

Airly Mine Extension Project

Application No SSD 5581

Location Glen Davis Road, Capertee

Applicant Centennial Airly Pty Limited

I am a resident of the Capertee Valley. My husband and I have cattle, olives and a busy tourist business involving historic tours of The Glen Davis Ruins and 4 cottages for holiday rentals. We have close to 800 people visiting the Ruins per year, including bus tours, Rotary club, Probus Club, photographic groups, artists, visitors interested and connected to the industrial history etc This is a Heritage site, which we are protecting, sharing, maintaining and respecting, for the present and future generations. Our cottages at Glen Davis have a high occupancy rate of short holiday lets & in peak times, demand far out ways availability.

My Submission will comprise a list of points of objection. And it should be noted, I am not against mining, I have worked in the industry. It is just the imbalance that we have reached with mining dominating all other industries, with what will be ultimately disastrous impacts.

I object to the following issues associated with this Environmental Impact Statement for the following reasons:

- **ML 1331** was approved for mining in 1993 by Eddie Obeid and Ian McDonald
- **System** - imbalanced towards Mining. Centennial had more than a year to formulate their report. The community which is remote and with poor internet access, has had 4 weeks.
- **Mugii Murum-ban** Conservation Area - The Draft Plan is still inexplicably on hold. This reservation of 3,600 hectares was created after a 30 year campaign, comprises 2 dramatic plateaus (Genowlan Mountain and Mount Airly) This scenic and biologically diverse area is a key part of the Gardens of Stone Stage 2 reserve proposal. It has been noted as being worthy of **World Heritage Classification**. The area's outstanding sandstone features - its hundreds of pagodas, deep gorges, slot canyons and tall sheer cliffs **was to** be protected for all time. It has the 'full kit' of heritage features packed into a relatively small area, and is quite unique. Notable features of the new reserve include the stone dwellings of New Hartley oil shale ruins near Airly Gap, the amazing rock formations like the 'Citadel' and the 20 metre Brown Barrel eucalypt trees down- stream of the 'Grotto'. The area contains more than 340 different plant species,

including the Federally listed and endangered Genowlan Point Dwarf Sheoak Heathland which is unique to this reserve and the only living examples of the critically endangered *Pultenaea* sp. Genowlan Point. (NSW Scientific Committee 1998, NSW TSC Act 1995) “**Genowlan Mountain** (1,688 hectares) is a masterpiece in sandstone that rises more than 500 metres from the valley floor. Home to 'Three Hundred Sisters' and a biodiversity hotspot, Genowlan Mountain has more than 340 plants and 75 mammals and birds. **Mt Airly** (2,020 hectares) contains some of the State's best preserved oil shale ruins located in a spectacular setting with dramatic valley views, and surrounded by cliffs of pagoda scenery. The ruins are a ghost town lost in time.” (Blue Mts. Conservation Society. Gardens of Stone Stage2). But despite a wealth of aesthetic, conservation and recreational values, this area is still unprotected.

- **Heritage** - the old Airly village - Airly Shale Mines and Torbane Refinery Remains have now been placed on the Industrial Heritage Register (July 2014). Centennial have admitted the spring, which is situated in this area & which has given so much to man and a renowned watering hole for animals, will cease to flow. “As a result of depressurisation of the Permian strata within the New Hartley Shale Mine potential interaction zone, there is potential for the flow at Village Spring to reduce or cease.” There is not enough convincing evidence provided in the EIS to ensure the significant values over this extraordinary site are acknowledged adequately and likely to be preserved. The mere fact that extraction rates are indicated to be above 50% in some areas & the lack of credible baseline & scientific studies for the aquifers, the subsidence rate not fixed at .125 mm (MOD 3 DA162/9) over the entire application, all indicates the lack of intent.
- **Risk** - To put at risk all of this for a mine that is known to be economically unviable - in care and maintenance twice, producing poor quality coal, is unacceptable. Illawarra Group (Charbon subgroup) being mined is claystone, siltstone, minor coal (Bryan 1966; Geoscience Australia 2009)
- **Power Station** - Mt Piper which takes some of the coal for domestic use, has been stated as running into difficulties, as a result of less demand for electricity. Coal has been promised to the Chinese owned Company - Energy Australia who own Mt Piper. “Potentially significant risk exists for future NSW energy security, especially in regards to coal supply to Mount Piper and Wallerawang power stations. Very limited options exist for sourcing replacement coal to supply these generators.” (Rod Campbell, Spectator Sept 24, 2014).
- **Subsidence** - The mine plan has changed and is limited to partial pillar extraction only, with the intention of retaining long-term stable pillars to minimise surface subsidence impact. A maximum vertical subsidence limit of 125mm; maximum strains of 2.0mm/m; and maximum

tilt of 2.5mm/m. This is now a condition of consent. This condition should be enforced over the total licence area, and not the 1.8m previously approved, as this would have disastrous effects on the landscape, ecology, biodiversity and water.

- **Extraction rates** - Centennials' extraction plan is not available for assessment in this EIS & one can interpret from facts gathered that the maximum extraction rate will not be capped at 50%. Anything over this threatens the areas under and over which it is mined, as more would result in subsidence with again unacceptable impacts. The DRE expressed uncertainty as to the long-term stability of parts of the proposed workings due to potentially poor roof conditions, low width to height ratio for some pillars and final pillar size not conforming with the requirement of current mine safety legislation (see section 5.2 for the Department's consideration of these issues). DRE states that an "Extraction Plan" for the second workings doesn't have to be available until Jan 2015. Surely this plan should have been incorporated into the EIS for assessment now and not subsequently. It is key to the project and the potential impacts.
- **Water - Groundwater** . There appears to be a considerable discrepancy in the water usage/balance with the EIS stating it is a "dry" mine (so far maybe...but not over Genowlan), where it is expected that a rate of up to 180ML will be available. There is no reasonable explanation, why after firstly receiving 158ML approval for water from their operational bore, then granted a further 120 ML (process by which this was obtained still uncertain) & recently applied for another water sharing plan. Why the need for all this water ? Andrew Marr, 2014 states, "Any change in baseflow from these upper reaches will significantly impact baseflow further downstream. Salt discharge from LDP001 can be expected to be much higher than presented in the report." Dr Pells states "It should be understood that even in areas of first workings, where there is small subsidence and there are small surface strains, there will be impacts on groundwater systems and base flows to streams". Extension of the mine into the eastern section will impact on streams other than Airly Creek. Genowlan, Gap and Emu Swamp Creeks which all flow into the Capertee River and then Colo River, a Wild River. These streams flow North and NE in the direction of the main valley floor.
- **Surface Water & Salinity** - Airly Creek is purported to be high in salt, as it is connected to the Shoalhaven. Mining on Airly, in the Illawarra Coal Measures which are also high in salt, will only add to these salt levels. On the other hand, water off Genowlan is of a much purer nature and dilutes the creeks downstream in the valley floor, the hydrogeology of which is of a

very high risk saline nature, as it also rests on the Shoalhaven, comprising of marine sediments (Hydrogeological Hawkesbury Nepean CMA , Report on River Styles May 2013) Groundwater moves slowly through the shale and sandstone bedding and this allows the groundwater to leach out the salts in the Shoalhaven. Centennial Coal Mine needs to prove that the salt levels in Airly Creek are natural & not a result of discharge from mine water. So that means comprehensive chemistry, isotope and geophysical electromagnetic surveys across and along the creek bed to determine where the surface water and groundwater systems are connected. Centennial need to prove they are not causing the salinity. UNSW Connected Waters is a programme run by Dr Ian Acworth.

- **Heavy Metals** - inadequate studies to prove whether the significant values occurring in Airly Creek are natural or as a result of mining. Ian Wright, (Fresh Water Ecologist, Oct 2014), states “that Airly Creek ranks as one of the most polluted waterways that I am aware of (from my 25 years of experience as a water scientist in the Hawkesbury-Nepean catchment). It is consistent with a waterway that is highly degraded from coalmine wastes (e.g. Banks et al., 1997; Younger, 2003; Johnson, 2003). These creeks after traversing the valley, ultimately flow through the Hawkesbury - Nepean Catchment.
- **Baseline Studies** - There are not enough baseline studies/data to this point re surface and groundwater and consequently there is no certainty that this project will not impact on the fragile & fractured environment in which it exists. “There has been no serious work conducted to indicate aquifer transmission or hydraulic gradient.”(Allan Nicholson). Larry Cooke mentioned this in his report i.e. not enough evidence to discount impacts...& not enough evidence to indicate there would not be hydraulic interference. “Long term monitoring of the bores is recommended to accurately determine the long term sustainable yield and establish a suitable pumping management program. This is considered particularly important given the existence of many low flow bores in the district and the uncertainty of the sustainability of the aquifer system” (Larry Cook & Associates Report No. 09347 A, 2009). Pell states - “that the impacts of the mine on the groundwater system cannot properly be assessed on the available information.”(Dr P. Pells, Geotechnical Engineer)
- **Rainfall** - Capertee Valley suffers very low rainfall and regular drought. Over 1000 residents of the Capertee Valley rely on surface & groundwater from bores for all activities be it agriculture, farming, tourism, living. Centennial rain data has been extrapolated from Ilford and Charbon districts, neither of which is relevant to Airly/Genowlan. Andrew Marr 2014, states “As the terrain in the region is quite variable, with high plateaus, steep escarpments and

broad valleys, it is likely that there are significant differences in annual rainfalls and intensity-frequency-duration rainfall characteristics over quite short distances depending on altitude and exposure. The modelling used is very questionable. “In summary, the results presented in the report are not adequate to present the performance of the surface water facility over the full range of rainfall sequences and stages of mine development. Also the report does not adequately present the volume and frequency of discharges for a range of different rainfall sequences, stages of mine development and the range of possible groundwater inflows into the mine.”(Andrew Marr 2014)

- **Drought** - “What has not been attempted in this EIS is modelling the proposed drawdown effects under drought conditions. If groundwater levels in the shallow alluvium drop 3.5m over a period of 8 months of low to zero rainfall(as reported), then I would expect a groundwater level drop of approximately 7.0m under the proposed mining plan during drought conditions.” (A. Broughton, Hydrologist)
- **Cumulative Impacts** - “cumulative effects are the successive, incremental and combined effects of an activity on the economy and environment. An effective assessment of cumulative effects is only as robust as the underlying analyse of impacts “ (Assessing the cumulative Effects of Mining on Groundwater and Connected systems, Chris Moran..Univ. Qld. “There is scope to improve impact assessments through careful analysis of the different ways by which impacts aggregate and interact, collation and forecasting of information on announced and future projects, and collaborative research. Governments can also play a greater role in this area through the provision of strategic assessments, and explicit links between regional and land use planning and EIS.” Centennial has not provided sufficient evidence in addressing this particular issue (Managing the cumulative impacts of coal mining on regional communities and environments in Australia, Daniel M. Franks a , David Brereton a & Chris J. Moran, University of QLD). Also the Waterlines Report 2011- Potential local & cumulative Impacts of Mining on Groundwater...etc., states”Ensure that cumulative effects of mining on groundwater are considered in the mining project approvals process at jurisdictional and Australian Government levels.” This has not been achieved. And when the National Water Commission states, 2012 (Cumulative Impacts of Mining David Dettrick) - “Particularly difficult to manage cumulative effects because contribution to causation can be difficult to attribute to any one party”how can one have any confidence that there would ever be any redress or acknowledgement of any negative impacts to the community.

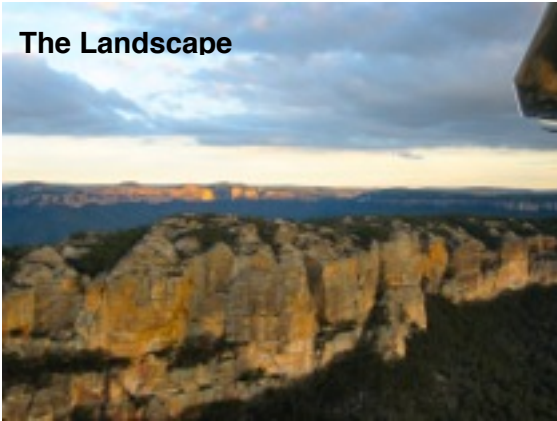
- **Compensation** - It is stated that Centennial will have to compensate land owners if their flow of water is effected. But realistically, after the event it is too late and how does one prosecute an overseas owned Company, once the mine closes and the damage is done ?
- **Extraction Rates** - There is no data on the amount of coal actually being mined (we know the limit, but who is checking on a regular basis how much is being railed out on a daily basis). Residents of Capertee village report that an average of 3 coal trains /day with up to 52 uncovered trucks, moving past houses along its route.
- **Statistics** - Capertee Valley has suffered a significant oversight in statistical information, as a result of being on the fringe of 2 Council boundaries. Therefore it has not been evident the growing population in the valley, the primary industries conducted, tourism figures and agricultural statistics. Centennial has taken advantage of this situation and ignored the impacts on , in particular, agriculture and tourism. We have many a visitor stating, that if the mine is extended it will definitely impact on their impressions of the valley and they would be less likely to return. Airly & Genowlan Mts are one of the key destinations tourists visit, a walk to the top or a visit to the ruins.
- **The eastern portal** which was approved must never be allowed to be developed, as this would have an extremely damaging impact on the valley, which extra infrastructure being necessary, including roads.
- **Environmental Impacts** will be inevitable if we continue destroying these sacred and precious sites... It is time to reflect on outcomes that will result from lack of vision, and the legacies we will leave behind. The most valuable of which is our water. Without it all the royalties in the world, will not replace it or solve the problem we will have generated and without water - we have nothing ! It is time to begin real scientific studies to understand in particular our groundwater, and the drastic impacts we have already brought about...Water or the lack thereof will cost the Economy big time !

Thankyou for the opportunity to comment

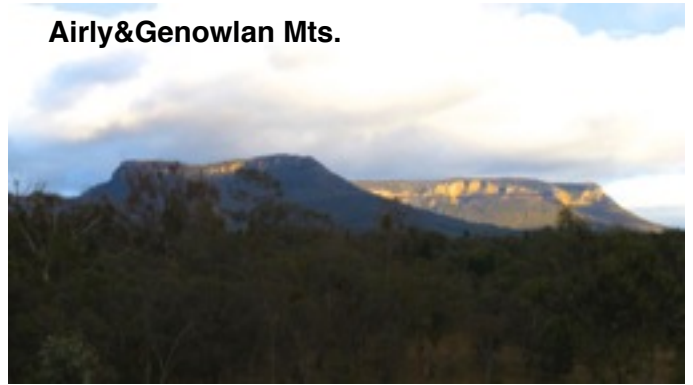
Photo - Genowlan Mt.



The Landscape



Airly&Genowlan Mts.



Airly Centennial Mine



Airly from Base...



Unique pagoda landscape



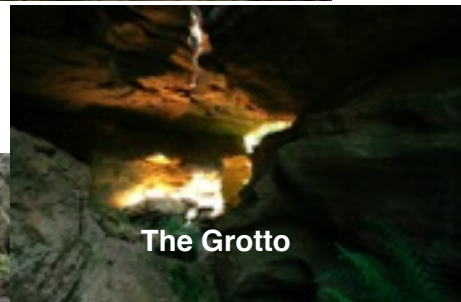
Airly Mt



Gap Creek



The Grotto



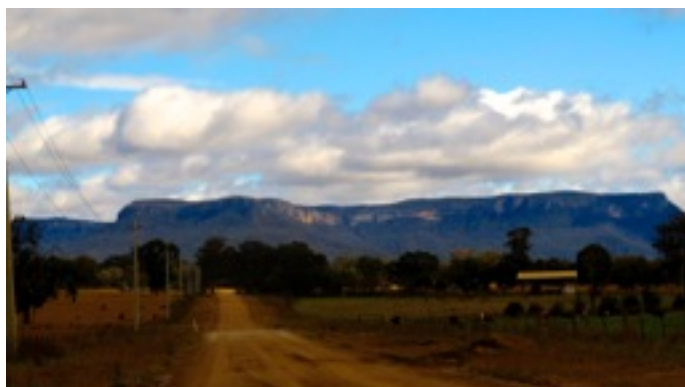
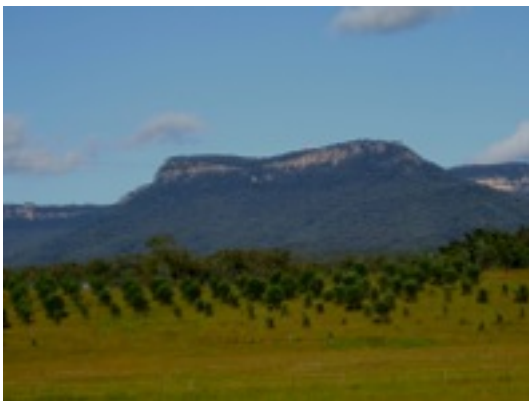
on top of Airly Mt



Genowlan-endangered heathland



Rare & threatened Pultanaea



Airly Heritage site - early Torbane Workings



yours faithfully

Mary Thirlwall

Resident of the Capertee Valley