overall commitment to be a positive contributor.

MR O'CONNOR: Thank you. Does that conclude the presentation?

MR ECONOMIDIS: That's correct.

MR O'CONNOR: Thanks very much for running us through that. That was very informative. I've got a couple of questions, and then I might hand over to John and he will also have a couple of questions for you. If you want to take any of these questions on notice and get back to us, following up after this briefing, then, by all means, just let us know and we will make a record of that. Look, my first question relates to the subsidence impacts that have happened to date compared to predictions. Can you just tell us – particularly in relation to upland swamps, has there been a good correlation between what was predicted and what has happened, just in terms of your current experience?

MR ECONOMIDIS: Gary, is it appropriate to answer that now or is it better if we were to provide data after this call?

MR BRASSINGTON: Jason, we can provide data after this call and have ongoing discussions in relation to swamps. Just generally, Steve, in terms of swamp impacts at the existing Dendrobium Mine, there's a clear correlation between mining and changes in shallow groundwater levels in relation to the swamps, and we've carried forward that prediction for areas 5 and 6 as part of the EIS. Having said that, the vegetation monitoring at the existing Dendrobium mine shows that, in all cases, each of those swamps that have had those shallow groundwater changes, that swamp vegetation continues to occur and swamp functioning continues to occur in those places.

MR O'CONNOR: Thank you. Okay. I will take it you will provide us with a bit more information - - -

MR BRASSINGTON: That's correct.

MR O'CONNOR: - - - following the meeting. My next question relates to just how viable the coal reserves in area 5 and 6 may be to extract, given the high gas levels which have occurred in area 3C. Is there any indication, you know, that you won't have those similar problems?

MR ECONOMIDIS: Steve, so I will take that question. First of all, 3C has a carbon dioxide content, whereas the Bulli Seam is actually methane. Our Appin Mine is a very ..... methane operation, and, as a result, we've got all of the requisite skills, knowledge and equipment to be able to manage the gas drainage in those areas.

MR O'CONNOR: So you are saying that the Bulli Seam is area 5. What about the Wongawilli Seam in area 6? Have you had any experience - - -

MR ECONOMIDIS: Sorry, Steve. I will let you finish.

MR O'CONNOR: Yes. So you've had the same sort experience with Appin mining the Wongawilli Seam?

MR ECONOMIDIS: No, sorry. The Wongawilli Seam through areas 3A, 3B and 3C will provide us with that, and, keeping in mind that is a fair distance in the future, we will definitely have the experience of mining in 3C prior to getting to area 6.

MR O'CONNOR: Okay. I understand. My next question: just in terms of the transportation of the coal, I understand it's all being taken by rail down to Port Kembla; is that correct, or is there any transportation proposed by trucks?

MR ECONOMIDIS: No, there's – all of the transportation is by rail. We've got a dedicated rail line that we operate from the Kemira Valley coal stockpile area down to the wash plant, the coal handling and preparation plant that's situated in the BlueScope Steel operation.

MR O'CONNOR: So just to be - - -

MR ECONOMIDIS: 100 per cent of our coal will be rail.

MR O'CONNOR: And, likewise, is 100 per cent of the coal metallurgical coal, or is a proportion of it likely to be thermal coal, and, if it is thermal coal, how much of it might be thermal coal and where might it be destined to be transported to?

MR ECONOMIDIS: So in the Bulli Seam we actually go to 100 per cent metallurgical coal products. Area 6: I'm not – we will have to take that question on notice, Gary, unless you've got the direct answer for that.

MR BRASSINGTON: We will provide those specific figures, Jason. Suffice to say, Steve, that area 6 is also a metallurgical coal resource, but where the Wongawilli Seam is involved there is some residual thermal coal product, but majority metallurgical coal.

MR O'CONNOR: Good. If you can spell that out to us in future that would be terrific. And I note that you've indicated you're prepared to accept all of the conditions that the department has recommended to the IPC, and I note one of those conditions relates to the preparation of a social impact management plan recommending certain actions be undertaken. Has the company given any thought to how those particular actions might be funded, in other words, where the source of the money is likely to come from to implement whatever recommended actions might arise from the social impact management plan?

MR ECONOMIDIS: Gary, I think, due to it being associated with approvals, you're probably best to either answer or defer.

MR BRASSINGTON: Yes. Steve, we can provide more information on that. I don't have any of our community people in attendance. Having said that, as part of the project we commit to the ongoing contribution to community from the project. So that's – over four cents per tonne goes into a community fund to go for social investment within the local area. That will form a significant proportion of the funding for those actions.

MR O'CONNOR: Okay. And that leads me to my final question before I hand over to John, and that relates to the existing financial arrangements, that certain amount of money per tonne which is traditionally, in accordance with your 2001 consent, been applied. Can you just tell us a bit more about how much – no – can you give us an idea of the quantum of funds that are paid per annum into that fund and what sort of projects that fund is being used for? Just a bit more information about it's administered. We don't understand a great deal about the existing arrangements, which, I understand, are proposed to be continued if this consent is granted.

MR ECONOMIDIS: Steve, I think, because of – there's quite a specific amount of information to provide you I think we will take that one on notice, and I think we will provide you a more fulsome account of not only how it's calculated, but where we actually have those funds going to.

MR O'CONNOR: That would be very helpful. Thank you. John, can I invite you to ask some questions, please.

MR HANN: Sure. Thanks, Steve. It's John Hann here. Look, thank you for the material and the information you've provided so far. Just in terms of the market – and much has been made of the critical importance to BlueScope of the supply of met coal to that operation, the steelworks – and we heard this morning from the Department of Planning, Industry and Environment about that. But it would be helpful to us if you could explain what the alternatives are, in other words, are there are other southern coalfield sources that can supply the requirements of BlueScope other than Dendrobium?

MR ECONOMIDIS: So, John, thank you for your question. There are definitely operations in the southern coalfield that provide metallurgical coal, but none of it is to the volume or quality of IMC. So, as a result, there would be the ability for some of those operations to be supplementary, but I don't believe that they've got enough to be primary.

MR HANN: What's the volume required by BlueScope in total per annum?

MR ECONOMIDIS: Yes, I would prefer to get that number to you afterwards, John, to be – I'm not actually pausing because I don't know the number. I just want to make sure that we provide it to you appropriately. So we might take that on notice and we will provide that to you after the call.

MR HANN: Okay. All right. Thank you. Look, we heard this morning from the department in regard to the two areas, areas 5 and 6, that the mining plan, if you like, would have area 5 mined first and then area 6, rather than in parallel. So correct me if I'm wrong – this is just as we've understood it from an earlier briefing - - -

MR ECONOMIDIS: That is correct.

MR HANN: - - - does that have any implications for your supply to BlueScope in terms of they're two different seams, are they not? One is the Bulli Seam, area 5, and the area 6 is the Wongawilli Seam, which is a different quality of coal.

MR ECONOMIDIS: That's correct, John. So the best way to make this clear is that BlueScope requires high-quality metallurgical coal, which we provide. There has been quite a bit of discussion about the blend between Wongawilli and Bulli. The most important thing for us to put into context is that the value of our coal is not only the quality of it, but the proximity of it, and the fact that we can actually have it railed directly to the plant or trucked from our Appin operation. We do truck and rail our coal to BlueScope from both of our current operations, and that won't change.

MR HANN: Right. But how does that response relate to my question in terms of area 5 and area 6 and how they're to be mined and what implication that has for your supply to BlueScope?

MR ECONOMIDIS: I think – sorry, John – the point being that we will provide BlueScope with high-quality metallurgical coal, whether in the Wongawilli or the Bulli. Now, it could be that the Wongawilli coal is provided to them or not and it could be that we – that the Bulli coal is provided to them or not. What's critically important is that coal is local, it's high-quality, and, from that point of view, we're actually a low-cost provider of coal for them. So I think, in short, what I'm trying to say, John, is that it doesn't matter to BlueScope where the coal comes from, because we are right on their doorstep.

MR HANN: Right. So, as I understand it, then, in your response whether it's area 5 blended with Appin coal, perhaps, or whether it's area 6, blended or not, the staging of those – you're able to meet the requirements of BlueScope.

MR ECONOMIDIS: That's correct. In actual fact, going to area 5, because it's closer and the gas management regimes are much more understood by us, means that area 5 is absolutely the right domain to go to first.

MR HANN: Okay. So it's definitely – that's the first stage of your ..... application, your development application. Area 5 is first, area 6 is the second cab off the rank, if I can put it that way.

MR ECONOMIDIS: That is correct.

MR HANN: All right. Look, just in – you did talk earlier in your presentation about Aboriginal cultural heritage, and we note that the BCD has had some residual concerns around some of the Aboriginal sites, I think six of the 58. But there are a large number of sites that are directly above the proposed underground mining areas 5 and 6. So you're obviously, I presume, confident of being able to manage the subsidence impacts on those areas, which do include rock shelters with archaeological deposits, and correct me if I'm wrong here. So are you able to calibrate the subsidence impacts from your existing and past mining with what's predicted, and that gives you confidence? Can you explain a little bit about how you go about protecting those areas.

MR ECONOMIDIS: Yes. Thank you, John. What I will do is I will get Gary to answer, but one of the things that we've definitely got is a long history of mining in the region, which enables us to be quite accurate in our predictive capability. So, Gary, I might get you to finalise that question.

MR BRASSINGTON: Yes. Thanks, Jason. I suppose we need to go back to the avoidance that the project proposes, you know, initially, not applying for mining within area 4, avoiding key stream features, the dams, dam walls and named watercourses. All of these setbacks also set back the mining from a number of Aboriginal heritage sites co-located with those features. So many sites are actually avoided in the mining area as a result of that.

Of the 58 sites which remain either above the longwalls or within the 25 millimetre subsidence zone nine of the 10 shelters within that area that will receive subsidence movements have been rated as low scientific significance. Of the susceptible sites to impacts, nine of 10 sites or 90 per cent of sites won't be impacted at all as a result of subsidence movements. That prediction is based on a long monitoring and empirical database of mining under and around heritage sites within the escarpment. So that is in relation to the mining area. In relation to our surface activities, we've avoided all known sites from our surface activities, where we have more flexibility in avoiding those sites.

MR HANN: All right. Thank you very much. Steve, I don't have any further questions.

MR O'CONNOR: Okay. I would just like to know a bit more about your plans to modify the existing 2001 development consent. As I understand it, you've indicated to the department that there will need to be an alignment if this project is approved. There will need to be an alignment of the current consent to be consistent with the new consent. Can you just talk us through what sort of changes might be necessary to the current consent to be able to achieve that alignment.

MR ECONOMIDIS: Gary, I think that question is definitely appropriate for you to answer, please.

MR BRASSINGTON: Thanks, Jason. Yes, you're quite right, Steve. The proposal that's being made doesn't amend the current mining consent, and we're seeking a new consent for areas 5 and 6. Having said that, this current application, in addition to those two mining areas, does, in fact, capture all of the downstream and associate support activities, such as the pit top and whatnot. So, in effect, South32 will need to meet the conditions of both consents where there's overlap, until, at some point in the future, there will be more than likely a coming together of the consents by way of a modification to simply that situation.

MR O'CONNOR: And have you any idea what the company has in mind in terms of the timing, how long before you might be able to bring them both into alignment with each other?

MR ECONOMIDIS: We haven't made that determination yet, Steve, but, obviously, it would – some sort of modification would be required to the existing consent prior to its expiry date.

MR O'CONNOR: And that expiry date: I think you said the current reserves will be completely – the current approved reserves that you can extract, you anticipate, mining will finish by 2024 there. Is that, sort of, the deadline by which you think that modification will have to be resolved?

MR ECONOMIDIS: No. The 2024 relates to the mineable reserves within the current area, without gas extraction, so that doesn't include the area 3C mining area,

which is part of the current approved mining area. So the existing consent expiry is 2030, so it would need to be amended prior to that.

MR O'CONNOR: Okay. Thank you. I think that - - -

MR HANN: Steve, I have one more broad question, if you don't mind.

MR O'CONNOR: Go ahead, John.

MR HANN: Look, it's John Hann here. Just in regard to the conditions overall, do you have any concerns, particularly with any of the conditions as drafted by the department?

MR ECONOMIDIS: I think I will let you respond to that, Gary.

MR BRASSINGTON: No, John. We've reviewed the draft conditions of approval, in particular around the workability of those conditions and the implementation of the conditions. And we support the conditions.

MR HANN: Thank you. That's all, Steve, from me.

MR O'CONNOR: Yes, that's great. I will just check with both Steve and Julian to see if they have any questions they would like to pose.

MR BARRY: Steve Barry here. No questions from me.

MR ARDAS: Julian Ardas here. No questions from me either.

MR O'CONNOR: Okay. Thank you very much. That brings us towards the end of our briefing session. I would like to thank all of the representatives, Jason, Gary and James, for their contributions. We did note that there were a number of questions that the company has given an undertaking to provide answers in writing to us. There were quite a few of those, so I won't try and recap them now. But you will be able to get a copy of this briefing, of the transcript, and you will be able to go through and identify which questions we're looking for further responses from you for. We will also go through that process and give you something in writing that just spells out the remaining questions that we would like answers to. So that will happen in the next few days. You will receive that follow-up correspondence once a transcript becomes available.

We now have a couple of other briefings with two of the councils that are – LGAs that are partly impacted by this project. That happens this afternoon, and then we will move onto the public hearing, which will be in a couple of weeks' time. Before I bring this session to a close, are there any questions you might have of us? We've asked you a pile of questions, but we will give you the opportunity for you to ask questions if you have any.

MR ECONOMIDIS: No questions from me, Steve. Thank you.

MR O'CONNOR: Thanks very much. On that basis, I will bring this briefing session to an end. Thank you very much again for your contribution, and we will cease transcribing now.

ADJOURNED **[12.10 pm]**