



BOGGABRI COAL MINE Rejection of Modification 8

1. Introduction

The Leard Forest Research Node (LFRN) is a citizen science group based in Maules Creek which has been conducting environmental monitoring of coal mines in the Leard Forest and Pilliga East Forest since 2015.

We object to Boggabri Coal Modification 8. Herewith we submit our grounds for objection. The Modification proposes to add 6 years to the life of the mine and an additional 61.8 Million Tonnes per Annum of coal to be mined.

Overall, we submit there is no justification at this point in time or ever again into the future to extend the life of coal mines whether it is Boggabri mine or any other coal mine, due to overwhelming evidence of the catastrophic contribution that coal mining is making to climate change. By this we also include Scope 2 and Scope 3 emissions associated with the burning of coal.

Closer to home, some of the proponent's own modelling attempting to support Modification 8 makes it clear that groundwater and greenhouse gas impacts will be extreme, particularly in the 2030's when the mine deepens.

The proportional impacts of the Mod 8 proposal to groundwater and greenhouse gas emissions are unexpectedly high for a 6 year additional period of mining. It does not seem to be explained.

The Modification reports indicate that the Mod 8 proposal suggests groundwater and greenhouse gas impacts of the additional 6 years are far out of proportion compared to the existing life of the mine.

We also submit that the groundwater impacts are inadequately considered, as there are too many unknowns in 2021 and the data inadequately verified to ensure that modelling to the year 2039 is reliable.

We cite the example of Whitehaven's Maules Creek mine having to enter into deals with Boggabri Coal, build new pipelines, operate a water trucking operation from Brighton farm, acquire new licences, purchase new farms, all because they were running out of water and did not foresee the drought 2017-2019.

Further to this, we remind the Department of Planning that Boggabri Coal itself had to apply for Mod 5 in 2015, because they themselves had not properly assessed their own water supply needs.

In other words, for the two biggest coal mines in the area, the water management plans failed within a few short years.

We also object to Mod 8 being treated as merely a Modification, to be assessed internally by the Resource Assessments Branch of the Department of Planning, Industry and Environment, without a full Environmental Impact Assessment.

By comparison in 2020, the Narrabri Coal mine lodged its Stage 3 assessment process for the expansion of the mine which is treated as an extension rather than a mere modification.

We consider it unacceptable that Idemitsu Resources has lodged this audacious attempt to substantially enlarge the mine and lengthen its life span in circumstances where all three of its water-related management plans are outdated and overdue for revision. This includes the Water Management Plan, the Groundwater Management Plan and the Surface Water Management Plan.

2. Greenhouse gas emissions

Modification 8, if approved, would contribute 152 Mt CO₂-emissions with Global Warming Potential. When taken together with Boggabri mine as approved, this appears to result in 344.7 Mt CO₂-e.

Idemitsu claims in its Mod 8 that it will "continue to minimise" its direct GHG emissions but there does not appear to be any evidence of this in the modelling. Firstly, the term "continue to minimise" appears to be a reference to the chart below which references Boggabri Coal's Scope 1 and Scope 2 emissions over the period 2015-2020. However, the table

This project should be rejected on Scope 1 emissions grounds alone. How can Boggabri Coal Mod 8 be approved for Scope 1 CO₂-e will go up by 300% when the ROM coal is only rising by 10% in the years 2022-2024. It is unjustifiable.

The sources we draw upon to substantiate this view include:

The Australian Academy of Science

Published its report [“The Risks to Australia of a 3 Degree Warmer World”](#), March 2021, which it states, “The Australian Academy of Science is calling on the Australian Government to accelerate Australia’s transition to net zero greenhouse gas (GHG) emissions over the next 10 to 20 years and stating that “The only way to reduce the risk of these unpredictable and dangerous outcomes is for a substantial reduction in the emissions of greenhouse gases into the atmosphere”.

Any decision of the NSW Government to permit an expansion of a coal mine to eight years beyond this time frame is reckless in the extreme.

United Nations Chief calls for global action to phase out coal

On 2 March 2021, the UN Secretary-General António Guterres urged all governments, private companies and local authorities to “end the deadly addiction to coal” by “cancelling all global coal projects in the pipeline including global coal use in electricity generation must fall by 80% below 2010 levels by 2030”.

This call should not be ignored by Australia and Japan, the two nation protagonists concerned in Boggabri Coal Modification 8.

The statements were made at the Powering Past Coal Global Summit 2021. The Powering Past Coal Alliance includes many countries, but regrettably not Australia or Japan to their shame.

Full message from the UN Secretary-General [here](#).

Furthermore, the UN Assistant Secretary-General and Special Adviser to the Secretary-General on Climate Change has told a leadership forum at the Australian National University, reported in *The Guardian*, 6 September 2021 by Nick O’Malley:

“Market forces alone show coal’s days are numbered, as many investors increasingly abandon it in favour of renewables, which are now cheaper in most places.”

“We fully understand the role that coal and other fossil fuels have played in Australia’s economy, even if mining accounts for a small fraction - around 2 per cent - of overall jobs.”

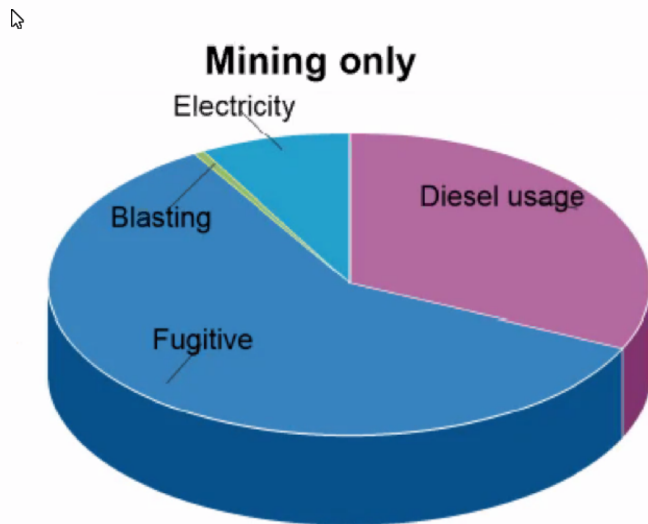
Here is some relevant data which illustrates clearly that Boggabri Mod 8 is a carbon bomb.

Table 1. Summary of data supplied in Mod 8 Appendix G

Table shows that carbon emissions are not going to be manageable.

Pie Chart shows Scope 1 emissions, which represents all onsite carbon emissions. With a pathetic strip ratio, as evidenced in the column graph, the cost of diesel usage is attributable to the cost of moving overburden rock around the site.

Boggabri Coal	2015/16	2016/17	2017/18	2018/19	2019/20		2022	2023	2024
Scope 1 (tCO ₂ -e)	190,606	183,750	177,065	203,082	174,391		740,000	810,000	800,000
Scope 1 diesel	185,251	185,251	171,378	197,209	169,508				
Scope 1 fugitive	5,355	5,355	5,573	5,869	4,879				
Scope 2 (tCO ₂ -e)	19,585	19,190	17,991	18,647	16,865		70,000	60,000	60,000
Total (Scope 1 and 2)	210,191	202,940	195,056	221,729	191,256		810,000	870,000	860,000
ROM coal production	7,800,000	8,000,000	7,900,000	7,400,000	7,500,000		8,600,000	8,900,000	8,000,000
Emissions intensity per t ROM coal	0.027	0.025	0.025	0.030	0.026		0.094	0.098	0.108



Source: Figure 33, AQ & GHG Assessment, pg 58:

https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=MP09_0182-MOD-8%2120210722T053500.297%20GMT

Table 2. Scope 3 emissions

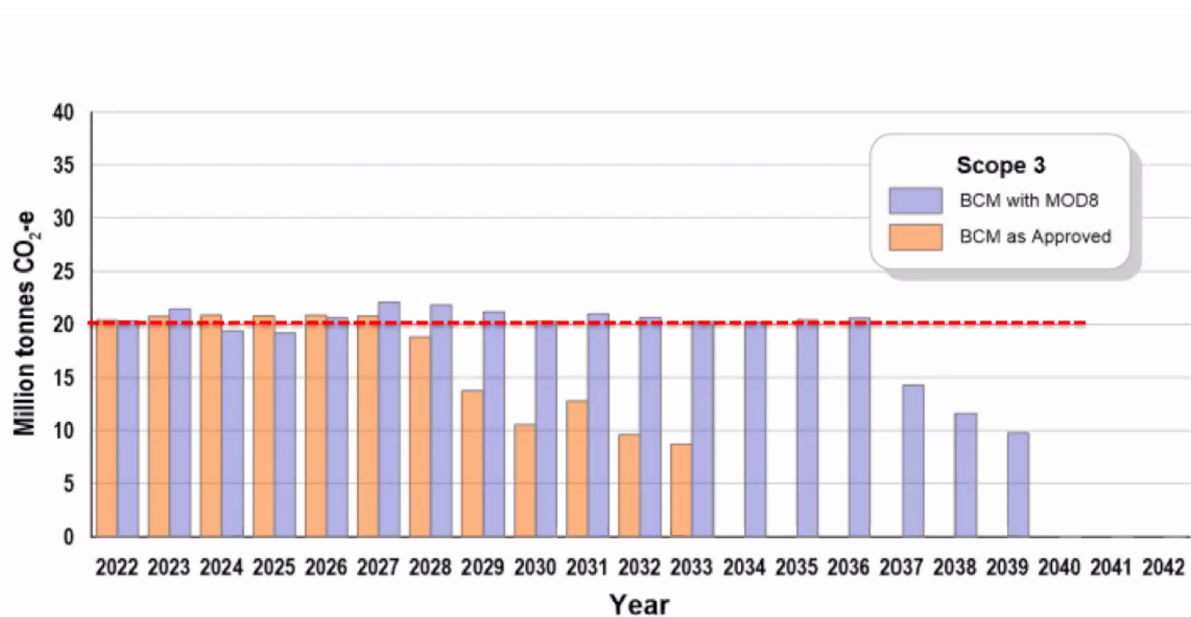


Figure from Boggabri's Mod 8 shows Scope

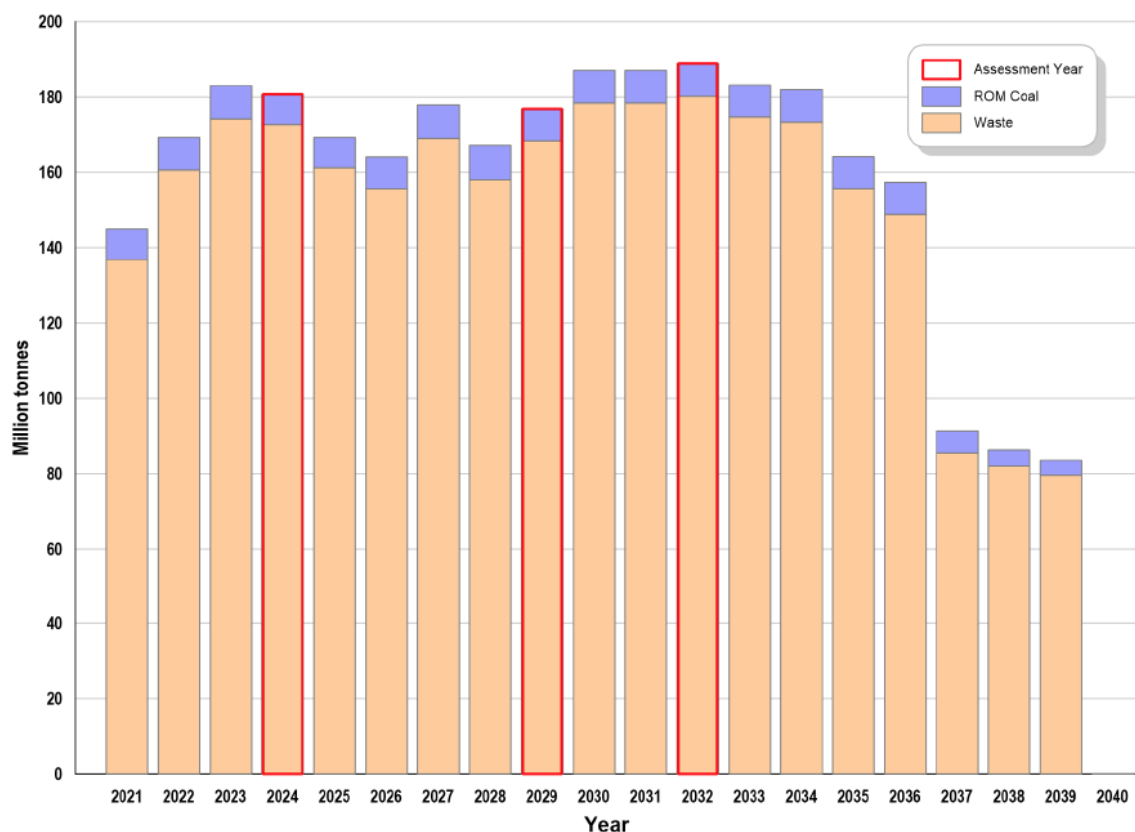
3. Strip ratio

In Appendix G, the Mod 8 Greenhouse Gas Assessment Report includes a column graph showing the strip ratio from 2031 to 2039. The orange colour represents “waste”, by which is meant overburden rock which is needed to remove to get access to the coal seams. This represents an enormous amount of vehicle movements, all creating diesel emissions. This is a problem not only for GHG emissions but also particulate pollution which at times is already visibly severe (from our observations and photographic records).

Mod 8 poses huge risks with very little visible return.

It is hard to conceive that such a poor strip ratio has been submitted for consideration by the Department. This should be taken into account when the Department assesses the economic viability of Mod 8. Under economic viability we request that the Department has consideration for the cost of rehabilitation and safe closure of the mine and maintenance of the pit seepage into the future.

Below: Figure 13, Appendix G, Greenhouse Gas Assessment Report



4. Groundwater objections

4.1 Groundwater modelling an extreme concern

We preface our comments with the historical observation that Boggabri Coal completely revised its water strategy in 2015, only one year after the Boggabri Coal Extension began in 2014, with its Modification 5 which called for a new borefield. This substantial revision of the mine's operations so soon after approval provided no confidence in the ability of the mine to accurately predict its water needs.

The groundwater assessment identifies that Modification 8 will cause more than 2m drawdown, up to a maximum of 5m in Zone 4 of the Namoi alluvium, a groundwater source which not only extends to the town of Boggabri but also is relied on by primary industry.

The assessment shows a significant escalation in the volume of annual take from Zone 4 of the alluvium as a result of this modification – in most years over 80ML per year and in some over 100ML. This impact extends to the Namoi River itself, with a predicted 2ML per year loss of baseflow. The assessment excuses this as a small volume in years and periods when the river is in flow. The Mod 8 trivialises the water loss.

The general reliability that is available concerning site-specific impacts and cumulative impacts with the other mines in the BTM Precinct (ie the Leard Forest Precinct) is not such as to encourage confidence in the groundwater modelling.

As noted above, all three water-related management plans for the Boggabri Mine are requiring revision.

Furthermore, the [Boggabri Coal Annual Review 2020](#) also concluded that there had been a breach of Schedule 5, Condition 5 of the Boggabri Coal approval SSD 09_0182, in that they, “do not have a suitable way to track and manage the required revisions of management plans, strategies and programs required to successfully comply with this condition”.

4.2 Groundwater interception

The largest percentage of water source in the highest year of maximum take (as shown in table below) is from the Gunnedah Oxley basin (the Porous Rock Groundwater Source). Not enough is known about the interconnections between the Alluviums, 4,5 and 11 and the Gunnedah Oxley basin, and there are multiple users who are helping themselves (or in the case of Santos Gas, planning to) with little to no understanding of the importance of the Porous Rock aquifer in maintaining pressure and the interrelationship with the alluvium. The table below shows the maximum annual takes for the Zones 4,5 11 and Porous Rock.

It is further astonishing that it is even contemplated to take more water from Zone 11, after all of the troubles experienced since 2018, Zone 11 bores dropping, recent Water Sharing Plan changes to tighten up the triggers for cease to pump orders in Zone 11, and an ongoing investigation by the Natural Resource Access Regulator

(NRAR) into the possible wrongful harvesting of groundwater which resulted in massive groundwater drawdown in many farms in Zone 11.

When we refer to the below figures we can see Zone 11 has the lowest take, but the largest increase on the existing take and will probably suffer the most damage because the existing entitlement is already so low. How can Boggabri Coal envisage increasing take from Zone 11 by such an extravagant degree.

Zone 11 is already in a critical state. The Department should not allow any project to take any more from Zone 11.

For Zones 4 and 11 of the Upper and Lower Namoi Groundwater Sources, the Modification refers to groundwater interception taking place at its maximum predicted as per the Table below.

MOD8 Groundwater Interception

Table 8.1 Maximum predicted takes for MOD 8 vs existing entitlements

Water sharing plan	Water Source	Year of maximum take	Maximum predicted annual take (ML)	Existing annual entitlement (ML)
NSW Murray Darling Basin Porous Rock Groundwater Sources	Gunnedah-Oxley Basin porous rock	2027	608	842
Upper and Lower Namoi Groundwater Sources	Zone 4 alluvium	2036	109	1,028
Upper and Lower Namoi Groundwater Sources	Zone 11 alluvium	2036	13	20
Upper and Lower Namoi Groundwater Sources	Zone 5 alluvium	n/a	0	0

The Mod 8 predictions over the proposed Mod 8 lifetime are extremely revealing (see below).

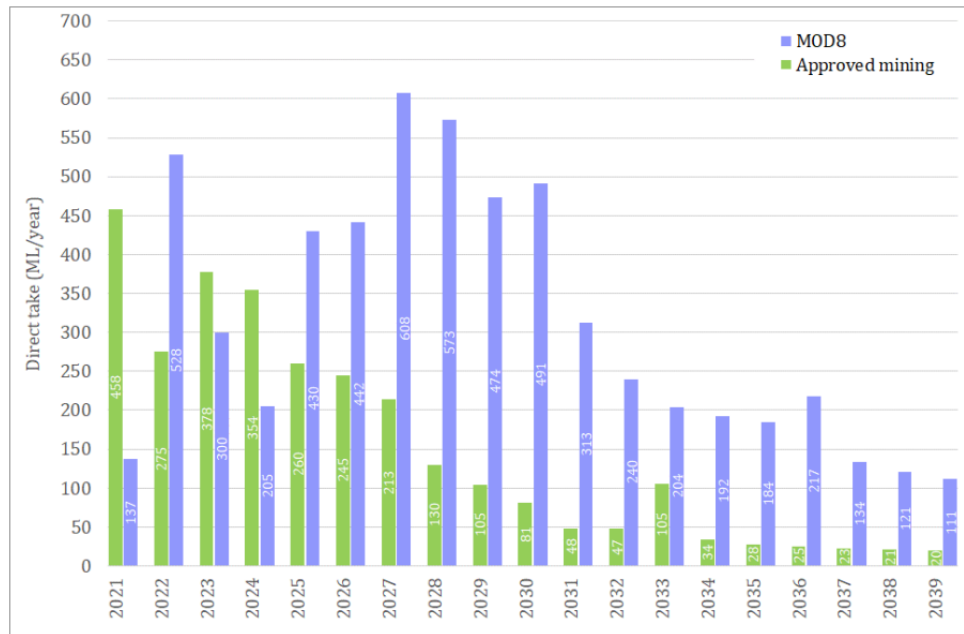


Figure 8.11 Porous rock take – approved mining vs MOD 8

63 Australasian Groundwater and Environmental Consultants Pty Ltd
G1850W - Groundwater Impact Assessment – Boggabri Coal Mine MOD 8 to SSD 09_0182
v07.03

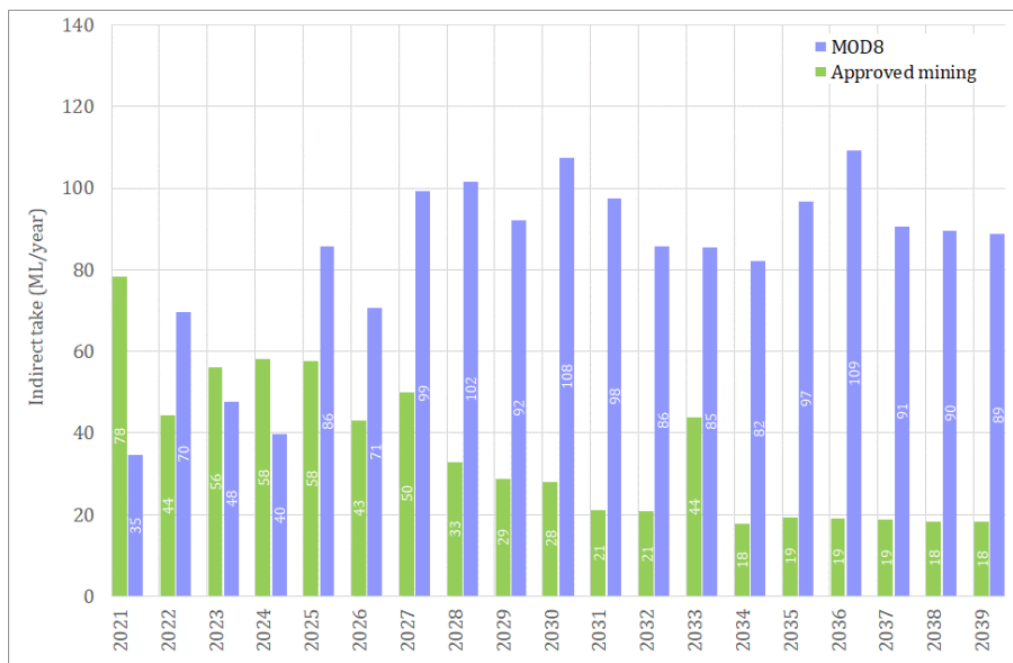


Figure 8.12 Indirect take from zone 4 alluvium – approved mining vs MOD 8

64 Australasian Groundwater and Environmental Consultants Pty Ltd
G1850W - Groundwater Impact Assessment – Boggabri Coal Mine MOD 8 to SSD 09_0182
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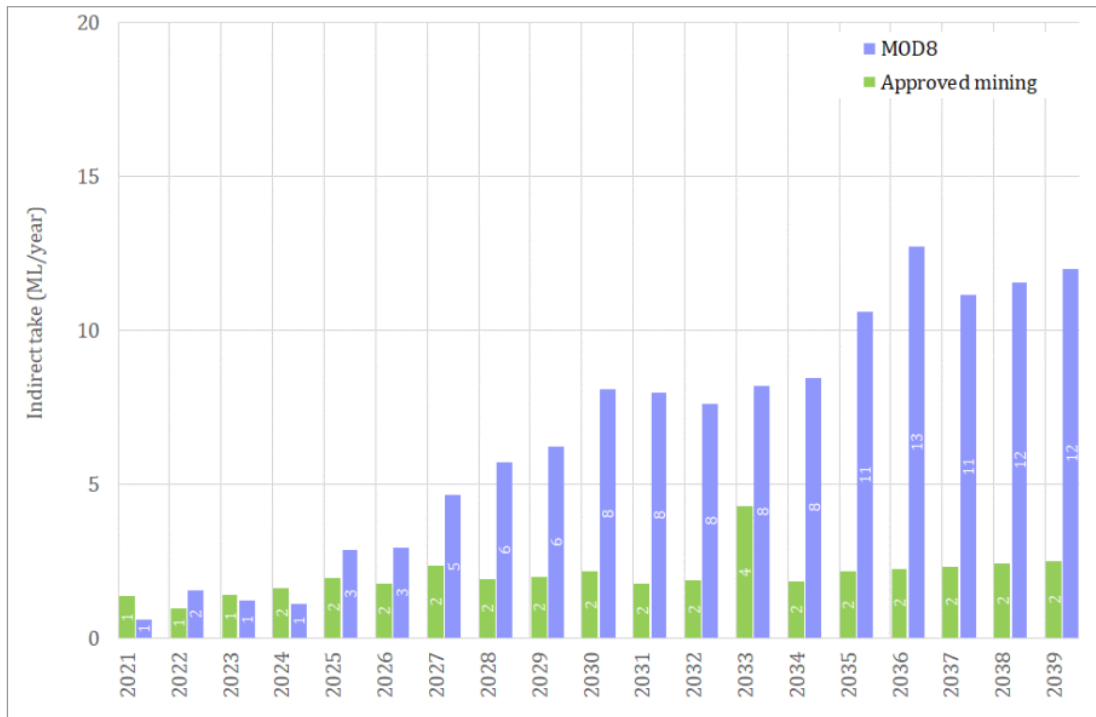


Figure 8.13 Indirect take from zone 11 alluvium – approved mining vs MOD 8

65 Australasian Groundwater and Environmental Consultants Pty Ltd
 G1850W - Groundwater Impact Assessment – Boggabri Coal Mine MOD 8 to SSD 09_0182
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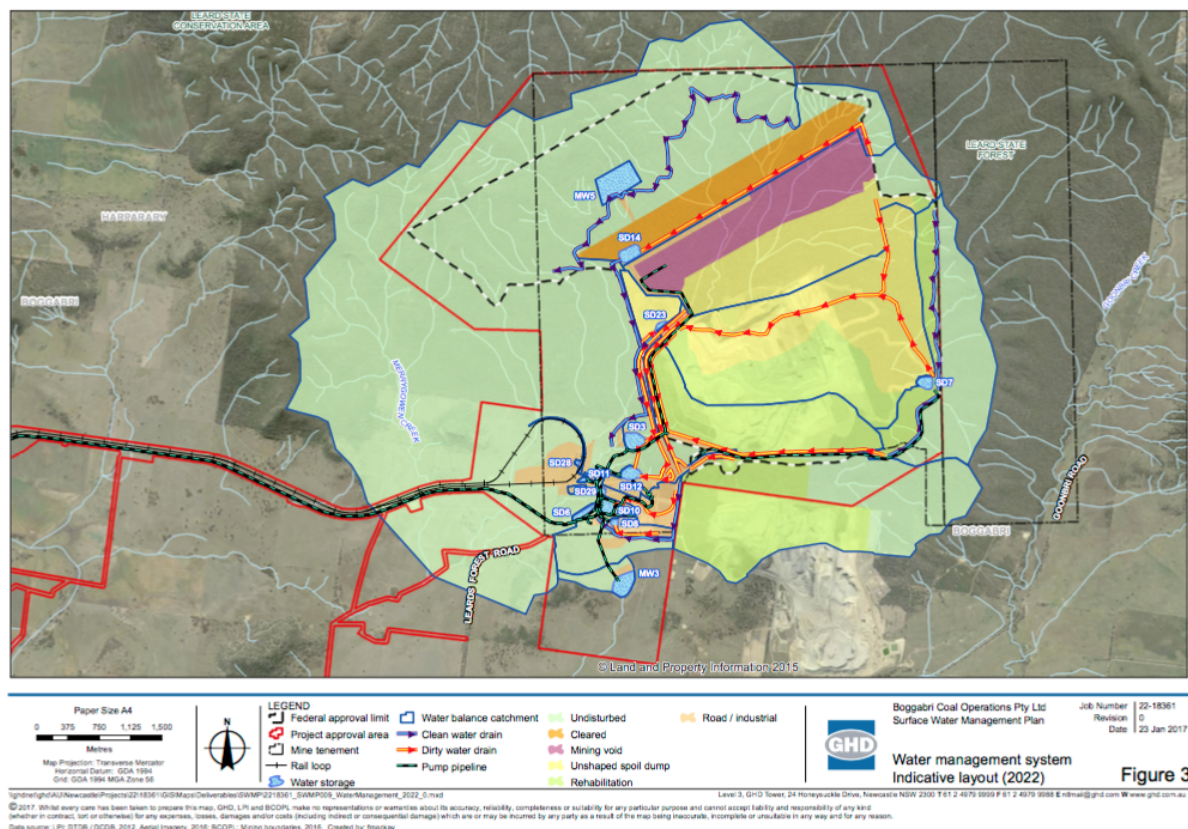
5. Surface water management

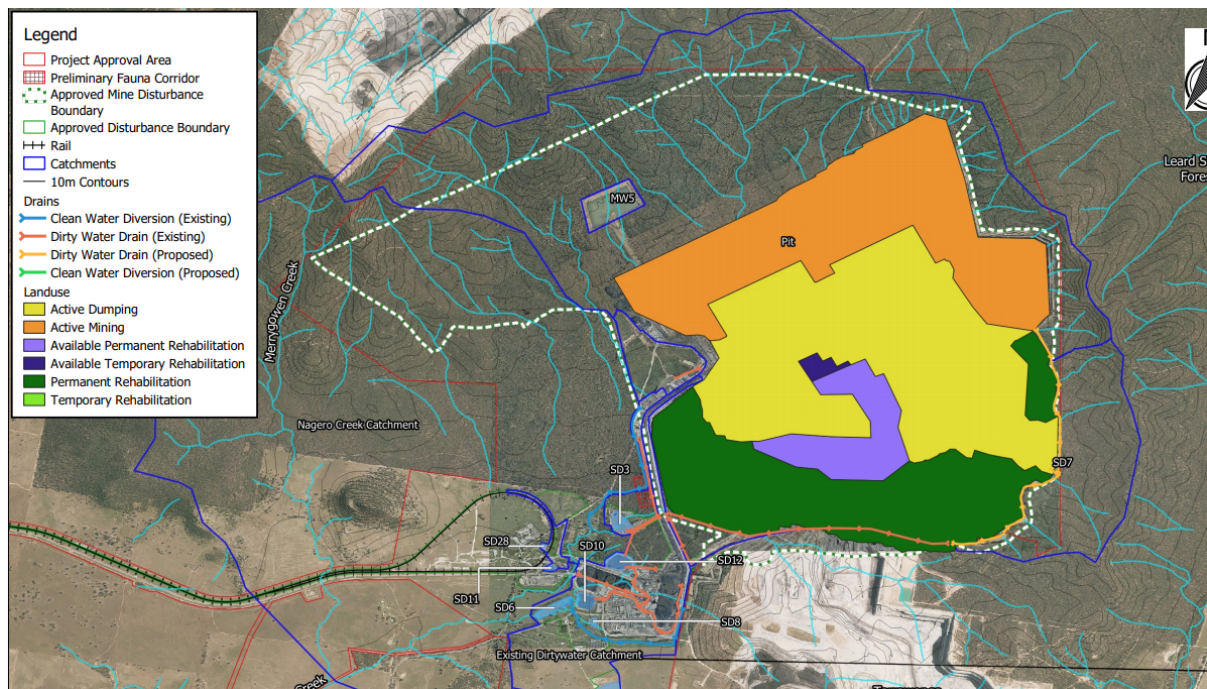
The current (2017) Surface Water Management Plan for the mine only commits to using clean water diversion drains or high wall dams to prevent clean water entering the mine “where feasible.” Indeed, the Surface Water Management Plan only shows clean water dams in use in 2033.

As we can see from the below figures (top figure, SWMP 2017 and bottom figure, from Mod 8) the systems for catching for surface water in Mod 8 are nowhere near as extensive as what appears in Boggabri’s approved Surface Water Management Plan (2017). However, we understand the SWMP is up for review. At no time should Boggabri Coal allow any surface water from the catchment to flow into any of the mine operating areas or be used by the mine.

Extreme care should be taken to ensure that all surface water is directed around the mine to Nagero Creek and to make its way there. We are particularly perturbed that in Mod 8 there are no drainage lines or high wall dams covering the catchment north and north west of the disturbed area.

Unlawful capturing of surface water has become a real issue, and we know from NRAR v Maules Creek mine prosecution, this is prosecutable and potentially “medium-high objective significance” if found to be occurring depending on what scale.





Furthermore, Boggabri mine is not even complying with its current surface water management plan, as admitted in the mine's 2020 Annual Review.

Boggabri Coal Annual Audit 2021

The non-compliance was identified during the Independent Environmental Audit. The auditor's comments were:

- The implementation of the currently approved SWMP is non-compliant as the clean water drain presented in Appendix A of the SWMP to the north of the disturbance area has been mined through and has not been reinstated.
- It is acknowledged that the update to the SWMP (Rev8) has been prepared depicting the absence of the clean water drain and that a report has been prepared by GHD to justify not reinstating this drain and to evidence that the site is not harvesting clean water outside of harvestable rights allowances.
- The update to the SWMP was submitted to the DPIE for approval in July 2019; however, given that it has yet to be approved the implementation of the approved SWMP is non-compliant.

The Surface Water Management Plan states that,

"In other locations it is not feasible to provide diversion drains or highwall dams due to the advancing topsoil stripping and stockpiling. In these circumstances clean water will be allowed to enter the active mining areas and the dirty water diversion system. BCOPL will be required to account for the additional captured water and hold adequate licences or harvestable rights."

However, despite saying that the mine must hold licences for captured water beyond its harvestable right, evidence does not appear to be provided to substantiate that. Furthermore, the mine's 2010 Environmental Assessment indicated that there would

be at this time clean water diversions in place at the northern perimeter of the pit to prevent clean catchment water entering the mine site, but these diversions are not in place, and not anticipated by this assessment to be put in place.

Maps included in Mod 8 show Nagero Creek, a fifth order stream, and other streams, apparently flowing directly into the mine pit from the north and north west with no diversion works in place, contrary to the mine's 2010 Environmental Assessment.

6. BTM Regional Water Strategy and Leard Forest Regional Biodiversity Strategy

These should be updated and included in the Appendix and provided for public exhibition. The regional implications of any further developments in this highly fragile ecosystem which is clinging to existence, needs to be undertaken

Community including downstream users all have a stake in ensuring the maximum protection.

We request that the regional water strategy is immediately revised to take into account the water usage, drawdown and passive take predicted under Mod 8.

We further request that this revised edition of the BTM Regional Water Strategy be available to the community prior to Mod 8 being open for submissions from the community.

7. Cumulative impacts with other developments

In July 2021, the NSW Government introduced new [Cumulative Impact Assessment Guidelines](#) which purport to manage the cumulative impacts at strategic level and site-specific levels. We submit that Mod 8 poses strategic level impacts and site-specific impacts which have not been adequately considered.

Under “relevant future projects”, there is a list of types of development which need to be identified and considered. However, there is a major gap in this policy, in that it does not include other nearby coal mining exploration which is not yet in the planning assessment phase, notwithstanding that this exploration might be in an advanced stage of development and that the holder of the exploration licence might fully intend to proceed with such an application. A relevant example of this omission is the absence of considering Whitehaven Coal’s A 346 which is also in Zone 11.

Cumulative impacts with Whitehaven Coal A346 should be considered. We argue that A346 falls under the category listed at Section 3.4 of the Cumulative Impact Assessment Guidelines, as a project “where there is market interest and the project has been publicly announced, but no formal application steps have been taken”. [insert New Matilda article – Whitehaven prospectus is an indication of “publicly announced”] It is clear that the publication of a prospectus of a publicly-listed company like Whitehaven Coal falls within the definition of a project “which has been publicly announced” even though “no formal application steps have been taken”.

The strategic level is indicated by the fact that Boggabri Coal is within a highly controversial and troubled mining precinct, formerly known as the Leard Forest Mine Precinct, now commonly referred to as the Boggabri-Tarrawonga-Maules Creek or BTM Precinct. As Whitehaven Coal’s A 346 is, in our assessment, a matter requiring cumulative impact assessment in the assessment of Boggabri Mod 8, the following “key factors” (source: page 19 of the Cumulative Impact Assessment Guidelines). At the very least, Boggabri Coal should have acknowledged that A 346 poses a potential cumulative impact and the difficulty to predict the cumulative impacts, and the limitations of any proposed methods of impact assessment addressed.

Furthermore, in addition to A 346 other realistic development scenarios for the Leard Mining Precinct include at this stage:

- Mining of the 500m Biodiversity Corridor (which Whitehaven Coal has stated it proposes to mine, even though Boggabri Coal has not disclosed such an intention it has not precluded it either)
- Mining Goonbri Mountain EL 7435 (Goonbri Coal Pty Ltd)

Under the new Guidelines the data that is required for such a cumulative assessment of a State Significant Development would require the taking into account of data, including:

- the availability of relevant data for other relevant future projects
- the quality of the available data
whether further investigations or research
- are required to secure additional data

- any key constraints to securing additional data (e.g. data may be commercial in confidence; other proponents may be unwilling to share data that is not publicly available)

The ability to avoid or mitigate the impacts of the project on the key matter, including:

- using alternative project designs
- using tested mitigation measures
- investigating the potential use of untested mitigation measures
- investigating the scope for adaptive management

We also draw attention to another potential cumulative impact, which results from the overlap of Idemitsu's mine lease CL368 and Santos Gas Petroleum Exploration Licence PEL1, which overlaps approximately half of CL368. A non-compliance ranked as Medium in severity was also reported in the Boggabri Coal Annual Review 2020 for failing to make contact with Santos to discuss the overlapping titles.

The overlap of coal seam gas and open cut coal mining, is an extremely serious matter to us. We cannot see how such an ongoing overlap can persist and we call for the cumulative impacts on groundwater of having coal seam gas mining in the proximate area to be materially addressed.

The cumulative impacts of A346 and PEL 1 should be considered before any enlarged impacts in depth or longevity of the mine are permitted to take place.

Thank you for considering this submission.

We confirm our strongest objections to Boggabri Coal Mod 8.

Leard Forest Research Node
9th September 2021