



**Enquiries**

**Please ask for** Sharon Pope

**Direct** 02 6549 3868

**Our reference**

**Your reference** **SSD 10418**

**Tegan Cole**  
**Senior Environmental Assessment Officer**  
**Dept of Planning, Industry & Environment**  
**GPO Box 39**  
**SYDNEY NSW 2001**

E: Tegan.cole@planning.nsw.gov.au

26 July 2021

Dear Ms Cole,

**Mt Pleasant Optimisation Project (SSD 10418) RTS – MSC Comment**

I refer to the Response to Submissions (RTS) prepared by Resource Strategies for MACH Mount Pleasant Operations Pty Ltd (“the Proponent”) in relation to the Mt Pleasant Optimisation Project (MPOP) (SSD 10418). I make the following comment on the RTS on behalf of Muswellbrook Shire Council. The opportunity to comment is appreciated, as is the short extension in time to respond which allowed the matter to be considered by Council’s State Significant Development Committee.

Council’s concerns were:

- Environmental Issues
- Road and traffic impacts
- Social Impacts
- Impacts on heritage items, places and relics
- Visual Impacts
- Rehabilitation and Mine Closure processes

**Concessions identified by MACH**

- MACH has confirmed it would be agreeable to a consent condition requiring make-good provisions, should the increased elevation of the Mount Pleasant Operation integrated waste rock emplacement result in adverse terrain effects on Rossgole Tower transmission facilities.
- MACH has confirmed it would be agreeable to a consent condition requiring a Construction Traffic Management Plan that would include, among other matters, a requirement to use employee shuttle buses during major construction activities.
- MACH has confirmed that the Department of Regional NSW – Primary Industries would be invited to participate in consultation regarding the post-mining use of the Project site.
- MACH would accept a consent condition requiring preparation of a Historic Heritage Management Plan (HHMP) prepared in consultation with Heritage NSW, that includes consideration of the management of unexpected finds.

**CUMULATIVE IMPACT ASSESSMENT**

The compounding impacts of multiple intensive mining operations concentrated near a residential area stretch environmental, social, human and economic capital. Multiple mining operations may demonstrate additive effects (e.g. mine impact + mine impact) and compounding effects (e.g. mine impact x mine impact). The conventional mine-by-mine approach to assessment,

management and mitigation does not provide confidence for the local communities impacted where there are multiple active mines.

Each of the mines has a permanent impact on water availability in the local catchment they are located in. Each mine operation dismisses this by saying they hold sufficient water licences to cover this “loss of water”. But the loss is permanent, and if the water sharing regime needs to change in the broader catchment for societal, ecological, or climate change reasons, or to satisfy the requirements for emerging industries, the water loss due to mines will place limitations on the ability to change the water sharing regime.

#### *Response*

Relevant key assessments for the Project (e.g. air quality, noise, water resources and visual) have considered the potential impacts of the Project in the context of the existing and approved mining operations in in the Project vicinity, including the approved Mount Pleasant Operation.

#### Council Comment to RTS

Noted. Cumulative impact assessment remains an issue for the Planning Authority to address.

#### **VPA**

If approved, a VPA is required to include a requirement for Community Enhancement contributions and payments to local road maintenance costs to assist with mitigating cumulative impacts of the mine. This condition should be similar to the conditions applying to other mines operating in the Shire.

#### *Response*

MACH met with the Muswellbrook Shire Council in June 2021 to discuss development of a VPA for the Project, based on the current Mount Pleasant Operation VPA terms. At this meeting it was agreed that MACH would work with Council to negotiate further on MACH’s VPA offer.

#### Council Comment to RTS

Noted. Standard condition of consent required.

#### **WATER**

Each of the mines has a permanent impact on water availability in the local catchment they are located in. Each mine operation dismisses this by saying they hold sufficient water licences to cover this “loss of water”. But the loss is permanent.

#### *Response*

The total predicted reduction from the Hunter River water source (51 ML/year, made up of the combined baseflow loss from the Hunter River, Sandy Creek and Dart Brook) amounts to approximately 0.018% of the 287,102 ML mean annual total flow in the Hunter River at Muswellbrook (GS 210002) (HEC, 2020) or approximately 0.024% of the long-term average annual extraction limit established for the Hunter Regulated River Water Source (217,500 ML/year as defined in clause 39 of the Water Sharing Plan for the Hunter Regulated River Water Source 2016). Accordingly, the potential impacts of the Project on the highly regulated Hunter River are considered negligible, including when considered cumulatively with other mining operations that are also operating in accordance with the management framework established under the Water Management Act 2000 and associated water sharing plans.

Predictions of future climate have been used to formulate probability distributions for a range of climate variables including temperature, mean and extreme rainfall and potential evapotranspiration. Adopting the RCP4.5 emissions scenario, the forecast change in annual rainfall by the year 2090 ranges from -19.8% (reduction in rainfall) to +4.4% (increase in rainfall), with the highest agreement between different climate models of - 10.1%.

#### Council Comment to RTS

The total predicted permanent reduction from the Hunter River water source of 51 ML/year is noted. This remains an issue for the Planning Authority to address, particularly as future uses of the site post-mining will likely also require water allocations.

### **TRANSPORT AND ACCESS**

This condition 38 of DA 92/97 remains applicable to the current application and is supported by Council's guiding document for changes to the road network 'The Mine Affected Road Network Plan' (review 2020) and is needed to ensure a functional road network for the community and wider upper hunter region, supporting the current and long-term local and regional transport needs. Council's view, supported by the MARNP, is that the construction of a new link from Wybong Road to Castlerock Road will form a part of the western corridor and provide an efficient link between Golden Highway, Denman Road and New England Highway. Responsibility for the upgrading of this road should be linked to new and expanding mines in the north and west of the Shire including Mt Pleasant Mine and contributions or works should be proportional to the demand created by any new development in this area.

The existing road alignment and constructed standard of Castlerock Road and Dorset Road are generally of a 'country road' standard with narrower lane widths, unformed shoulders, poor pavement, gravel pavement, and drainage structures that will not support heavy loads or higher traffic volumes. Construction standards for the Mount Pleasant Western Link road for the full frontage of Mt Pleasant Mine will be discussed further as part of the s.138 Roads Act application.

While the reconstruction of part of Dorset Road, and the new connection to Castlerock Road (Mount Pleasant Northern Link Road) is important to maintain connectivity for the local residents, it comes with a risk that more through traffic will be encouraged to use Castlerock Road.

#### *Response*

MACH consulted with the Muswellbrook Shire Council regarding the approved Western Link Road not being constructed as part of participation with the Council's Mine Affected Roads Strategy. MACH maintains its position that there is no nexus between the Project and the development of a road similar to the approved Western Link Road, as Wybong Road would remain open for the life of the Mount Pleasant Operation. This is supported by the outcomes of the Project Road Transport Assessment (Appendix J of the EIS). As a road similar to the approved Western Link Road would not be constructed, and little Project traffic would use the Project revised Northern Link Road alignment, the Project is not expected to lead to a major increase in through traffic on Castlerock Road. As such, a road safety audit of the length of Castlerock Road is not considered warranted.

#### Council Comment to RTS

Noted.

Council requests that prior to reconstruction of Dorset Road and closure of the eastern end of Castlerock road:

- A safety audit be completed for the length of Castlerock Rd to contemplate issues arising from increased traffic volumes;

- Recommendations on strategies to limit use of Castlerock Rd by through traffic; and
- Mt Pleasant continue to require mine related traffic to use Bengalla Link Rd and Wybong Rd for access.

The mine is currently accessed via Wybong Road. Council's preference is for this access to remain to be the principle access for use during any future construction and operation of the mine.

## **VISUAL IMPACT**

Views to the integrated waste rock emplacement landform from the Northern, Southern and Eastern sector will increase. Specifically, the increase in vertical elevation would result in increased numbers of view locations and private properties within the view sector that are able to see the emplacement.

The emplacement landform will block views to significant natural landscape features (e.g. ridges and vegetation to the west). The Hunter River and high points in the landscape have historic, scenic, social, cultural and scientific values.

The proposal will also result in the loss of homesteads of local heritage significance from the local cultural landscape.

### *Response*

It should be noted that the Mount Pleasant Operation was approved in 1999, and the Project would effectively comprise continuation of impacts on the same historical heritage sites as previously approved for disturbance in 1999.

The Project integrated waste rock emplacement would be up to 40 m higher in elevation than the maximum elevation of previous waste rock emplacement designs at the Mount Pleasant Operation. These Project features would be associated with constructing landforms of more natural appearance, as the high-points in the proposed Project landform would allow the establishment of macro-relief.

MACH acknowledges that the development of the single integrated waste rock emplacement landform and associated increase in scale and elevation would introduce some additional viewpoints of the mine landforms within Muswellbrook and surrounds. These changes would generally be consistent with the nature and form of approved Mount Pleasant Operation mine landforms. Many elevated parts of Muswellbrook already have direct views of the most visible components of the approved Mount Pleasant Operation. Areas that would have views to the Project are typically already subject to high visual impacts from the approved Mount Pleasant Operation (Appendix M of the EIS).

Some natural features on the horizon are progressively being obscured with the construction of the existing and approved mine landforms. This would continue to be the case during the remainder of the currently approved life of the Mount Pleasant Operation and would also occur during the life of the proposed Project.

### Council Comment to RTS

Noted. The height of the emplacements is linked to the size of the final voids. The Proponent has indicated that managing the site to have less visual impact would make the project financially unviable and generate other short to medium term environmental impacts. The Proposal will result in a permanent impact on the community and change to the cultural landscape. This remains an remains an issue for the Planning Authority to address.

## VOIDS

Council raised issues with the size and depth of the final void, that not backfilling the void meant higher emplacements, and the steep slopes down to the floor of the void made it unsafe.

The impact of the emplacement area on the landscape is significant due to the size of the proposed single void. The proposed void will be approx. 3km long, 600-700m wide and 90m deep.

The slopes to the void, despite the improved landform shapes, are still very steep, in some places as much as 37 %. This creates a landform that will be difficult to maintain/traverse.

Over time the water in the Void will become highly saline.

### *Response*

The initial final void was based on full mined-out strips to the base of the Edderton Seam and was rectangular in shape. However, in response to feedback from regulatory and community stakeholders, MACH has re-designed the final void [as shown in the EIS] to:

- backfill approximately 1.5 km of the northern part of the final void;
- reduce the depth of the final void in the North and Central Pit areas and decrease the slope of the internal batters;
- apply geomorphic design concepts to parts of the Project landform that drain to the final void; and
- push down the western highwall to an overall angle of approximately 18°.

As a result of the above, the final void is considered safe, geotechnically stable and minimises the catchment reporting to the void whilst maintaining geomorphic design concepts (i.e. providing sufficient slope length to improve post-mining stability and reduce long-term erosion risk). In comparison, the rehabilitation costs for a no-void mine plan would increase by over \$1 billion relative to the rehabilitation costs associated with the Project final landform. These additional rehabilitation costs would render the Project uneconomic. The no-void scenario would result in:

- Re-handling of a significant proportion of the Project integrated waste rock emplacement (i.e. over 400 million cubic metres of waste rock), which would extend air and noise emissions over a significantly longer duration.
- Mining inefficiencies and environmental risks associated with rehandling emplaced coal rejects and potentially acid forming (PAF) material associated with the Wynn Seam.
- Delays to the establishment of woodland rehabilitation until emplacement areas reach the final landform surface, or disturbing significant areas of Project native woodland rehabilitation that would be well-established (i.e. up to approximately 20 years old).
- Storage of topsoil for extended periods of time, reducing its value for rehabilitation.

Equilibrium water levels would be reached slowly over a period of more than 500 years. Final void salinity levels would thereafter increase slowly as a result of evapo-concentration.

The Project integrated waste rock emplacement has been developed using geomorphic design to provide a range of slopes consistent with natural landscape features in the region. The resulting final landform largely limits slopes to less than 33% (18 degrees). There are some limited areas where the slopes are up to 33%, but this only represents a small proportion of the total surface area of the final landform and would not form a major limitation for ongoing access or maintenance.

Similar slopes are common features in natural landforms, and the final landform design would continue to be tested and iteratively designed as additional data is collected on rehabilitation and landform monitoring over the life of the Project. The Project would also involve some steeper slopes being retained below the final void waterbody equilibrium level. These steeper areas would be inundated as water levels recover in the void, and this allows gentler slopes to be achieved above the equilibrium level (due to material balance constraints).

### Council Comment to RTS

Voids are not a naturally occurring element in the landscape, so planning to retain a void is planning to create an irreversible and permanent negative change to the environment. This remains an issue for the Planning Authority to address.

In most cases mine voids would not be suitable for aquaculture or recreation. Let alone issues with ready access to voids, their depth, and compatibility with surrounding potential land uses. Department of Primary Industry guidelines indicate that there are a number of disadvantages in using large ponds:

- difficult to monitor and control disease outbreaks.
- difficult to manage water quality problems.
- difficult to control algae blooms.
- costly to control disease outbreaks and algae blooms, as the entire pond must be treated.
- erosion of banks.
- difficult to sample or catch fish.

### **HERITAGE**

Kayuga Cemetery is identified as a place of State significance.

The EIS suggests that responsibility for the Cemetery's conservation rests with the relevant owner, Muswellbrook Shire Council. However, Council is not proposing to set off eight blasts per week, on average, close to the Cemetery. The Proponent does bear responsibility for ensuring that blasting activities do not increase damage to the remaining headstones in the Cemetery.

#### *Response*

Blast management measures for the Mount Pleasant Operation are described in the existing approved Blast Management Plan (BMP) and would continue to be implemented for the Project. The existing BMP requires MACH to undertake blast vibration monitoring either at a nearby historical heritage site or at representative locations when blasting is within 500 m of the site using a portable or permanent monitoring device. The existing BMP also includes a contingency plan in the event that the relevant blast criterion is considered to have been exceeded. The BMP would be reviewed and updated to address the Project, subject to the conditions of any Development Consent for the Project.

It should be noted that Kayuga Cemetery is located at a minimum setback distance of 1,492 m from the Project open cut, and mining would advance westwards over time. Kayuga Cemetery is also located within the Dartbrook Mine's tenements. MACH is of the opinion that Kayuga Cemetery is too far away from the Project to be adversely impacted by Project blasting activities.

### Council Comment to RTS

Noted. If MACH's opinion is correct, then remedial work will not be required. If it is not correct there is potential for serious and permanent damage. Having baseline data will enable a factual assessment of current condition and doing regular site inspections/surveys, will allow damage to be attributed to mining impacts or ongoing weathering/aging.

Council requests that the Proponent be required to:

- Engage a specialist in monuments/headstone conservation to undertake a condition assessment of the headstones in the Cemetery;

- Undertake urgent remedial work identified by the expert prior to mining operations commencing; and
- Include in the Blast Management Plan for the Mine, a strategy to monitor, mitigate and manage the effects of blasting on the Cemetery, including details of baseline (i.e. pre-blasting) and ongoing risk-based dilapidation or damage surveys and repair programs.

## **INCREASE IN SEISMIC ACTIVITY**

Seismic activity in the Upper Hunter has increased over the past 15 years as mining operations have increased.

### **Response**

MACH is not aware of a material correlation between the development of open cut coal mining and the frequency of minor earthquakes in NSW. Review of the Geoscience Australia National Seismic Hazard Assessment 2018 appears to suggest that Muswellbrook has similar seismic hazard risk to much of eastern NSW and Victoria, but less than Canberra (Geoscience Australia, 2018).

### Council Comment to RTS

Noted. Response refers to whether seismic activity is more common in the Upper Hunter than other parts of Australia and doesn't address the issue of an increasing trend in seismic activity in the Upper Hunter. The cumulative impact of large-scale mining across the upper Hunter seismic activity is a matter that the Planning Authority needs to address.

Council requests a condition of approval requiring an adaptive management strategy for seismic activity, so that if a trend showing an increase in seismic events occurs within the Mt Pleasant mining lease area as the project progresses, support can be provided to Council and the community to repair and strengthen public and private assets.

## **AIR QUALITY**

While the EIS suggests that the worst affected properties can be acquired and the dust levels affecting the main township will be within acceptable health limits, Council is concerned that the "health limits" permitted by the State and Federal governments may be exposing residents to unacceptable levels of PM 2.5 sized particles.

The 2010 NSW Health report shows that Muswellbrook residents reported higher levels of cardiovascular and respiratory diseases, emergencies and deaths than the State average.

Council's view is that the 24-hour averaging period for air pollution monitoring has the unintended consequence of obscuring issues of elevated dust levels at night, particularly when a surface temperature inversion is present, and that a 12-hour average would be better.

Council also has concerns that cumulative emissions from mining operations may be unacceptable within the airshed.

### **Response**

A review of Upper Hunter Air Quality Monitoring Network (UHAQMN) data recorded at Aberdeen (24-hour average PM10 concentrations) does not indicate a decline in air quality since the commencement of the Mount Pleasant Operation (refer to Table 2 of Attachment B). However, regional air quality did markedly deteriorate during the extended drought conditions from 2017 to Summer 2019 and bushfire activity in Spring and Summer 2019.

MACH currently operates a real-time dust monitoring and management system at the Mount Pleasant Operation, which includes various triggers for management actions that are unique to each real-time air quality monitor. That is, when relevant meteorological conditions (i.e. winds toward receivers) occur, various levels of dust management actions are implemented based on the levels of dust recorded. The temporary operational changes implemented include relocating operations to less exposed areas, increasing watering rates and progressively shutting down mobile equipment.

Trends in hospital admissions within the Muswellbrook LGA and NSW generally, as provided on the NSW Government's HealthStats website (NSW Government, 2021) indicate that in the Muswellbrook LGA:

- hospitalisations due to asthma and circulatory diseases are generally trending downward, while hospitalisations due to respiratory (represented by chronic obstructive pulmonary diseases) have generally trended upward – though they appear to be trending down again since the 2015-2017 period.
- data do indicate a greater number of hospitalisations due to circulatory and respiratory diseases in the Muswellbrook LGA per unit of population than in NSW generally.
- the data also shows a greater number of hospitalisations related to smoking in the Muswellbrook LGA than in NSW per unit of population.

This highlights that a variety of societal factors must be considered when reviewing health-related data such as hospitalisation rates.

#### Council Comment to RTS

Noted. This remains an issue for the Planning Authority to address.

Air pollution is cumulative, the source is not entirely relevant if the level of pollution being experienced poses a threat to human health, although all sources contributing to pollution should be managed to bring the risk to human lower. Council requests that the Proponent contribute funding toward:

- Updates to the 2010 NSW Health report; and
- The installation of an EPA monitored ceilometer in Muswellbrook.

## **NOISE**

Noise impacts on near residences from water pumping from the Hunter River do not appear to have been assessed as part of MOD 4 and the Proponent should assess those impacts now,

### *Response*

The Mount Pleasant Operation Rail Modification Noise Assessment (Wilkinson Murray, 2017) included assessment of the operational noise of the duplicated Hunter River pump station. The assessment concluded that, due to the design of the pump station, minimal operational noise would be experienced by proximal receivers. As the Project does not propose to modify the approved pump station (e.g. the pumps would still either be submerged inside wells or enclosed inside the pump station building), further assessment of the noise emissions of the approved Hunter River pump station is not warranted for the Project.

#### Council Comment to RTS

Noted.

## **SOCIAL IMPACTS**

### **Housing**

Council's concern in relation to housing are that it is difficult for each mine project to make a cumulative assessment on the impact housing demand. A delay in the supply of new housing following mine approvals encourages a drive in, drive out works force pattern. And an influx of high-income households seeking rental properties leads to a tight rental market where local people who don't work at the mines are at risk of not being able to compete for available rental properties.

#### Response

Just Add Lime (Appendix N of the EIS) indicated that the additional Project workforce may lead to some increases in property values associated with increased demand for housing. MACH would seek to reduce potential impacts on housing prices by:

- continuing to maximise locally sourced employees, including both MACH employees and contractors; and
- participating in an employment working group (or similar) with the Muswellbrook Shire Council and other industry to keep the council and the private sector informed regarding planned Mount Pleasant Operation employment growth.

#### Council Comment to RTS

Noted. The Proponent should be required to ensure that at least 80% of people employed at the mine site for operational needs, either directly by MACH Energy or indirectly by contractors, need to reside within 80kms of the mine. Evidence that this is being achieved needs to be provided annually in the AER.

### **Radio, phone and TV signals**

Given the integrated waste rock emplacement landform sits between the Rossgole transmission towers and parts of the town of Muswellbrook, Council is concerned about the potential impact the emplacement would impact on transmissions.

#### Response

MACH is not aware of an example where development of a mine waste rock emplacement has resulted in any material alteration of the efficacy of existing public service transmission towers. Notwithstanding, the Project would result in alteration of local terrain within the Mount Pleasant Operation MLs, and the potential for any impact on local communication systems could depend on the transmission technology and location of facilities being employed at the time.

MACH confirms that it would be agreeable to a consent condition requiring make-good provisions, should the increased elevation of the Mount Pleasant Operation integrated waste rock emplacement result in adverse terrain effects on Rossgole Tower transmission facilities.

#### Council Comment to RTS

Noted. An appropriate condition is required.

## REHABILITATION AND MINE CLOSURE

The local community is highly dependent on mines for employment opportunities. The impact of closure on local and even regional socio-economics will therefore be significant and should be a key consideration in closure planning processes and documents. At the close of mining operations every effort should be made to maintain the quantum of employment opportunities, in turn avoiding economic and social disruption to the local community through loss of job opportunities.

### *Response*

A Mine Closure Plan would be developed for the Project in consultation with relevant regulatory authorities and community stakeholders. The Mine Closure Plan would be developed over the Project life and would include consideration of amelioration of potential adverse socio-economic effects due to the reduction in employment at Project closure.

### *Council Comment to RTS*

Noted. An appropriate condition is required.

Council appreciates the opportunity to comment and would be pleased to provide additional information if requested.

Regards



**Sharon Pope**  
**Executive Manager Environment and Planning**