

## **Submission - Latrobe Valley Regional Rehabilitation Strategy Overview**

**17 January 2020**

### **Overview**

I am an agricultural advocate and farmer working for good governance and mining reform to inform good planning for our future well-being and prosperity. This includes updating policy settings to protect our potable water and sustainable agricultural areas.

I have already provided feedback for the Latrobe Valley Draft Preliminary Land Use Vision however, I neglected to question the asbestos issue, what has been currently done and why did the landuse options not include the asbestos issue if the intention is to permanently bury this hazardous waste on the Hazelwood site.

Given the States duty to protect and improve the environment, the State must do more to reverse the future hydrology complications and subsequent economic risks/impacts caused by poor regulatory frameworks, compliance and enforcement of existing and past mining legacy. Too many times poor planning decisions and poor transparency are contributing to significant negative consequences for our health, environment leading to economic, legal and social impacts.

My primary consideration is for the Hazelwood mine site and mine operators, ENGIE, due to the urgency of a plan with demolition works already commenced and the apparent decision to flood Hazelwood pit void as the only viable option.'

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The following comment on the Latrobe Valley Regional Rehabilitation Strategy consultation page and overview document is misleading and, I believe, purposed to garner social licence in favour of partial or full pit lake.

*'A reopened Inquiry into a coal fire that burned for 45 days at Hazelwood in 2014 found that using water to create 'pit lakes' in the areas where coal has been mined is likely to be the most viable way to achieve safe and stable rehabilitation of the mines.*

The scoping of the Latrobe Valley Regional Rehabilitation Strategy<sup>1</sup> (LVRRS) that came out of the Mine Fire Inquiry only considered pit lake option and did 'not extend to options outside of the pit lake rehabilitation.'

**Why aren't other options being considered as part of the LVRRS?**

The Hazelwood Mine Fire Inquiry concluded that in regard to the rehabilitation of the Latrobe Valley's three brown coal mines "the pit lakes and the partial backfill below the water table options are currently the most viable"<sup>1</sup>.

The Board of Inquiry did conclude that "there are many unresolved issues about how the lake option will be achieved"<sup>2</sup>.

The LVRRS (being prepared as part of the Victorian Government's response to the Inquiry's findings) will test the feasibility of the pit lake rehabilitation scenario.

The scope of the project does not extend to options outside of the pit lake rehabilitation option. However, as per the above answer, alternative mine rehabilitation options and proposals will be given due consideration, through already established processes and procedures.

**Are any alternative mine rehabilitation options (other than the pit lake) being considered for the Latrobe Valley's three brown coal mines?**

All mine rehabilitation proposals, either from the mine operators or third parties, proposing a pit-lake or an alternative option, will be given due consideration.

While the LVRRS is testing the feasibility of the pit lake option only, in the event that a third party proposal is deemed to have merit or warrant further investigation, the Victorian Government may assist the proponent, in furthering the proposal.

In the event that a mine operator puts forward an alternative rehabilitation proposal, this would be considered through the appropriate regulatory processes.

Source - <https://earthresources.vic.gov.au/projects/lvrrs/project-information-and-factsheets/key-questions>

I find the strategy principles to be too ambiguous and are concerned that the consultation with the community is more of a piecemeal attempt allowing the people to think they have been listened to rather than rational decision making for the right reason.

I will comment on those objective principles in a numerical order for all three parts.

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<sup>1</sup> <https://earthresources.vic.gov.au/projects/lvrrs>

## Part One: Objectives for the rehabilitation of the mines for the Latrobe Valley region

*4. Risks and impacts associated with ground instability and ground movement during rehabilitation and post closure are minimised as far as practicable, with control measures put in place.*

Part one is shrouded in ambiguity.

- If pit lake is the chosen option and significant risks become apparent, what is the get out clause for the nearby residents, the broader community and the local govt.

*6. Mine operators will need to assess alternative rehabilitation options including options that do not involve water and ones that use alternative water sources.*

- If the cost of water to the mine operator's remains as cheap as it is now then the mine operators have no pressure or incentive to genuinely look at alternative engineered options or water sources.

This is a token comment that will lead the mine operators back to the cheaper option of taxpayer subsidised water. So, the question of viability comes to the fore when the State Government have not been transparent in comparing costs for the mine operators continuing to access existing very cheap bulk water entitlements (previously only for power generation) to provide the fill for pit lake option under policy change. All the risks noted in the geotechnical report come from the so-called most viable option of filling the pits with water because it is the cheapest. But could the cheapest create more problems in the future as this Overview report has noted for land stability:

Mining induced ground movements of significance to rehabilitation include:

1. Block sliding
2. Sinkhole formation
3. Floor heave
4. Subsidence

*7. Any surface water or groundwater made available for mine rehabilitation will be the minimum volume necessary to achieve a safe, stable and sustainable landform. If water is proven to be essential for mine rehabilitation, and post-closure maintenance, mine operators will need to demonstrate how water levels are to be achieved and maintained in perpetuity, accounting for evaporative loss.*

This objective is, again, too ambiguous.

- What is a minimum volume in the context of a drier climate?
- Similarly, if water is proven to be 'essential' (could that be rephrased as less cost to mine operator), what onus is on mine operators to provide another feasible option in event the filling of rainfall

*8. The impacts on other consumptive water users, the environment, cultural and other values will be prevented, or minimised, by conditions placed on the access to water for rehabilitation purposes*

At the October 11, 2018 Latrobe Valley Mine Rehabilitation Advisory Committee meeting<sup>2</sup> the minutes noted an update from Latrobe Valley mine operator (ENGIE), James Faithful who stated,

*'Deep drilling of pilot bores is currently underway to understand where aquifer sands are and how ENGIE can access artesian water supply to fill the mine.'*

The Latrobe Group aquifer is already significantly depleted resulting in less productive domestic and bore quality from higher mineral content the deeper farmers need to drill to access groundwater.

- If other beneficial users need to drill bores deeper to access groundwater will they be compensated for the extra costs?
- In the event that water is proven to be essential for safety and stability, which user gets priority, what criteria would be used to determine this and would there be potential for compensation?
- If other beneficial users need to drill bores deeper to access groundwater will they be compensated for the extra costs?

**Objectives 7 & 8** proves that an alternate viable option needs to be considered in the event that pit lake options fails.

*9. Water quality in any potential mine pit water bodies is appropriate and can be managed over time for the intended beneficial use.*

I note the factsheet for the Hazelwood Cooling Pond<sup>3</sup> stating that *'an initial screening of the sediments within the HCP, with the results of the assessment indicating sediment quality would have limited, if any, impacts on potential beneficial uses of land or water.'*

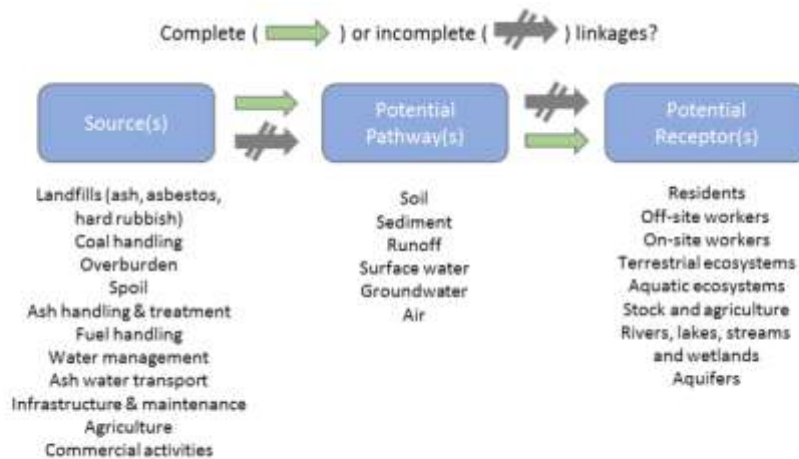
*Cooling*

*Hazelwood used the adjacent man-made Hazelwood Cooling Pond (HCP) (volume 30,000 megalitres) to circulate and cool water for reuse in the Power Station's thermal water cycle. Water for the HCP was supplemented from a number of sources including Station and Mine drainage systems and artesian water extracted to ensure Mine stability.*

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<sup>2</sup> [https://earthresources.vic.gov.au/\\_data/assets/word\\_doc/0010/456886/LVMRAC-meeting-11-minutes.docx](https://earthresources.vic.gov.au/_data/assets/word_doc/0010/456886/LVMRAC-meeting-11-minutes.docx)

<sup>3</sup> <https://www.engie.com.au/wp-content/uploads/Hazelwood-Rehabilitation-Project-Pondage-Fact-Sheet-April-2019.pdf>



**Figure 2** Source-pathway-receptor approach underpinning the preliminary site investigation in each investigation area 4

- Given HCP have received water from the station and mine drainage systems, what number of contaminants have settled in the sludge?
- Has there been a systematic testing of this sediment over the decades to prove this sludge will not contaminate other beneficial users in the event of pit lake or other?
- As the HCP has EPA declared contamination of PFAS, how will the exposed soils & dust be prevented from contaminating other sites or beneficial users?
- How are current studies of receptor sites at Hazelwood been investigated noting the sources and pathways for each?

*10. The mine voids do not pollute downstream waterways in the Latrobe River system.*

At the same October 11, 2018 Latrobe Valley Mine Rehabilitation Advisory Committee meeting<sup>5</sup> the minutes also note the potential for Gippsland Water to provide a product that could be used as fill in the mines.

**Angelo Saridis, Gippsland Water**

- *Gippsland Water is working with Monash University to investigate products that could be produced through its Soil and Organic Recycling Facility (SORF) that could be used to assist with the rehabilitation of either mines, quarries or landfills.*

This is extremely worrying for downstream users of pit lakes as the SORF site is PFAS contaminated for both soils and water with the Gipps Water facility accepting significant contaminated wastes to be composted. Some PFAS sources related to the SORF facility are abattoirs, range of effluents, ESSO Longford Gas Processing facility PFAS pollution to surrounding land and waterways contributing to dust dispersion. Equally problematic are the other waste products listed below.

<sup>4</sup> Contamination assessment of mine infrastructure areas for closure and relinquishment: Hazelwood Coal Mine, Victoria, Australia [https://papers.acg.uwa.edu.au/p/1915\\_116\\_Weaver/](https://papers.acg.uwa.edu.au/p/1915_116_Weaver/)

<sup>5</sup> [https://earthresources.vic.gov.au/\\_data/assets/word\\_doc/0010/456886/LVMRAC-meeting-11-minutes.docx](https://earthresources.vic.gov.au/_data/assets/word_doc/0010/456886/LVMRAC-meeting-11-minutes.docx)

# Soil and Organic Recycling Facility

🏠 / Commercial / General Information / Soil and Organic Recycling Facility /

The Soil and Organic Recycling Facility (SORF) treats and recycles liquid and solid prescribed waste from businesses. It is the first facility of its kind in Victoria, and reduces the amount of waste going to landfill.

The SORF gives businesses a sustainable waste management option to treat and recover prescribed and non-prescribed organic wastes and hydrocarbon contaminated soils, which can then be reused.

Wastes accepted as part of our composting process include:

- Tannery waste (K140 & D141)
- Oily waters & triple interceptors (J120)
- Industrial, car, truck & machinery wash waters (L100 & L150)
- Animal derivatives (K100)
- Grease traps (K120)
- Milk & food wastes (K200)
- Contaminated soils (N119, N120, N121)
- Drill muds
- Biosolids
- Poultry manure
- Green wastes & other organics

Other waste types accepted for disposal (not part of composting process):

- Asbestos
- Synthetic mineral fibres

**Source:** Gippsland Water website<sup>6</sup>

To highlight what each waste code above represents I have provided the following code accessed from Environment Protection (Industrial Waste Resource) Amendment Regulations 2016<sup>7</sup>

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Item</i>	<i>Section</i>	<i>Description of waste</i>	<i>Waste code</i>
4	<b>Inorganic chemicals</b>	Tannery wastes containing chromium	D141
9	<b>Oils, hydrocarbons and emulsions</b>	Waste oils and water mixtures or emulsions, and hydrocarbon and water mixtures or emulsions	J120
10	<b>Putrescible/ organic wastes</b>	Animal effluent and residues, including abattoir wastes and other wastes from animal processing	K100
		Grease interceptor trap effluent	K120
		Tannery wastes (not containing chromium) and wool scouring wastes	K140
		Food and beverage processing wastes	K200
11	<b>Industrial washwaters</b>	Car and truck washwaters	L100
		Industrial washwaters from cleaning, rinsing or washing operations not otherwise specified in this item	L150
13	<b>Solid and sludge</b>	Category A contaminated soil	N119

<sup>6</sup> <https://www.gippswater.com.au/commercial/general-information/soil-and-organic-recycling-facility>

<sup>7</sup> [http://www.ocpc.vic.gov.au/Domino/Web\\_Notes/LDMS/PubStatbook.nsf/93eb987ebadd283dca256e92000e4069/4AE20E3CD39C8135CA2580730017ACC7/\\$FILE/16-136sr.docx](http://www.ocpc.vic.gov.au/Domino/Web_Notes/LDMS/PubStatbook.nsf/93eb987ebadd283dca256e92000e4069/4AE20E3CD39C8135CA2580730017ACC7/$FILE/16-136sr.docx)

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Item</i>	<i>Section</i>	<i>Description of waste</i>	<i>Waste code</i>
	<b>wastes requiring special handling</b>	Category B contaminated soil	N120
		Category C contaminated soil	N121

If utilising a SORF product is still under investigation as potentially viable, conducting preliminary site investigations (PSI) at the Hazelwood site now and then introduce potentially toxic contaminants after the fact to add to the already negative chemical loading that comes just with organic coal is problematic.

As EPA is the lead agency for land and water pollution, identifying past soil & water contamination is contrary to potentially exposing other beneficial users in the future to a new asbestos cell in a repurposed ash pond. Presumably the overburden would be needed to cover the asbestos so what would be used instead for the base of the Hazelwood coal pit that the overburden could be better utilised for.

My other real concern is with the asbestos pits already existing on the Hazelwood mine site and the proposed burying of newly removed hazardous asbestos onsite to the repurposed ash pond. Ash ponds are classified as landfills in Victoria and under a different regulatory process - not for asbestos storage. This is particularly relevant given a previous ash spill by the Hazelwood operator in 2015 - ***EPA investigating after Hazelwood Power Station operator 'took two days' to report ash spill.***<sup>8</sup> Asbestos is a hazardous material, yet nowhere was it mentioned in the Draft Preliminary Land Use Vision for the Latrobe Valley Regional Rehabilitation Strategy.

At the ENGIE Hazelwood community information session on the Rehabilitation Closure Plan (RCP) 10 December 2019, I asked ENGIE engineer, James Faithfull, what was to be done with the asbestos. I was shown their planned overview of the site whilst he explained what was to be done with the hazardous asbestos waste.

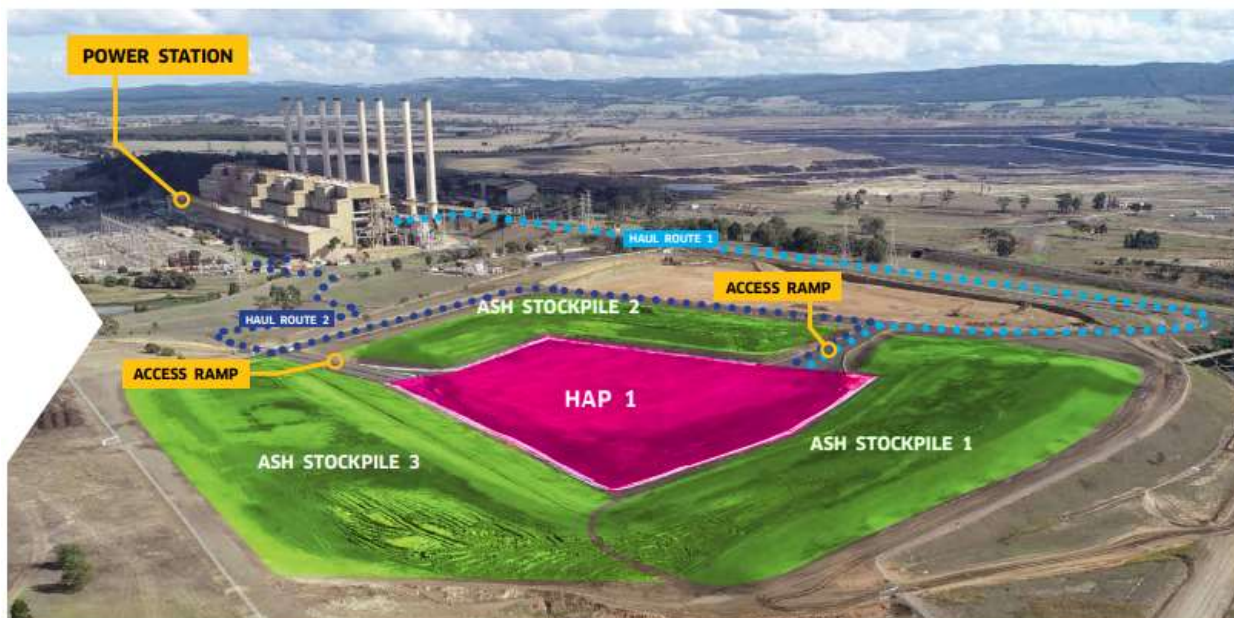
I note his reply in dot form –

- **Will** be buried on site in the ash pond
- There is already 4 other sites where asbestos is buried
- ENGIE **will** develop plan to bury the asbestos
- EPA **will** audit and independently review the plan
- ENGIE staff **will** enact the plan as agreed by EPA.

Whilst ENGIE has a Demolition Timeline Brochure<sup>9</sup> of the Hazelwood site that was published in June 2019 it notes the schedule and sequence of works which either has or has yet to occur.

<sup>8</sup> <https://www.abc.net.au/news/2015-10-15/epa-investigates-ash-spill-at-hazelwood-power-station/6858546>

<sup>9</sup> <https://www.desa.com.au/wp-content/uploads/Demolition-Brochure-2019-Short-Version-Spreads.pdf>



Source: <https://www.engie.com.au/wp-content/uploads/Hazelwood-ENGIE-Asbestos-Info-Graphic-22311.pdf>

The ENGIE webpage of news and event for the Hazelwood demolition and asbestos disposal is also informative with graphics and a video.<sup>10</sup> However, it is not clear how much has already been removed and/or buried.

### **My questions related to pollution downstream and existing PFAS contamination**

- How will heavy metals & salts in organic coal be prevented from leaching into groundwater?
- If mine water has the potential to pollute downstream is that from organic coal or other contaminated soils from the whole mine area – asbestos/oils/coal ash?
- In consideration of EPA identified PFAS contamination in the Hazelwood Pondage – how did it get there and what does that mean for ongoing water quality in the event of pit lake.<sup>11</sup>

*In a statement, ENGIE said concentrations found in the station and cooling pond were below human health guidance values and there was no risk to the community from "normal activities" around the station or pond.<sup>12</sup>*

### **My questions related to asbestos -**

- What are the current soil contamination levels in the existing 4 asbestos pits and are they publically accessible?
- How much asbestos has already been removed and/or buried?
- Has the burying of asbestos been considered a risk in the event of complications (eg. land movement/flooding) from partial or full pit lakes?

<sup>10</sup> <https://www.engie.com.au/home/what-we-do/our-assets/hazelwood-rehabilitation/latest-news-events/>

<sup>11</sup> <https://watersource.awa.asn.au/community/public-health/planned-water-discharge-from-rehabilitated-mine-pit-raises-concerns/>

<sup>12</sup> <https://www.latrobevalleyexpress.com.au/story/5481156/pfas-concerns-rejected/>



- How has the onsite asbestos cell been considered in future land use plans or where has it been publically acknowledged in a future land use design?
- Will this mean this site is only suitable for industrial use?

*11. Risks to infrastructure and valued assets are minimised through a range of measures. These include appropriate separation distances, having regard to the final rehabilitation and closure plan and the associated potential for land movement, fire and flood, and environmental and amenity protections.*

- How can a separation distance to prevent/minimise risks to existing nearby houses on Wallis St Morwell, the Princes Freeway and other valued assets when the Hazelwood pit void sits on the doorstep of the township? This objective cannot be appropriate for the Hazelwood mine void.
- What policy will the government put in place to provide some form of insurance to home owners and business operators or compensation to those impacted from effects of pit lake flooding with ground movement or the like?

*12. Any future potential mining activities will be appropriately distanced from rehabilitated mines to ensure the safety and stability of the old and new mines*

Clearly someone in government need to stand up for common-sense! State government and mine operators are struggling to come to a consensus on what to do with mine rehabilitation, the real cost is unknown with some areas of Latrobe Valley subjected to significant geotechnical movement. This objective is illogical.

## **Part Two: The role of Government in achieving those objectives**

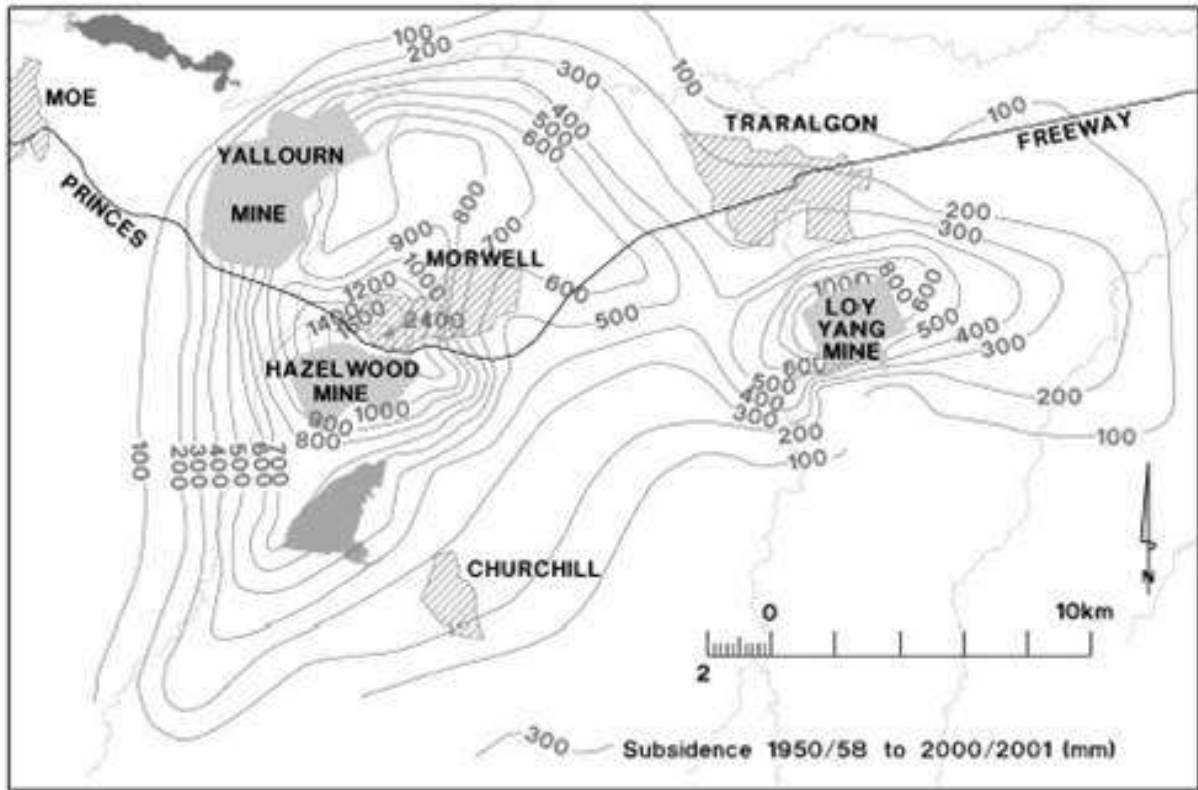
The mine operators have to adhere to all relevant regulatory and legislative requirements. The Earth Resources department (under various past acronyms) have significantly failed this community in the past through poor regulatory oversight, including compliance and enforcement. Our major batter failures should never have happened if the buffer distances to significant infrastructure were considered and applied. With the value of hindsight and the many mining warden's report I am not assured this department under a new authority can manage these complex unstable voids. We do not need another Morwell River diversion collapse that occurred in the Yallourn open cut due to the approval granted on the least cost to the company and the least safe route in consideration of a major flood zone beside a significant waterway (Latrobe River).

The mine operators consult with the government so the regulators cannot act benignly. You need to be proactive and with clearly prescribed conditions.

Likewise, policy setting is to be made on water as the bulk water entitlement was made for the generation of electricity. In setting new policy directions government have a responsibility that in doing so policy settings does not hand over fully subsidised water as a cheap option to the private owners.

3. *Guidance on community engagement required to support the rehabilitation and closure process.*

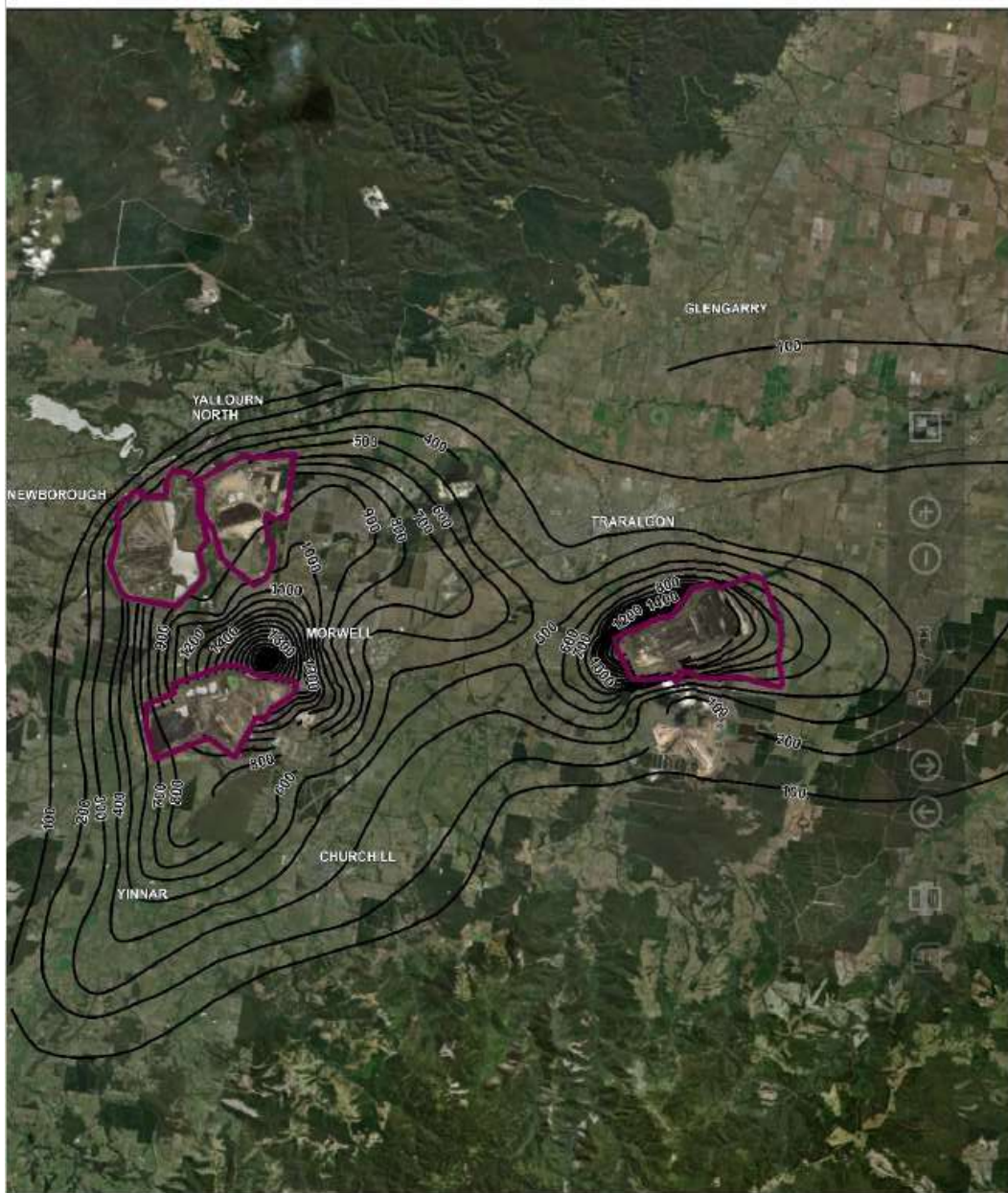
I find that this ongoing process is not as transparent as the community would like or should be made aware of. This is particularly relevant for those closest to the mine which potentially could be exposed to the greatest risks. This 2000/2001 contour graphic of subsidence impacts to the Latrobe Valley region is clear and easily read.



**Figure 1: Regional Subsidence Contours**

**Source:** The Potential for Artificial Recharge of the Tertiary Aquifers of Latrobe Valley Depression, Victoria, Australia 2001

However the following 2015 graphic from the Latrobe Valley Regional Rehabilitation Strategy -Regional Geotechnical Study Synopsis Report is basically unreadable until a 200% zoom in. Was the choice of text colour and outline deliberate to undermine the severity of subsidence?



**Legend**  
 — Subsidence 2015 (mm); GHD 2016  
 ■ 70 crest  
 GHD 2016; Regional Groundwater Management committee, Latrobe Valley Groundwater and land level Monitoring, Five years Review, Figure 24

0 2.5 5  
 Kilometres

N

5. A biophysical feasibility statement on regional ground movement considerations for rehabilitation design and implementation and filling the voids with water, partly or fully, as a rehabilitation option.

- Would the statement come with a declaration that no person shall be worst off economically, legally and socially if the noted geotechnical risks do eventuate with significant impacts?
- Who would be the responsible authority to protect the people?

*6. An action plan for the monitoring and management of regional land-level subsidence and rebound.*

- Would the action plan include compensation for structural damage?

*7. A high-level assessment of potential water sources and access arrangements for mine operators to undertake rehabilitation, if water is demonstrated to be essential for mine rehabilitation.*

*8. An assessment of future water availability scenarios and expected minimum environmental flow requirements in the Latrobe River system and its estuaries.*

See Part One

*9. A summary of the potential future land-use constraints, based on the Strategy's technical studies along with identified timelines for potential Planning Scheme responses.*

See existing onsite PFAS/asbestos contamination

*11. A process to enable public access to the Government funded technical information underpinning the preparation of the strategy.*

Definitely needed but should have already been in place. No good if Hazelwood are already preparing for pit lake now and the public do not have full access to technical reports.

### **Part Three: The role of mine operators in achieving those objectives.**

*2. Demonstrate that their final rehabilitation design, as submitted to Government, is based on a broad options analysis, including non-waterbased stability options, and that future stability controls are appropriate to the residual risks.*

See Part One # 6 objective

*4. Provide evidence that demonstrates that water is essential to achieve rehabilitation objectives, considering all reasonable alternatives, as well as the efficient use and management of water resources including the water level in the mine void to achieve stability.*

See Part One # 7 & 8 objectives

*5. Identify the pathway to access any water required for rehabilitation, consistent with Water Act 1989 and Water Entitlement Framework, and how water levels will be maintained over the near and long term.*

Cost should also be transparent here with minister directed bulk water entitlements, where water will be sourced and/or will be accessed from (groundwater, surface waters, other).