Submission on the Airly Mine Extension Project EIS (State Significant Development 5581)

By Dr Haydn Washington, on behalf of the Colo Committee, October 2014
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Introduction

The Colo Committee has been involved is assessing the biodiversity and geodiversity significance of the Airly and Genowlan mesas since 1980. We attended and made submissions to the original Mining Warden's Court and the 1993 Airly Coal Project Commission of Inquiry (Simpson, 1993) (the proponent was then Novacoal). We have since given extensive submissions on all development proposals in the area. We lobbied since the early 1980s for reservation of this area of great biodiversity and geodiversity significance, which has now been recognised through the creation of Mugii Murum-ban SCA. The author of this submission nominated both the 'Genowlan Point Heathland' Endangered Ecological Community under the TSC Act and was involved in the discovery and then nomination of the critically endangered *Pultenaea sp.* 'Genowlan Point'. The author is also the lead author of:

> Washington, H.G. and Wray, R.A.L. (2011). The geoheritage and geomorphology of the sandstone pagodas of the north-western Blue Mountains region (NSW). *Proceedings of the Linnean Society of New South Wales* **132**, 131-143.

This is the only peer-reviewed paper of the geodiversity significance of the 'pagoda' rock formations, and identifies the Airly and Genowlan mesas as the northern part of the pagoda heartland. This area thus has significant internationally geodiversity value. The Colo Committee (via the author) has been a member of the Subsidence Management Committee for Airly (now to be changed to a Consultative Committee). The Colo Committee has thus been involved intimately since 1980 with the research and discovery of the biodiversity and geodiversity significance of the proposal area. It can quite rightly be seen as a '***jewel in the crown***' of the whole area.

The lease proposal is immediately north of the World Heritage Area. The Greater Blue Mountains World Heritage Advisory Committee has also indicated that it would seek at a future time to *add* the Mugii Murum-ban SCA to the Greater Blue Mountains World Heritage Area once mining has completed – assuming its outstanding natural heritage values have not been damaged by mining. The author can confirm this as till recently he was a member of the Greater Blue Mountains World Heritage Advisory Committee. This area will most likely go on the National Heritage List when this is revised, certainly the World Heritage Advisory Committee recommends this. This SCA is not just of state significance but of *national significance*. Accordingly the **precautionary principle should be applied** to ensure the protection of the area and to minimise possible disturbance to the State Conservation Area.

Given the growing recognition of significance of the pagoda rock formation, and the other geodiversity and biodiversity of these mesas, the original Novacoal proposal for total extraction over most of the area (and 70% under cliffs) has been abandoned. The Colo Committee also acknowledges that Centennial Coal supported the creation of the SCA and has committed itself to a maximum of 125 mm subsidence rather than the 1.8 metre subsidence of past approvals. That is a major step forward to protect this area.

However, the Colo Committee's key concern remains the ***percentage of coal to be extracted*** under highly important pagoda and slot canyon areas and also under very high cliffs and associated very steep talus slopes that act as 'flying buttresses' to support these cliffs.

Pagodas, Genowlan Mountain

Concern regarding quality of information in the EIS

The author of this submission has been an environmental scientist for 40 years and has analysed many EIS's. This current EIS is light years ahead of the original appalling Novacoal EIS. We acknowledge the significant research undertaken to improve the knowledge of the area. However, given that Centennial in the past *verbally assured* the Colo Committee and the Colong Foundation for Wilderness that ***only 50% of coal would be mined*** under the mesas to ensure their protection, the EIS is woefully deficient in ***actually owning up to the percentage extraction*** under this area of great conservation significance. We have had to ourselves determine this percentage from comparing mine layouts for the various extraction zones. We are thus dismayed that extraction rates will be as much as **66%** under the majority of the mesas (panel and pillar zone). Such critical information should not have been *hidden* inside the EIS and breaches clarity and transparency requirements. The public has a right to know what is being proposed for this highly significant natural area. We had hoped that

Centennial would be forthcoming about percentage extraction given concerns we (and other groups) have expressed in the past on this matter, most recently in Airly Mod 3 only a few weeks ago.

A *sorry history* of impact on the Western coalfields

We also note the long and sorry history of lies about subsidence and collapse and other impacts (such as water pollution) on the Western Coalfields. Mining companies initially refused to acknowledge that longwall mining *caused* massive subsidence until it was proven to be the case by the Department of Mineral Resources. Mining companies (Centennial included) have sought to deny that full subsidence under upland swamps damages these areas (a recent report by the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development, IESC 2014, confirms such damage). Mining companies regularly downplay the impact of their activities on water quality and quantity (even though Centennial was fined over $1 million for this on Newnes Plateau). Mining companies regularly somehow 'fail to find' threatened species that amateur biologists trip over in quite obvious locations.

Regularly, environment groups are essentially called on to 'trust us' by mining companies. However, history has shown again and again that statements such as 'not predicted' or 'no impact' have ***proven to be false***. At that point the mining company essentially says 'oops - sorry' and seeks to blame it on natural erosion or unknown factors. In the interests of maximising their profits, mining companies *fail to employ the precautionary principle* at a level that properly protects high conservation areas such as this SCA. We believe the same process still continues in this EIS. It *looks* very comprehensive and professional (especially if one doesn't know the area and its history well). It seeks to use the strategy of most recent EISs, which is to drown the reader with masses of information in the hope that they give up and accept the proponent knows what they are talking about. However, the EIS seeks to ***hide the fact that too much coal is being extracted to ensure that significant damage does not occur to an area of national and international significance.***

Key points

1) **Subsidence**

The key failing of this proposal is its attempt to mislead the reader as to the percentage of coal to be extracted under this 'jewel in the crown' of the Capertee valley. The EIS deliberately avoids stating anywhere the percentage coal extraction under the various mining zones – **because it is too high for the safety of the SCA**. One can spend time and infer what percentage extraction will take place by consulting the mine plan layouts and looking at void and pillar widths (as we have done). This tells us:

- **Panel and pillar area** – most of mesas including pagodas, the Grotto and slot canyons such as Valley of the Kings and heathland Endangered Ecological Community – 61 metre void and 29.5 metre chain pillars so essentially ***66% of coal is being extracted***.

- **Cliff zone** – first workings only, so around **30% extraction,** but this is planned to happen even under the very high cliffs (over 100 metres) of Genowlan Pt and Pt Hatteras
- **Partial Pillar extraction zones** – depends on the depth as to how much they take off the pillar, but looks like it will range from **50-60% extraction.** From the diagrams in the EIS this is the hardest to estimate percentage extraction. This is set to happen under the steep talus slopes that act as flying buttresses to hold up the cliffs.
- **Shallow zone** – first workings so around **30% extraction.**
- **New Hartley mine zone -** panel and pillar mining so 66% coal extraction under an area that already has had subsidence.

There are **key issues** involved here, being:

1) The largest area of mining is **Panel and Pillar mining zone**, where two thirds of coal is proposed to be mined and voids are proposed to be 61 metres. This is ***wider than three cricket pitches end to end***. The commitment of only mining half the coal - given verbally by Centennial to the Colo Committee and the Colong Foundation for Wilderness when Mugii Murum-ban SCA was created has been ***abandoned***. The price of coal has dropped and Centennial is now seeking to *maximise coal extraction* under slot canyons and superb pagodas and many overhangs (e.g. Valley of the Kings on Genowlan Mountain). Centennial considered in the EIS reducing this to 50 metres wide – which had less subsidence, but settled on 61 metre wide voids *purely to maximise coal extraction*. It describes this as 'optimum' but in fact the table on p. 228 clearly shows that a 50 metre void is more optimum in having less subsidence and substantially less tilt. 66% extraction would not be considered acceptable under a water storage or under a cathedral. These mesas are 'natural cathedrals, so 66% extraction is not acceptable here either. The EIS goes to great effort to seek to downplay subsidence impacts from these 61 metre voids. However, the geodiversity of Mugii Murum-ban needs to be protected for *thousands of years*, not just the life of this mine. With two thirds extraction, a major earth tremor or mini-quake in the future could well cause major subsidence and cliff collapse. By seeking to maximise coal extraction, *Centennial has abandoned the precautionary principle* and is increasing the risk of damage to the SCA. Void widths **should be only 40 metres wide with 40 metre pillars**. P. 228 of the EIS does not consider the reduced subsidence for a 40 metre wide void but does show that a 50 metre void has less subsidence (and a lot less tilt) than the 61 metre void proposed.
2) **Cliff line zone** – where it seems 30% of coal will be extracted (p. 224) in first workings. However, the EIS notes that cliffs on the mesas can be up to **120-150 metres high**. Genowlan Point and Point Hatteras are key examples of such superb cliffs. The EIS notes (e.g. p. 245) that up to ***5% of cliff lines could be damaged*** by subsidence. It seeks to suggest that this would just be 'isolated rock falls', but this is just wishful thinking. 5% damage to these high superb cliffs is unacceptable in a SCA. It is simply ***not acceptable to mine any coal under cliffs over 50 metres in height***. If this occurs under the tip of Genowlan Point (where there is faulting and jointing) then there is a very good chance that the only known population of *Pultenaea sp. Genowlan Point*, a critically endangered species rarer than the Wollemi Pine will be destroyed as this area collapses.
3) **Partial pillar extraction zone** – which is under the very steep talus slopes that effectively act as flying buttresses to hold up the high cliffs. The EIS is even harder to comprehend in terms of percentage extraction (going on the mine layouts) and there

are two variants – ‘single sided lifts’ and ‘double sided lifts’. However it seems extraction here will be around 50% for the former and 60% for the latter. Under steep talus slopes supporting high cliffs, we feel **these areas should be first workings only** – with 30% extraction. The precautionary principle tells us that this is appropriate to ensure the long term integrity of talus slopes and the cliffs they support. The maps provided in the EIS are inaccurate but the key historic ruins seem to lie above this zone (possibly the shallow zone). These ruins are of such significance that there should only be first workings (30% extraction) under all the ruins in whatever zone they are located.

High cliffs, Genowlan Point

4) **New Hartley shale mine zone** – this proposes to extract two thirds of coal under an area that has already had subsidence due to past oil shale mining. As a result it predicts ***half a metre subsidence***. The EIS states there has been prior subsidence (estimated around 300 mm) and argues there will not be further damage (other than additional surface cracking, p. iii) caused by 500 mm subsidence. This is irrational and no proof is provided. The cliffs in this zone are *directly upslope* of the historic oil shale mining ruins. The EIS points out that there are cracks caused by the earlier subsidence and that a major rock fall occurred in 1911 (from that estimated 300 mm subsidence). With half a metre subsidence planned, this is likely to be more severe, with possible further cliff collapse that damages these nationally significant ruins. 66% extraction is clearly inappropriate under this area, which *should be limited to first workings* (30% coal extraction).

In considering the above, the statement on p. 250 that 'sensitive features' will not be impacted on cannot be seen as the truth. Significant risk remains of major damage to a superb natural area. Centennial staff drew the attention of a colleague of mine to pillars in the Clarence Colliery bord-and-pillar extraction area, where the fretting of pillars too place until a stable slope was reached, such that the top of the pillar (that supporting the roof) is narrower than the base. This process was happening during the life of the mine. This indicates the need for wider pillars (such as the 40 metres proposed here). This is reinforced by the report of Dr Pells (2014) on the Airly EIS that referred to the destabilising influence of flooded voids on pillar strength. He noted this was especially relevant to first workings under high cliff-lines. Dr Pells has also pointed out that Clarence mine was sited extensively as a model for what is proposed at Airly. He points (Pells, 2014) out that:

> *a paper published in 20147 on Clarence Colliery records that the predicted subsidence range is 20mm to 30mm prior to flooding, with the average maximum above 31 different panels since 2003 being 24mm. Given that the experience at Clarence Colliery is the basis for the Airly Extension mine design, it is my opinion that the panel and pillar design should target the same surface subsidence as at Clarence, namely 20mm to 30mm, and therefore warrants redesign.*

However, the EIS indicates that subsidence could be up to 65 mm, more than twice that at Clarence colliery. Hence why the void widths need to be decreased and the pillar widths widened (where only 50% of coal is mined) to reduce subsidence to a similar level as at Clarence. While Centennial regularly points to their record in minimal subsidence at Clarence, given its desire to maximise coal extraction it seems to be pushing coal extraction beyond the level at Clarence and hence creating greater subsidence and much greater risk. This is unacceptable under an area of such high conservation significance.

However, by reducing the amount of coal extracted by some 10-15% by the changes suggested above, the precautionary principle would be brought into play and the risk of major damage strongly reduced.

2) Historic ruins

The oil shale ruins on the side of Mt Airly are not just of state significance (on the State Heritage list) but actually of *national significance*, though the EIS attempts to downplay their

significance and to downplay any likely impact on them, despite the fact that pp. 366-373 show many good photos of this fascinating heritage. P. 374 shows that 9 sites have 'high contribution'. The conclusion of this section that the heritage of the oil shale ruins is only of local significance is a travesty. They are already on the state heritage list, so clearly the claim they are of only local significance is incorrect. The National Trust Register lists these ruins and notes:

> *The Airly township is a rare example of an abandoned mining town uncompromised by later development and the remains of the miners' houses are both technically interesting and evocative of the hardships endured by miners in these locations. The Torbane refinery was significant for its role in the development of retorting technologies in the early twentieth century and for its prototyping of retorts later used at Newnes.*

The EIS makes the claim that subsidence under historic sites will only be between 0 and 10 mm, however this does not conform with any of the subsidence figures for the mining zones and is clearly an error. It sounds good but is not supported elsewhere in the document. Extraction should be **limited to first workings** (30% extraction) only under this important heritage (though 50-60% extraction seems to be proposed on p. 375).

German bake-house, Mt Airly historic ruins

3) Flora

I am a plant ecologist by training and have done many flora surveys throughout the Greater Blue Mountains, and carried out the original flora survey for Gardens of Stone NP. Both myself and Jan Allen of Mt Tomah Botanic Gardens (an accomplished field botanist) have made many trips to Genowlan mountain. We co-discovered *Pultenaea sp.* 'Genowlan Point' and investigated the She-oak/ Grasstree heathland. I later nominated both the Pultenaea under both the TSC Act and EPBC Act and the heathland under the TSC Act as an EEC. I am thus

intimately familiar with the flora of the plateau-top. The EIS in regard to its flora and flora study is a major step up from EAs such as that for Coalpac (which missed 100 plants). However, the flora list in Appendix H misses 13 plants, being:

Astrotricha obovata (uncommon plant, found on tip of Gen Pt)
Billardieara procumbens (heathland)
Callitris rhomboidea (Gen Pt)
Cryptandra amara (heathland)
Dampiera purpurea
Gonocarpus longifolius (**ROTAP** 3RC)
Grevillea arenaria subsp arenaria (on basalt near Gen Pt)
Isopogon prostratus (uncommon plant but common in heathland)
Micromyrtus sessilis (limit of range, heathland)
Persoonia myrtilloides (heathland)
Pseudanthus divaricatissimus (**ROTAP** 3RC heathland and Gen Pt)
Pultenaea sp. 'Genowlan Point' (**critically endangered**!)
Xanthorrhoea johnsonii (limit of range, heathland)

It thus fails to record two ROTAP species found in the SCA – *Pseudanthus divaricatissimus* and *Gonocarpus longifolius*. It does record the presence of the Pagoda Daisy *Leucochrysum graminifolium* but fails to acknowledge that this is ROTAP listed 2R. There are thus **three other ROTAP listed rare plants in the SCA** that are not acknowledged. Indeed the species list actually fails to list the critically endangered *Pultenaea sp.* 'Genowlan Point' plus fails to list the presence of *Xanthorrhoea johnsonii* and *Micromyrtus sessilis* (heathland), both at the limit of their range. *Xanthorrhoea johnsonii* was identified for us by David Bedford of the Tasmanian Botanic Gardens (the expert on this genus). The EIS also failed to note the presence of the uncommon *Astrotricha obovata* (IDed by RBG) found on the tip of Genowlan Point. This uncommon plant should probably be listed as vulnerable, it is just that nobody has got around to nominating it. On the road to Genowlan Point on the small basalt section one walks through a grove of *Grevillea arenaria subsp. arenaria* (identified by Bob Makinson of the RBG for me) yet this obvious large patch of the 2-3 metre shrub is not listed. It is of interest that previously the mint bush found at Airly Turret and near Genowlan Point in some abundance was IDed by Barry Conn of the RBG as *Prostanthera howelliae*. It has been now been correctly identified in the EIS as *Prostanthera stricta* (***vulnerable***), though both the drawings in the Flora of NSW and the PlantNet website do not resemble the reality, which is why we originally sent a collection in to the RBG. This adds yet another unusual plant to the list found in this area that is a hotspot for both biodiversity and geodiversity.

Genowlan Point heathland EEC

Genowlan Mountain and Point are actually hot spots of botanic biodiversity (as well as geodiversity). The failure to find 13 plants, 3 of which are ROTAP listed and two of which are very uncommon **raises concern as to the *thoroughness* of the botanical survey**. The failure to find an obvious species – *Grevillea arenaria subsp. arenaria* adds to this concern.

4) Pagoda description inaccuracies

As the co-author of the only real paper on pagoda geomorphology (Washington and Wray, 2011), I would dispute what is stated on p. 37 of the EIS regarding pagodas in the SCA. There are ***both*** smooth and platy pagodas present, with good examples of both types. Mugii Murum-ban SCA is an excellent showcase of pagoda geodiversity. Pagodas are also regularly greater than 20 metres in height (the EIS states they only reach this height).

'City in the Sky' north of Genowlan Mountain trig shows both excellent smooth pagodas as well as platy pagodas.

The suggestion on p. 38 that pagodas will typically crack but that total collapse does not happen is ***not*** a rule. In fact pagodas undercut by caves or that are tilted have collapsed from subsidence in other parts of the Western coalfields. As p. 38 notes, pagodas are 'sensitive surface features', for this reason one does not remove two thirds of the coal in voids 61 metres wide underneath them. The plan to remove 50-60% of coal under talus slopes (depending on depth of cover in partial pillar extraction areas) is reprehensible. One can liken it to removing half the flying buttresses that hold up tall cathedral walls. The claim on p. 38 that 66% coal extraction will have no effect on talus slope vegetation is also questionable as major cliff collapse will have major effects on this community.

Well-developed ***platy pagodas*** (centre of picture) on Genowlan Mountain, looking towards start of Genowlan Point

5) Hydrology, water flow and water quality

The EIS is quite dismissive of the impact that mining will have on the permanent water supplies on the mesas. It suggests that all creeks are ephemeral. While this is mostly true, the Grotto *always* has water in our experience in the pool below the slot canyon. There are also seeps and springs on other parts of the mesas. P. iv states there will be no draw down on the Grotto or Genowlan creek (other than a 100 metre section). Again, while this sounds comforting, this is a hopeful prediction not an absolute fact. The absolute fact is that hydrology will not change if they do not mine. It may be true that if they extract only 50% of coal it may not affect hydrology, but if 66% of coal is mined under these areas as proposed, the likelihood of irreversible impact on permanent water sources in the SCA is much increased. The precautionary principle tells us to minimise risk, and this is highly appropriate in such a high conservation area. The EIS admits that the Airly village spring is likely to stop flowing (used by an adjacent owner via poly-pipe) but blithely asserts that there will otherwise be no impact. This claim has been made in the past however for many other mining proposals **where major change occurred to aquifers and water flow**. It is quite likely that the water flow to the Grotto will be decreased and ceases to be permanent. Other permanent water seeps (e.g. in cave at start of Genowlan Point) and pools in Genowlan Creek may also dry up. This will make it even harder for walkers to source water in the SCA. It is also likely to affect springs used by adjacent landowners. P. 42 states that there is a 'lack of water' on Genowlan Point. Having camped there many times, there ***is*** in fact seeps and drips for bushwalkers to use, just as Aboriginal people would have used them in the past (indeed one is near the boomerang art site).

p. iv states that there will be no measurable change in water quantity or quality in streams flowing to the world heritage area. It also notes however that flow to Airly creek in the WHA will increase by 14.5%. We are concerned that water quality into Airly creek will also decline. However, we remain unconvinced as to assurances of zero impact, given they have been made for every other mining proposal in the Western Coalfields, yet major changes in water quality and water pollution have resulted. For example, Centennial was fined over a million dollars by the Commonwealth for pollution of streams on Newnes plateau flowing to the World Heritage Area.

The current water management system is unsatisfactory as it mixes clean surface water with site runoff water and also combines these with mine effluent from the underground workings. This is a most unsatisfactory arrangement and contrary to any standard practice for water management for the last thirty five years. The arrangements are clearly illustrated on pages 100 and 101 of the EIS. Even the production bore water goes into the large dirty water dam, along with the water from the CPP. Centennial Coal does not explain its water management in section 3. Why are clean and dirty waters mixed with mine effluent in the largest storage on the site? Surely it is better to minimise the dirty water and the mine effluent, so that these waste waters can be first used as operational process water, as is proposed for runoff from the reject emplacement area. The REA water is proposed to go to the 109ML large storage dam.

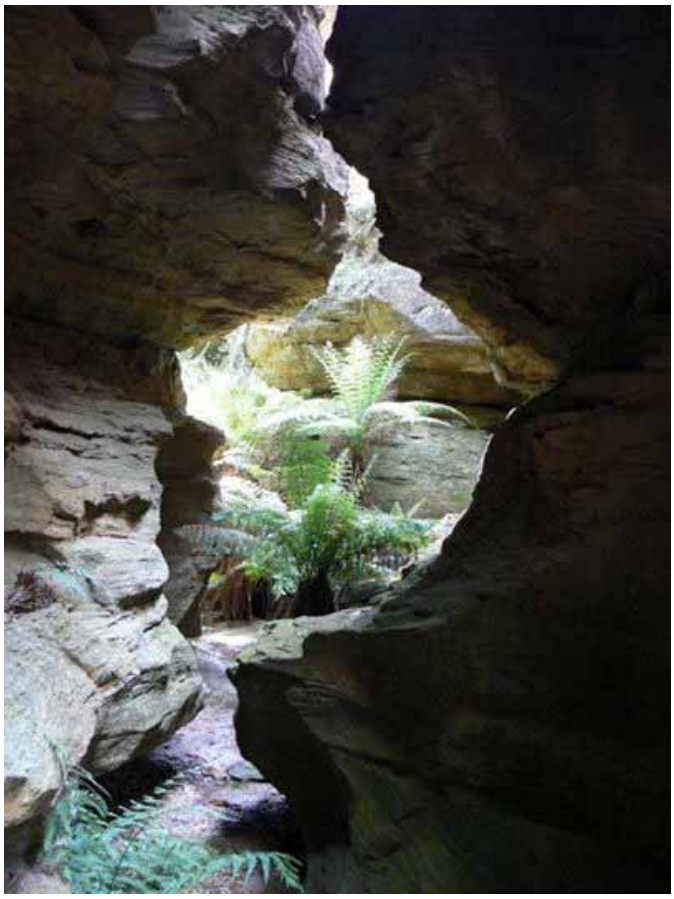
The water management plan needs to be rethought so that the dirty water is sorted SEPARATELY and used in preference for mine process water. Any overflows from these separate storages should then be diverted to the large storage dam. This would be a far better arrangement to minimise discharge of toxic water from the site, rather than risk maximising it, albeit in diluted form.

6) Failure to adequately discuss the risk of extinction to the critically endangered *Pultenaea sp.* 'Genowlan Point'

I was the co-discoverer of *Pultenaea* sp. 'Genowlan Point' (NSW 417813) and nominated it as endangered under the TSC Act and then as critically endangered under the EPBC Act. Only around 20 plants remain right on the very tip of Genowlan Point. Despite this (and the fact that the cliff below is over 120 m high), Centennial plans to extract 30% of coal under such cliffs, with some associated subsidence. Genowlan point has a fault and extensive jointing. The risk of the very end of the point collapsing is very real. Despite this, on p. 345 and 354 of the EIS it states that the proposal poses no long term risk of a decrease in the population of this EPBC listed species. This is a ***direct and blatant untruth***, as the only known population runs serious risk of being sent extinct via cliff collapse. This deception is both unprofessional and unacceptable.

7) Slot canyon misrepresentation

P. 39 states that narrow deeply incised gorges are 'quite common' throughout the Blue Mountains. This is true of gorges but quite untrue of slot canyons such as the Grotto and Valley of the kings. Slot canyons are mainly limited to the north-west edge of Wollemi NP and Gardens of Stone. The extent of slot canyons in this area is arguably of international significance (Washington and Wray 2014). The Grotto is thus not just another boring old gorge, it is a *slot canyon*, a significant landform on the national and international stage.



The Grotto – a distinctive *slot canyon* (significant on international level), not a 'common' gorge

8) Misleading greenhouse gas information

This EIS shares (with other coal EISs) a generic blindness in regard to overall greenhouse gases produced by coal mining projects – it ignores the actual burning of the coal itself! This is because it is not burnt on site. However this in effect is 'smoke and mirrors', the atmosphere and global warming does not consider such paltry distinctions. This project will produce 1.8 million tonnes of coal a year. At a carbon content of 66%, this means one tonne of coal produces 2.2 tonnes of CO_2, hence the mine will produce 4 million tonnes of CO2 a year while in production. Australia's annual emissions of CO_2 (from the March Quarterly update for 2014) are 542 million tonnes of CO_2. The Airly mine CO_2 production is thus **0.73% of total Australian emissions** – a considerable addition to global warming and climate change. This is the realistic comparison of the climate impact of the proposed mine, not the 0.002% stated on p. 432, produced by using the smoke and mirrors of the scope 1-3 methodology that ignores the burning of the coal if it is off site. The fact remains that this proposal is a significant greenhouse gas producer that will accelerate climate change, while Australia is a country that is very much at risk from climate change. To avoid runaway climate change, most of our remaining fossil fuels *need to be kept in the ground*, as noted by over 98% of climate scientists and most Academies of Sciences around the world.

Other points

Fauna

The Colo Committee has seen a breeding pair of the threatened **Peregrine Falcon** on Genowlan Point but these are not listed in the EIS.

World Heritage Area

p. 349 of the EIS downplays the impact of the proposal on the Greater Blue Mountains World Heritage Area. It fails to note however that the GBMWH Advisory Committee has identified Mugii Murum-ban SCA as an area that ***should be added*** to the WHA once mining ceases – provided that mining has not damaged the biodiversity and geodiversity of the SCA.

Missed Aboriginal art site

We question the thoroughness of the archaeological study, since if failed to identify an art site on the creek that runs up to Airly Turret from the stone cottage. This has charcoal animal drawings, which (while faint) are still visible. See below for charcoal outline of a tortoise there.

Inaccuracy re diamond mining

This was carried out on Airly Turret not Genowlan mountain. While Airly Turret is in fact on the Genowlan mesa and not the Airly mesa, nevertheless, the headwaters of Genowlan Ck separate it from the rest of Genowlan mountain, and it has a different name.

Conclusion and recommendations

This proposal is for mining under one of the most significant spots of natural heritage in NSW, an area of high biodiversity and geodiversity significance. That is why it is a State Conservation Area, that is why the Greater Blue Mountains World Heritage Area Advisory Committee would like to add the area the World Heritage Area in the future (if this mining proposal does not damage it). Let us be sure of what is at stake here – the 'jewel in the crown' of the Capertee Valley is at risk of significant degradation.

The key issue to be considered in this EIS should have been stated honestly up front – the percentage of coal to be extracted in the different mining zones. Instead, Centennial has sought to ***hide this percentage***. Why? Because if it was up front it would have to admit that it was breaking the commitment made to community groups such as the Colo Committee and the Colong Foundation for Wilderness in the past – that only 50% of coal would be mined. Instead, any reader of the EIS has to look at the mining layouts to discover that under most of this superb area 66% of coal is to be mined, leaving 61 metre voids (three times the length of a cricket pitch) below this superb area. We are expected to believe that this is *safe for all time*, not just for the 20 year life of the mine. We are asked to believe that with two thirds of the coal removed and huge voids under this special place, that a future earth tremor or small earthquake will not then bring down cliffs and pagodas and slot canyons and significantly damage the surface of the SCA. Many of us in the Colo Committee are scientists, ***we do not accept such assurances***, given the failure of similar assurances over more than three decades on the Western coalfields. This EIS proposes too great an extraction of coal in the interests of Centennial making a greater profit. The price of coal has dropped since the original promise of taking only half the coal. Accordingly, the EIS now ignores the precautionary principle and puts at risk both a critically endangered species (*Pultenaea sp.* 'Genowlan Point'), and Endangered Ecological Community, areas of internationally significant pagodas and slot canyons and high cliffs that are a *major tourist attraction* for those that visit the area. It puts the SCA itself of risk of major degradation.

Yet it doesn't have to. Centennial could return to its earlier promise to only mine half the coal under the SCA. The precautionary principle could be applied and less coal would be extracted under the area. The Colo Committee does not oppose all coal mining under the SCA, just the current escalation of coal extraction that has substantially increased the risk of subsidence and cliff collapse. Hence **our recommendations** are:

- Cliffs over 50 metres in height should have **no coal extraction under them**, even 'first workings' that remove 30% of coal. This would protect the high cliffs of Genowlan Point and the critically endangered Pultenaea and the heathland EEC, plus protect the high cliffs of Point Hatteras and Mt Airly.
- Reduce coal extraction to **50% in the pillar and panel zone** so that voids are 40 metres wide with 40 metre pillars to ensure *long term protection* of the surface of Mugii Murum-ban SCA (and its high conservation biodiversity and geodiversity)
- Reduce coal extraction on the steep **talus slopes to first workings only** – 30% extraction, not the extraction of 50-60% proposed in the EIS for the partial pillar extraction zone.

- Reduce coal extraction to **first workings (30%) in the New Hartley mine zone** to minimise further subsidence that could cause cliff collapses to damage the significant historic oil shale ruins.

These recommendations may well reduce coal extraction by 10-15% overall. However they would allow a *much safer coal project* that would not run the risk of significantly damaging this superb State Conservation Area. The Colo Committee believes that if coal mining cannot be done in a 'safe way' that ensures the long term protection of the SCA, then it should not proceed. We urge the State government to ensure that if the mine is approved it is only approved with the above safeguards to protect this 'jewel in the crown' of NSW's natural heritage. Public opinion, local opinion, and the regard of future generations of Australians requires we get it right to protect Mugii Murum-ban SCA. The current proposal fails in this by *abandoning the precautionary principle* in the interests of maximising coal extraction. However it is the responsibility of the Department of Planning to ensure under the objects of the EP&A Act that ***the precautionary principle is upheld***. The recommendations above ensure that this is the case and we urge the Department to amend the proposal accordingly.

References

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