

**Submission to the Independent Planning Commission Hearing  
Hume Coal Project  
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1. **My name is Peter Martin and I'm President of Coal Free Southern Highlands Inc.** I was also the founder (with my wife Kim) of the Southern Highlands Coal Action Group in 2010. You heard from Kim yesterday. I'm a qualified civil engineer with an MBA from Harvard Business School. I'm now semi-retired with a farm on Golden Vale Road right in the middle of POSCO's proposed mining area. We have a 30 Megalitre/year irrigation licence fed by highly productive bore servicing the property which is vital to its ongoing productivity.
2. **It won't surprise you that I strongly oppose POSCO's plans** but not just because it affects us. This is an environmentally destructive project in a beautiful and historic part of the Sydney Water Catchment. It makes no economic sense, particularly in today's carbon constrained world. In fact, the development of a coal mine in the area has been rejected by every other mining major that has held the Exploration Licence since it was gazetted in 1985.
3. **As some background, the first fifteen years of my business career were in heavy marine construction.** Starting in 1974 I was involved in building offshore oil and gas platforms and laying marine pipelines in extreme environments around the world. I started as a Field/Project Engineer and progressed to a Project Manager and Company Director. These were very challenging and innovative years in the offshore oil and gas industry. Since business school and for the past 30 years, I have been a senior executive and CEO in the finance industry. I've also been involved in the development of new technology over the years.
4. From my experience, **major construction projects can be difficult to execute even when the planning is thorough.** Back-up Contingency Plans in case things go wrong must be put in place and tested prior to the operations commencing. The exploration or test data must be thoroughly evaluated against key assumptions. New equipment must be prototyped, tested, rebuilt and tested again.
5. **Projects which have multiple risks are very vulnerable to failure...** 'Murphy's Law' is alive and well in these circumstances. In the offshore oil and gas industry, projects are often exposed to major uncertainties such as inclement weather, very deep water, variable seabed conditions, uncertain geology or the need to use of new technology. These can be really problematic. Human nature is also a problem when driving to get the project done on time and budget. I'm sure you've all heard of 'Deepwater Horizon'!

6. **Why is this relevant?** The Hume mine plan has all these elements but in a coal mine setting. You've heard how POSCO is planning to mine right under a huge body of water in the 80 to 100-metre-thick Hawkesbury sandstone layer sitting right above the mine. The geology is uncertain and highly variable. The sandstone is fractured and has volcanic intrusions creating serious obstacles to a mining operation. Hume is planning to use a combination of mining techniques that are untested, particularly in these circumstances. In a number of areas critical evidence supporting Hume's claims is not made available or is 'Commercial in Confidence'.
7. In addition to all these problems, **Hume can't access 30% of the area they plan to mine.** They now claim that they can proceed without the information which they were formerly claiming in a REF that was vital to inform the mine plan. This the result of a successful appeal in the LEC in 2017 under section 31 of the Mining Act where a group of landowners were able to stop exploration activities due to 'Significant Improvements' on their land. These landowners, including ourselves, will never allow Hume onto our properties for any future mining related activities.
8. **The project has a number of major additional constraints** primarily because of its location in a relatively closely settled rural district in the Sydney Water Catchment:
- The mine faces serious water licencing constraints in Nepean 1 district where the water is fully allocated. Approximately 2 Gigalitres of water 'take' was about the most the Hume team could access;
  - Hume needed to show that surface damage or subsidence would be minimal due to the many properties that could be affected above the mine, not to mention some potentially serious mine safety issues;
  - Hume needed to limit number of groundwater bores that would be affected by the mining as much as possible;
  - Hume has to dispose of the excess water and mine waste underground to avoid costly water processing and highly polluted waste water being discharged into local creeks and streams; and
- To work within these significant constraints, some significant 'reverse engineering' of the mine plan and water model was required!**
9. **Groundwater Modelling:**  
In 2013 SHCAG commissioned a water study based on information on 300 water and coal exploration bores on the government DIGS database. The computer analysis was peer reviewed by the UNSW Water Research Lab. We issued the report in mid 2014. The study predicted a range of water flows into the mine of 6 Gigalitres to over 20 Gigalitres a year. It also showed that hundreds of water bores would be affected over a very large area because of the unique geology of the district.
10. **Hume's Modelling Attempts:**  
Hume has made 3 attempts to table a groundwater model that could withstand scrutiny; the first was in the EIS, the second in the RTS and the third recently after the first two were found to be flawed in important respects.

Hume's consultants have now selected parameters and assumptions about impervious layers above the mine workings that you've heard experts say aren't backed up by any evidence. In fact, the assumptions fly in the face of the known geology which is supported by previous exploration results and local experience.

#### **11. An 'Unprecedented' Impact on Landowners Bores:**

Hume concedes that over 90 water bores owned by 72 landowners will be significantly drawn down during the mining operation. Some impacts will last for 50 years or more.

Our experts model predicted much greater impacts on more bores in the district but even Hume's admission is confronting.

Groundwater modelling is far from an exact science. If Hume is wrong by even a factor of 50% and the groundwater 'take' is 3 or 4 Gigalitres, let alone the 6, 10 or more Gigalitres that our experts predict, the entire mine plan falls apart. How can one rely on Hume's assessment in an area of such vital importance?

#### **12. Is 'Make-Good' Possible?**

'Make-good' is a fine sounding concept that, in practice, is difficult if not impossible to execute in this context.

- Hume faces serious legal obstacles in getting 70, 100 or more landowners to sign up to 'Make Good' arrangements before the project begins.
- The Hume proposed 'opt in' concept is an idea that doesn't have any basis in the law.
- The volume of water that would need to be supplied to landowners by Hume on a daily basis to properties all over the area for 50 years or more defies common sense.
- Hume claims they will deepen bores if required. However, if some bores are drained down to the mined-out void as our experts predict could well happen, what do they do then?
- At the Berrima Colliery this has happened. In that case bores were drilled below the mine floor, but the water flows were insignificant.
- How will the 'Make Good' be undertaken and monitored long after POSCO has gone?

Hume's management claimed to my wife and I in a meeting that they'd 'truck or pipe the water in' if drilling didn't work. However, they couldn't explain where the water would come from or how they'd get permission to build the pipelines across the district!

#### **13. Surface Water Issues are alive and well:**

As you have heard from Dr Ian Wright, there isn't a coal mine in the Sydney Basin that doesn't have a significant impact on water quality despite what the mine proponents predicted in the EIS. Why will this mine be any different particularly if Hume are wrong about the amount of water that flows into the mine by a factor of 2, 3, 4 or 5 as our experts are predicting? They'll have to pump it untreated into the local creeks and streams and we all know what that means given the Berrima

precedent. You have also heard evidence from Ian and other experts that the emplacement of coal washery rejects and surplus water into the mined-out voids also creates a potential pollution hazard for ground and surface water now and in the future.

I could go on, but my time is up!

In conclusion, the questions that you need to ask yourself about this project are quite simple.

- **Why would you, sign off on a project that is fraught with risk and uncertainty and has no demonstrable contingency planning in case things go wrong?**
- **Why would you sign off on a project that Hume contends is supported by evidence which is, in many instances, has not been made available for independent review?**
- **Why would you sign off on a project when a number of outside experts say that there are serious flaws, misrepresentations and errors in the analysis that haven't been addressed?**
- **And finally...Why would you sign off on a project which has potentially major consequences for the miners, the community and the environment if failure were to occur?**

**THANK YOU**