

31 March 2026

## **OBJECTIONS To Cadia Valley Operations Modification 16**

Please find below a summary of concerns in regard to the potential approval of Mod 16.

This modification appears to be in effect a backdoor approval of hydrocyclone sands technology which is proposed for CCOP. If Mod 16 goes ahead CVO will place a significant volume of hydrocyclone sands on the STSF, if subsequent analysis conducted for CCOP identifies a problem such as AMD the tailings deposition plan under Mod 16 can't be undone. Mod 16 is a high-risk strategy which has not received the level of technical analysis and scrutiny the community expects nor that required by regulators.

CVO is one of the largest gold and copper mines in the southern hemisphere. The sheer scale of the operation means that any technical failure (there have been several in the last few years alone) or contamination issue can have very significant impacts over a widespread area.

The following issues need to be addressed *before consideration* of any approval:

- A geochemical analysis is required, based on kinetic testing, to conclusively prove that the coarse sand particles will *never* become an ongoing source of AMD.
- Existing extensive contamination of ground water and surface water on site and in surrounding creeks (Flyers, Cadiangullong, Swallow) and the Belubula River must be fully investigated and remediation / rehabilitation plans developed and operationalised.
- Hydrobiology Qld recommended that groundwater testing be conducted south of the STSF. CVO has tested this area in prior years but withheld the data in 2025. Several bores which in the past reported either very low pH or very high pH have been omitted from the Engeny FY25 Ground and Surface Water Assessment. Data for the most southerly sample location on Cadiangullong Creek has also been omitted. Data for these monitoring points must be released to the Department and community. In the absence of evidence to the contrary regulators and the community can only assume this data indicates an ongoing contamination issue and regulators cannot responsibly approve the Modification.
- The Aeron dust predictions should be corrected to accurately predict the proposed number of vehicles and dust expected from the sands stock pile / dump.
- The Aeron air dispersion model notably excludes properties with known isotopic match pollutants from CVO. The air dispersion model **MUST** include all known sites and areas with matched pollution/contamination.
- There is no information in Mod 16 about how or when the tailings dump/stockpile on the STSF will be integrated into final rehabilitation.
- Subject to the outcome of the additional information requested above, we believe, at a minimum, the following additional conditions are required in the Project Approval:
- The recommendations of the Hydrobiology Report commissioned by the EPA be implemented and made a condition of approval.
- In addition to the Hydrobiology:

- upstream monitoring locations be established on the Belubula River at Burnt Yards Road Bridge and Ashburtons Bridge.
- flow metres be installed on Cadiangullong Creek and Flyers Creek (north of mine operations, Panuara Rd bridge and Errowanbang weir and prior to the confluence with the Belubula River)
- Genuine community engagement be re-established before any further consideration of CCOP. Small (4-6 attendees) meetings and “drop in” sessions are designed to intimidate the community and limit sharing of important information. Reinstatement of the previous program of quarterly community meetings should be a condition of approval.
- CVO have actively not included me in their communications. CVO have failed to inform me about Modification 16 and have also removed me from their distributions for CCOP and all other community engagements. This demonstrated behaviour by CVO is completely unacceptable. CVO has an obligation to engage with persons even where there is disagreement. CVO is actively working to restrict and constrain who they engage with, therefore activity withdrawing from the community and therefore have already withdrawn their social licence.

## **Community Consultation**

Under Newmont ownership CVO has adopted a policy of minimising community consultation and reducing community meetings and engagement at all levels. On multiple occasions CVO has informed the community it will deal with the community only through the CCC. The CCC has in the past been tightly controlled by CVO and has been ineffective at dealing or engaging with issues such as dust contamination (among other issues) raised by the community. The Department has taken active steps to change the balance of communication and control of the CCC. I am hopeful this will improve matters going forward, however it does not address the hopeless lack of community engagement in regard to Mod 16 and CCOP which are both currently under consideration.

CVO's policy appears to be driven by a culture of “what we don't know can't hurt us”. However, the community has been trying to raise very serious concerns about the human and environmental impacts in the Cadia district for several years. These impacts, discussed in greater detail below, must be addressed before there can be any further development of CVOs operations or site. The lack of engagement and transparency by CVO and lack of enforcement of regulations by key regulators has lead to the community taking the action of last resort and seeking legal relief in the NSW Supreme Court.

Without meaningful change in the corporate strategy and culture there appears to be no hope or opportunity for engagement to resolve the problems identified by the community. CVO has, by its actions, made it clear it has no interest in protecting the immediate neighbours from harm. It has been sobering to be told on multiple occasions by local residents that they can no longer attend CVO meetings because of the impact on their mental health. Many residents in the district feel “trapped”, they cannot sell their properties for anything like their worth because of the mine impacts and are unable therefore to move to a similar property and continue their business.

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I only know of modification 16 by been notified by the Department and by conversations with other community members. It is extremely clear that many other community members also feel they are not been engaged or consulted with regarding this modification 16 nor any other matter CVO is currently undertaking.

I have raised several times with CVO, their air dispersion models and subsequent human health risk assessment models must include all areas where there is known contamination from CVO. Yet CVO continue to ensure the modelled area is geographically smaller than the known contamination sites, thereby excluded these known contamination sites.

There are sites that are 10km from the CVO site with known isotopic match lead in drinking water of those properties. However, CVO and their experts, excluded these sites by only modelling a smaller geographic area. The township of Millthorpe should be included in the models. CVO knows about these properties, it's in their data and published reports, yet they choose to ignore the facts.

Newmont Cadia have clearly demonstrated they do not care for their neighbours or the community surrounding the mine site, being the people most directly affected not only by the current operations, but also for generations to come.

**Newmont CVO does not have a social licence with its neighbours in the Cadia valley.**

### **Economic Benefits**

CVO claims economic benefits, all as dollar values, that they generate. These are categorised as wages; local purchase of goods and services; government payments (royalties, rates, taxes etc); and contribution to community organisations. Collectively these are approximately \$823.9million.

There are two distinguishable groups in the above categories. Those that CVO have complete control over and those that CVO does not. CVO does not have complete control over wages; local purchase of goods and services; or government payments. There is at best a level of negotiation between these respective parties and CVO.

Amounts provided to community organisations is merely \$2.1million dollars or 0.25% of the collective economic benefits CVO claim (\$823.9million). Proportionally, this is minuscule. This level of contribution to local community organisations is a missed opportunity for CVO. If the total cost profile for CVO operations was known, it would show the contribution towards local community organisations would be proportionately less than 0.25%. The relative contribution would be less again when compared to their revenue.

To add further insult, the majority of these community organisations are based within the Orange LGA who are removed from the direct adverse impacts generated by CVO. The

majority of directly and adversely impacted persons, are those living in and around the Cadia Valley who do not gain an economic benefit from CVO. It is appalling that community benefit is directed away from those directly adversely impacted.

I acknowledge that CDEP is only available to those living near the mine, however this area should be geographically larger. There are known properties outside the CDEP boundary being 10km from the mine site with isotopic match lead in their drinking rainwater tanks. Additionally, the available budget and monies to CDEP has been decreasing and continues to decrease. This demonstrates that CVO is walking away from and abandoning those persons directly and adversely impacted by their operations and mine site. This irresponsible behaviour from CVO and is not acceptable by the community demonstrating yet another example how CVO have removed their own social licence.

### **Operating Hours**

I object to CVO's unreasonable changes to operating hours and increased constant noise. CVO has **not** discussed or disclosed this aspect of the proposal with nearby residents (the most affected neighbours), there have been NO Residents Meetings where this proposal is discussed.

A change in operations to run 4 large tractors, excavator, bulldozers, booster pumps and associated lighting 24 hours per day, 365 days of the year ("anytime, any day") in an exposed position without a buffer zone will have a significant detrimental impact on all neighbouring residents.

Claims that the incremental impact is negligible are false. The correct measure is not the incremental change from where this degraded landscape is today. Changes should be compared to what this community was experiencing before CVO's operations began. This incremental creep in regard to fundamental issues such as noise and lighting has destroyed the last vestiges of amenity in this district.

It is disingenuous to compare the operating hours of the proposed hydrocyclone operation to the existing operation underground and in the processing area as these are generally confined to isolated operating areas. The hydrocyclones dams are positioned relatively close to neighbours in an exposed windy position with no buffer zone or tree planting to protect the neighbours. The anticipated noise levels are either close to or exceed current allowable noise thresholds by a significant margin.

Currently, the noise generated by CVO is easily heard 10km away which I directly experience. This noise is heard at anytime on any day. Modification 16 will simply add to that existing noise. CVO's attempts to explain the existing noise 10km away as being other noises unrelated to CVO are completely unfounded. I know the difference between CVO mine noise and noise from other sources such as (but not limited to), birds and other wildlife, livestock, rain and wind. These are simply weak defences that CVO relies upon that do not stand testament or scrutiny.

Mod 16 predicts that CVO's mining operations will impact privately owned land and result in an increase in predicted noise emissions, refer below.

	Current Noise Limit db(A)	Predicted Noise Limit db(A)
Daytime	50	53
Evening	45	48
Night	0	43

Hydrocyclone activities are currently restricted to operate between 7am to 10pm, the increase to 24hour operation, 365 days per year is a dramatic change. As only 3.5 million tonnes / year is actually used in buttressing and some 7 million tonnes / year are directed to the stockpile/ dump, it is not necessary to operate during the night on the buttress cells. The approved Mod 15 proposed material movements in Table 3.3 were planned to be carried out during daytime and evening operating hours with minimal negative impact on the community

What is the planned lighting regime to operate 24 hours /day? No information has been provided, light pollution is a significant additional disturbance to local residents and the environment.

I note that the underdrainage and covering of the hydrocyclone buttressing is to be carried out by using NAF rock sourced from the waste rock dump. CVO claims that Mod 16 is more efficient in this regard than Mod 15. The proposal possibly uses a greater quantity of NAF waste rock than anticipated in Mod 15 as the buttressing drainage pad area is increased from a normal 1.3V : 1H to 1.7V : 1H and there is an extensive 1m thick rock base. Any suggestion that Mod 16 is more efficient in terms of material or labour is dubious.

### **Acid Mine Discharge/Drainage (AMD)**

There is currently considerable impact from acid mine drainage on neighbouring properties, in ground water, local springs and streams and the Belubula River. I believe that any proposal to modify the tailings storage area should carefully consider the potential to correct the current situation and avoid the long-term generation of AMD both the current impact as well further/additional impacts from this and other modification/development.

It is noted that Mod 15 is presented as a buttressing design using NAF material there is no mention in the Mod 16 proposal of the acid forming potential of the hydrocyclone sands, or any reference to Geochemical studies.

It is noted that the CVO Operations Tailings Assessment Feb 2023, University of Queensland S3.6.2 reports MLA results indicate the +425µm fraction would be considered PAF due to the higher content of sulphide minerals and lower proportion of carbonate materials to neutralise and potential acid produced.

Experience on Chilean hydrocyclone dams demonstrate that even in extremely dry climates considerable AMD particularly at the foot of the Hydrocyclone wall where the largest particles exist. The fact that the coarse particles are PAF is due to the fact that the buffering materials (carbonates) are relatively soft compared to the sulphide pyrite mineralisation and are concentrated in the fine particles cyclone, hence the buffering is more effective for the finer size fraction.

Kinetic testing requires a 3-4 year dynamic cell testing regime so this work should now be complete and is an essential part of the geochemical assessment of the proposal.

It is noted that both the QUT report and the Golder Geochemical report recommend further Kinetic testing of the hydrocyclone sands is necessary to understand the long-term geochemical stability and acid forming potential. There is no indication in Mod 16 that any of this work has been completed. As there is no demonstration that these studies have occurred, via omission, they haven't been completed. Therefore, the regulators collectively and Department of Planning are unable to approve or support modification 16.

The long-term mounding of "stock piles" of highly permeable PAF hydrocyclone sands subject to constant wetting and drying provides the ideal environment for the development of AMD. It is well recognised (GARD) that the elimination / minimisation of water and oxygen on tailings is essential to minimise long term AMD in a high rainfall temperate environment, such as that present in the Cadia valley.

The Modification report, S7.1 claims that recovered sand is consistent with Leading Practice Tailings Management (2020 NSW Resource Regulator *This is blatantly incorrect*. This report is a short Q&A summary (only 6 pages) which makes no mention of Hydrocyclone sands and strongly recommends the implementation of dewatered tailings and a combination of dewatered tailings and waste rock. CVO's claim in the modification application is unsubstantiated.

This NSW Resource Regulator Q&A refers to the 2016 Department of Industry Tailings Management, Leading Practice Sustainable Development Program for the Mining Industry (Department of Industry, September 2016). Key elements are, design for closure, Dewatered Tailings management, Progressive Rehabilitation, Integrated waste management and stringent governance regulation. None of these elements are adequately addressed, if at all, in the Mod 16 proposal.

Modification 16 application states that seepage and drainage from the highly permeable sands stock pile and buttressing will be collected and directed to the existing tailings water collection ponds and then returned by pumps to the main process water storage area. There are no details provided in regard to the drainage and seepage collection around the sand stockpiles/dumps and rock buttressing.

The report states rehabilitation of the buttress would occur by capping (approx. 1m thick) and seeding with native grasses (S3.2.6). The report then states that the whole buttress would be subsumed by the southern tailings dam. Why is the buttressing necessary if the whole will be subsumed by the southern tailings dam? GHD advises the capping is necessary to reduce dust and erosion of the buttress base but ignores the dust emissions and erosion risks of the much larger sand stockpiles/dumps.

The larger stockpiles/dumps will naturally dry from the top down generating the prime opportunity for wind erosion and increased dust lift off. Modification 16 application does not address this fact whatsoever.

Mod 16 does not explain how the sand buttressing then integrates with the rock buttressing on the failed section of the wall. It appears that the proposal is less about stabilising the NTSF but rather fundamentally more about dumping approximately 30% of the tailings in stockpiles/dumps/heaps on the existing STSF because CVO is running out of tailings storage. Mod 16 is essentially an excuse to elicit approval to utilize hydrocyclone sands for tailings storage.

It is intended that the tailings stockpiles/dumps will be built over the water at the base of the NTSF and adjacent to the water around the slump area. It should be remembered that:

- In the previous repair attempts CVO was unable to pump out the water and slurry at the slump location and failed to find a firm foundation for the repair of the NTSF– (the water was never ending). That demonstrates water is refilling the void as it is pumped out.
- The ITRB identified an alluvial channel under the slump and the Cadiangullong fault line runs north to south in this location.
- Hydrobiology has identified an increase in water flow and contamination in Cadiangullong Creek as the Creek flows past (from North to South) the tailings dams
- Hydrobiology has identified tailings pore water in monitoring bores to the south and west of the STSF

There is a growing body of evidence that the tailings water is already contaminating the ground and surface water both on site and off site. There is already evidence of AMD developing in the Cadia district. It seems incomprehensible that this, Modification 16, high-risk strategy would be acceptable.

There is a clear risk that the high permeability sand deposits will ultimately become a PAF impregnated water reservoir embedded within the STSF with the potential to seep AMD into the environment, ground and surface water for ever.

## **Geotechnical**

It is noted the STSF has not had tailings deposited for several years. Modification 16 proposes to add significant volumes of tailings to the STSF. However there has not been any detailed geotechnical studies or investigations to understand what the impacts are on the physical STSF facilities by shocking the STSF with additional load, weight and water/moisture. Each of these components will cause a range of geotechnical impacts, none of which have been considered or understood.

Depositing tailings into the STSF will also generate additional pressure on the STSF wall, which has been the subject of stability issues/concerns and additional buttressing. Again, no studies undertaken provided to illustrate the effect of the additional pressure and load on the STSF wall or the effectiveness of the buttressing undertaken previously to the southern wall of the STSF. Collectively and individually the regulators and the Department of Planning, in particular, are all significantly uninformed by CVO regarding Modification 16 that they cannot reasonably or defensibly approve, support or endorse modification 16. The community is similarly uninformed.

## Dust Objections

The Mod 16 comparison with Mod 15 dust emissions are misleading. The dust emissions from the coarse tailings cannot be compared to the dust emissions from the NAF waste rock. The hydrocyclone sand is much finer and contains toxic residual mine processing chemicals and crushed metals which adversely effect human health and the environment generally.

The dust model presented in App C Table D2 predicts dust impact from compaction and shaping the dry hydrocyclone sands. The model is based on a single dozer operating 2920-6280 hours/year working on the cells on construction and operation plus shaping the stock pile. Mod 16 actually proposes four (4) tractors operating 24 hours per day plus an excavator as well as a dozer (which may be used only during the day). This actually equates to some 35,000 hours per year of activity. The dust estimates on which the dispersion model is based appears to be materially underestimating the fugitive emissions.

Whilst the Mod states its purpose is to strengthen the poorly designed buttress on the NTSF, however the vast majority of the sand is actually planned to be stockpiled. Total stockpiles/dumps are projected to be 10.5 M tonnes/year of which approximately 7 M tonnes/year will be placed in the stock pile/ dump.

GHD AppA S9.1.2 stresses the importance of the rock cover stating:

*“As soon as cell operation is completed, part of the downstream shell will need to be protected to reduce dust emissions and minimise the risk of erosion. To address this, a cover layer is proposed over the exposed downstream embankment, consisting of a 1m layer of general fill placed over the final recovered sand surface. This cover should be placed as early as practical following cell completion, rather than waiting for full buttress construction, to limit dust emissions and provide erosion protection. As its primary function is to suppress dust and reduce emission risk in the long term.”*

Whilst concern is raised over the dust from the buttressing the majority (75%) of the hydrocyclone sand is actually sitting unprotected in the stockpile/dump with no dust mitigation. It will be decades before these stockpiles/dumps are subsumed by the planned STSF. Mod 16 refers to top of the sand dump ultimately being bulldozed level with the final height of the combined southern and northern dams. That suggests the dump will be taller than the current northern dam ie >50m. How will the dust from a dump on this scale in an exposed location be controlled?

Proposing to have the stockpiles higher/taller than the existing NTSF inherently means it will also be higher/taller than the currently approved maximum height of the STSF. This notion is not permissible. The community does not accept this proposal. This is simply an attempt by CVO to add more tailing to the STSF without full and proper consideration.

The larger stockpiles/dumps will naturally dry from the top down generating the prime opportunity for wind erosion and increased dust lift off. Modification 16 application does not address this fact whatsoever.

The experience of the community following the 2018 NTSF wall collapse was that the most toxic dust was the superfine efflorescent salts that resulted from evaporation and were

drawn by capillary action to the surface of the tailings. This dust consists of soluble metal salts and is sub PM<sub>2.5</sub>. The Aeron report does not consider this form of dust in the TSP analysis.

The dust model criteria uses the outdated pre 2025 NEPM criteria. This should be updated as Australia's PM<sub>10</sub> 24-hour criteria has been reduced from 25µg/m<sup>3</sup> to 20µg/m<sup>3</sup>.

Consideration should be given to a risk management approach based on the WHO Guidelines.

	WHO µg/m <sup>3</sup>	NEPM µg/m <sup>3</sup>	CVO µg/m <sup>3</sup>
PM <sub>2.5</sub> - annual	5	8	8
- 24 hr	15	25	25
PM <sub>10</sub> - annual	15	20	25
- 24 hr	45	50	50

This community has, based upon CVO's own data, and as evidenced by EPA legal action in relation to both the vent shafts and the tailings dam emissions lived through years of excessive dust emissions from CVO. It is not unreasonable to expect the regulators to now ensure the community has actual clean air.

Both CVO and the regulators have an active obligation to ensure the community has actual clean air, currently this is not being delivered nor sufficiently or appropriately enforced. Based on the precautionary principle, ethically the WHO guidelines should be implemented to protect the community. Accepting and relying on unrealistic models, is mutually exclusive from ensure the actual air meets not only the model outputs, but also the required (WHO) thresholds.

In regard to specific dust from metalliferous mining, consideration should be given to the EPA SA guidelines which were developed with the department of health (SA) based on RCS and requires a limit of 3µg/m<sup>3</sup> annual average for respirable PM<sub>10</sub> in ambient air.

### **PFAS Contamination**

In 2024 / 2025 the community began testing local water courses for PFAS. This led the EPA to commence a testing program in the Belubula River and on site at CVO and eventually to require CVO to conduct a PFAS audit. AECOM delivered its report, Investigation of PFAS Use and Occurrence, Cadia Valley Operations, to the EPA in September 2025 it was provided to the community in February 2026. The AECOM report only considered PFAS chemicals which might be used in AFFF firefighting foam. AECOM did not consider that PFAS chemicals are widely used in gold and copper mining as part of the processing of the ore and separation of minerals (ore leaching, flotation, acid mist suppression).

PFAS has been found at CVO by the EPA and CVO testing in:

- The PTSF and Rodds Creek dam, that is it is in the process water
- In multiple monitoring bores, which suggests PFAS is not being contained
- In leach ponds and creeks

It is reasonable to assume therefore that there is PFAS in the tailings.

Modification 16 does not address nor consider any PFAS/PFOS or related issues. This is not acceptable to the community. It is extremely indefensible for CVO to present and submit modification 16 or any other development application without full and legitimate consideration of PFAS/PFOS and related issues.

### **Business Considerations**

Recognising the importance of developing sovereign wealth for the benefit of society and support government efforts to facilitate this. The Cadia Hill chalcopryrite deposit has been a missed opportunity through inefficient management and operations, with more than 40% of the resource either mismanaged or sterilized by the current operation.

Recovery rates, primarily due to lack of investment in comminution and suboptimal particle size flotation has resulted in historical recovery in the range 70-80% for gold and copper, where industry practice is closer to 95%. Further investment in coarse particle flotation may improve the recovery rate by approximately 5%, but at the expense of concentrate degradation. The Queensland University report advises that a finer particle size (ideally 40µm) is necessary to recover Critical Minerals such as Magnetite and Vanadium and to optimise copper production.

It has been CVOs management strategy to adopt a cheap high volume production methodology, prioritising higher grade ore, and maximising short term returns. This strategy comes at a significant environmental cost and minimizes long term sustainable production. The current strategy of using sub-processed ore to construct a TSF is a false economy.

High rates of production and a lack of investment in tailings dams have made the mine high risk and almost impossible to manage safely. A lower sustainable production rate would provide opportunities for safer tailings consolidation, better comminution by tertiary grinding and higher recovery, progressive rehabilitation, long term sustainable employment.

The mine should have been able to sustainably operate till the end of this century, but now is unlikely to be operating beyond 2050. It is not clear whether rehabilitation is possible or that the damage to neighbouring ground and surface water can ever be rectified. There is no viable rehabilitation plan.

A 1997 report by the Australian Government (Harries 1997 Acid Mine Drainage in Australia) identified the rehabilitation costs for Acid Drainage to be in excess of \$100,000 / hectare. This is a risk that must be avoided if at all possible. Hydrocyclone sands is a high-risk strategy. After only 25 years of operation, we have evidence of AMD developing in creeks, groundwater and the Belubula River in the vicinity of CVO. Adopting a tailings storage technology today which could require rehabilitation of 5000ha of disturbed ground and tailings dams would suggest a rehabilitation deposit / fund is required in excess of \$1billion.