

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Peter Anderson , of Batehaven NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

Gold mines by their very nature must produce waste that includes a variety of heavy metals and other pollutants. These pollutants will be stored in a waste collection dam. The Dargues Reef Gold Project (and its waste/tailings dam) is located on the Deua River at the head of the Deua and Moruya River catchment. The geography of the project means that any solution spill from the mine site will quickly spread down this catchment. The Moruya River is the only source of drinking water for the northern end of the Eurobodalla Shire, an area that includes the towns of Moruya and Batemans Bay. Thus the only supply of drinking water for approximately 30,000 people can be easily and quickly destroyed. Placing such a source of pollution in such a location just beggars belief. I hope this project will be rejected.

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Elisa Wirkala , of Moruya NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

I'm an American who has been living in Moruya this year. I lived in a cottage on the Deua river, and found it to be one of the most beautiful and pristine places I have ever encountered. The family and surrounding community depend on this water, and we object to the dargues gold mining operation, including its expansion of privileges under Modification 3, the extension of over 6 years of mining, and the increase in total ore mining.

Mining will almost certainly have negative impacts in this sensitive ecological area, and will threaten a river and people that should be protected, not exploited. It's a boom and bust business that will not help our local community, and will forever damage our home.

If the mining MUST go through, please at least do not allow the modification 3 to go through, nor the extension and increase in total ore mining that is being asked for by Unity Mining.

Thank you for considering our voices,  
Elisa Wirkala

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Stuart Whitelaw , of Moruya NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

As part of the investigations carried out by community members on the recorded Dargues Creek/Majors Creek rainfall data, it was found that the proponent had based their site design on incorrect data. This calls into question all of the design assumptions on the existing tailings dam.

There needs to a new design for the entire site, including sediment dams and other dams and all construction, including the new proposals in this Modification. To allow a the current design to proceed without re-examining the design assumptions based on the correct data would be a very high risk action.

In addition, Unity has not complied with the original Conditions of Approval, as recently determined by the Department of Planning's Compliance Officers.

These include continuously modifying the design of the Project before and during construction to suit the local rainfall and evaporation.

Unity have not done this, but the community only found this out when Unity were required to give the data for this Modification.

The proponent is also in breach of the approvals in that they have not:

- . done the stygofauna survey
- . done baseline studies of the Araluen Scarp Grassy Forest
- . put in one of the ground water bores on site
- . consulted with downstream landowners about damage done during their pollution events of 2013, and sought a determination from the Director General of Planning if no agreement can be reached

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **John Stowar , of NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

Dear M/S Duncan,

I wish to express utmost concern at the proposed changes to the above project. The Moruya river is the lifeblood of a very extensive catchment apart from the township of Moruya. Any development that compromises the health of that river should be banned immediately. Fortunately common sense won out over the insane idea to use cyanide in extraction but the new proposal is so far reaching that a fresh application should be mandatory.

Extending the lifespan of approval by 300%, extending the volume of ore extraction by 33%, extending the site boundary (by ?), constructing a new creek crossing and an extensive area for 'waste' rock 'storage' are not minor adjustments. The Department should be undertaking a fresh review of this project following request for a new application. Nothing less should be accepted.

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Robyne Stacey , of Moruya NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

Supplementary Submission on EA for THE DARGUES CREEK REEF GOLD MINE - MODIFICATION 3 MP10\_0054

Removal of Cyanide Processing on Site and Expansion of Tailings Dam (TSF)

I am very pleased that cyanide processing & the enlargement of tailings dam have been withdrawn by Unity from this application for modification.

Failure to Comply with Original Conditions of Approval

However the failure of Unity to comply with the original conditions of approval as recently determined by the Department of Planning's Compliance Officers raises serious questions about Unity's commitment to protecting the environment.

Chief amongst these is the failure to continuously modify the design of the project before and during construction to suit the local rainfall and evaporation. The proposal needs to be revised to fit with the recorded Dargues/Major's Creek rainfall figures. New designs are needed for everything including sediment dams and other dams and all construction, including the new proposals in this modification for construction of an eastern waste rock emplacement and a vehicle crossing over Spring Creek.

Other areas of non-compliance have been:

No stygofauna survey

No baseline studies of the Araluen Scarp Grassy forest

One of the ground water bores not put in on site

No consultation with downstream landowners about damage done during their pollution events of 2013 and subsequently no determination sought from Director General of Planning if agreement was unable to be reached.

No new approvals should be allowed until the original conditions of approval are all carried out.

Extension of Time Frame for Mining Operations, Increase in Mined Ore and Expansion of Mine Site

Given the damming assessment by the EPA, the failure to comply with a number of original conditions and the litany of pollution events by Unity before the mine is even up

and running I do not believe it is an acceptable risk to extend the mine's production time and volume or the expansion of the mine site .

I am further convinced of this when there is no explanation in this EA by Unity in relation to how & where the waste from the 33% of additional ore to be mined will be stored. If granted, will we need to expect yet another modification to increase the size of the tailings dam (TSF)

Unity have progressively attempted to extend the life of the mine from 2018 to 2022 and now to 2024. The longer they are there the greater the risk to our catchment. The reason the process of approval has been so drawn out is the inadequacy of Unity's proposal. The catchment community should not be made to bear the cost of their inadequacy.

**Adequacy of Unity's Financial Ability to Remediate Land and/or Compensate Landholders in Case of Pollution**

I have spoken about this in my original submission but would like to make some additional points.

I do not believe any risk to the Deua River Catchment is acceptable for the sake of gold mining.

However, since some mining has previously been approved Unity needs to be able to demonstrate its ability to compensate and remediate should there be pollution.

Their public liability insurance is only \$60,000,000. Given the standard level of public liability to hire a hall is \$20,000,000. Unity's coverage does not on the face of it seem sufficient given what they are proposing.

The tailings dam remains a major worry even though it is not being increased in size. Its position at the headwaters of the Deua and the fact that it will need to be maintained and kept in good condition for the foreseeable future remains the greatest threat to the catchment. The mine will come and go but we will be left with this toxic legacy for ever.

New South Wales Government

Department of Planning

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Lenard Ryan , of Moruya NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

Dear Sir / Ms

The only thing to say is Brazil & BHP or maybe Mount Polley Canada.  
Both tailings dam failure disasters with connection to Australian so called responsible miners.

Please have a look at the amount of failures that do happen at this link.

<http://www.wise-uranium.org/mdaf.html>

Apparently the number of tailings dam collapses is increasing as costs are cut and more risk is taken.

I object to any risk to our water supply by this proposal.

There is no reason that we should accept the risk to our water supply given the number of dams that fail worldwide.

Yours Sincerely

Lenard Ryan

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Allan Rees , of Moruya NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

Supplementary Submission on EA for THE DARGUES CREEK REEF GOLD MINE - MODIFICATION 3 MP10\_0054

I object to the proposed modification 3 to the Dargues Creek Gold mine.

I am a resident of Moruya, downstream from the Dargues Reef Gold Mine. Like most residents of Eurobodalla, I rely on the Deua River for my drinking water and I also use the river to swim and canoe.

Failure to Comply with Original Conditions of Approval

Unity Mining has failed to comply with the original conditions of approval as recently determined by the Department of Planning's Compliance Officers and this raises serious questions about Unity's commitment to protecting the environment.

Unity has failed to continuously modify the design of the project before and during construction to suit the local rainfall and evaporation. The proposal has not been revised to fit with the recorded Dargues Creek/Major's Creek rainfall figures. New designs are needed for everything including sediment dams and other dams and all construction, including the new proposals in this modification for construction of an eastern waste rock emplacement and a vehicle crossing over Spring Creek.

Other areas of non-compliance have been:

No stygofauna survey

No baseline studies of the Araluen Scarp Grassy forest

One of the ground water bores not put in on site

No consultation with downstream landowners about damage done during their pollution events of 2013 and subsequently no determination sought from Director General of Planning if agreement was unable to be reached.

Accordingly, there should be no new approval for extending the size or operating life of this mine.

Tailings will still contain dangerous heavy metals

The tailings dam will include finely ground heavy metals, which in this form, can result



in increased mobilisation and pollution downstream, either during the operation of the mine, or after it has closed. The tailings will need to be permanently kept out of the river system and with Unity's track record, I have no confidence that is a sensible risk. This is not a suitable site for processing ore and permanently storing tailings. Any pollution from the mine threatens recreational users of the river, the farmers who have orchards or market gardens along the Deua and people who eat that produce or rely on the river for drinking water.

The river passes through the Deua National Park which is a sensitive environmental area, where wildlife should be protected from industrial pollution.

The steep site of the tailings storage is a problem given the heavy rainfall which can occur in this area. This is not a suitable location for permanent storage of dangerous wastes.

Heavy metal pollution from the mine could harm the Deua River and the Moruya River all the way to the Batemans Bay Marine Park.

Extension of Time Frame for Mining Operations, Increase in Mined Ore and Expansion of Mine Site

Unity Mining has not so far operated the mine without accidents. There have been five pollution incidents during their six months of operation. The Land and Environment court which fined them over \$200,000 held that the pollution was preventable had adequate precautions been taken. I have no confidence that Unity is able to handle these dangerous materials.

Extending the time frame of the mine's operation and increasing the amounts of materials processed only increases the risk of pollution and contamination of the Deua River catchment.

I object to the proposal and ask that it be refused.

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

**Anne Rault , of Deua River Valley NSW, made the following submission on the project:**

## **Dargues Reef Mine - Modification 3**

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### **Objects to this project**

Submission attached

- Attachment: [Submission from Anne Rault re Response to Submissions from Big Island Mining November 2015 PDF.pdf](#)

**Submission from Anne Rault of 2391 Araluen Road, Deua River Valley NSW 2537**  
**DARGUES REEF GOLD MINE MODIFICATION 3 MP\_10 0054 July 2015**  
**Response to Submissions from Big Island Mining November 2015**

**Time Frame for Submissions:**

I take issue with the time frame for responses to this document. I received this by email on December 1 2015. The cut-off date for responses is Friday December 18, 2015.

Given that this period is in the lead-up to Christmas, I am reasonably cynical about the timing. People are particularly busy and generally stressed around Christmas. They have neither the time nor the energy to complete a detailed appraisal of such a lengthy document.

**The withdrawal of cyanide processing on site and the increased size of the tailings dam (Tailings Storage Facility):**

I acknowledge that Unity Mining Limited (operating as Big Island Mining) has withdrawn these two components of its proposed modification. Given the number of objections to these components, in particular from individuals who will be directly impacted by this mine, this is unsurprising. At least, they have saved us all the time and energy of civil disobedience.

**Extension of time frame for mining operations:**

In the application for Modification 3, the Proponent sought to extend the mine life to 31 August 2022 (Environmental Assessment – Modification 3, Schedule 2, Condition 5). Now, in the Responses to Submissions, Unity Mining is endeavouring to sneak in a further extension of two years to 2024. I would have thought this would have required a further application to modify, that is Modification #4. I would appreciate an explanation in writing to the address below as to how this is possible.

**Response to concerns about Unity's financial ability to respond to insurance claims for damages:**

Unity Mining are required to "effect and maintain a public liability insurance policy to the amount of sixty million dollars (\$60 000 000). The policy maintained under this commitment must name Eurobodalla Shire Council as an interested party and a beneficiary under the policy ..." (Commitments, Appendix 2). There is no mention of downstream landowners being interested parties or beneficiaries.

As a landowner on the Deua River with about ten hectares of land and doing not very much except living here and enjoying the peace and quiet, I have an insurance policy with a public liability component up to twenty million dollars (\$20 000 000).

Somehow, these figures don't compute.

**Increase in ore mined:**

Modification 3 refers to the application to change the amount of ore taken from 1.2 million tonnes to 1.6 million tonnes as "a small increase". It is not. It is a 33% increase in the originally designated amount. Please explain in writing to the address below how 33% more ore can be mined with NO concomitant increase in the size of the tailings dam (TSF).

Again, the figures do not compute.

My concern is that this "oversight" will be noticed down the track once the mine is operating and we will be going through this process yet again for Modification X., when an increase in the height of the tailings dam wall will be requested.

### **Tailings Dam Oversight:**

DSC (Dams Safety Committee NSW) reviewed the TSF Final Design Report (Knight Piesold 2011) at its February 2012 meeting and confirmed in writing on 3 February, 2012 that “the overall design conforms to the committee requirements.”

The photographs below are of the Jerrara Dam near Jamberoo, South Coast NSW, not very far from Majors Creek. This is what happened during an unusual rain event (“unusual rain events” are common at Majors Creek) in August 2015. Overnight rainfall was 170 mm at nearby Kiama. If this is how competently the Dams Safety Committee manages dams that only contain water, I do not have great faith in their ability to oversee a tailings dam full of toxic materials. That is not entirely their fault. The number of people involved in this Committee is absolutely minimal. Their office is often not manned as everyone is involved in being in the field, doing inspections.



I will await your responses to my two queries as soon as possible.

Anne Rault  
2391 Araluen Rd  
Deua River Valley NSW 2537  
[annerault@gmail.com](mailto:annerault@gmail.com)  
0427498918

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## David Lever , of Araluen NSW, made the following submission on the project:

### Dargues Reef Mine - Modification 3

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#### Comments on this project

I note that the Proponent has re-instated a number of Commitments in the Revised Statement of Commitments in Appendix 2 to its Response to Submissions.

The Proponent explains this as follows.

"The Proponent notes that a range of Commitments inserted during the Land and Environment Court action are duplicated by Conditions of approval. However, in light of the fact that these matters were considered by the Court, the Proponent proposes to retain them within the Statement of Commitments."

There are a large number of other Commitments that the Proponent still proposes be deleted, despite the fact that they too were considered by the Land and Environment Court. Appendix 5 to the Land and Environment Court's Order of 8 February 2012 includes the following Commitments, now proposed for deletion by the Proponent: 1.1; 1.2; 1.3; 3.1; 4.1; 4.7; 4.8; 4.9; 4.10; 4.12; 4.13; 5.7; 5.9; 5.12; 6.1; 6.2; 6.4; 6.4b; 6.4c; 6.4f; 6.9; 6.10; 7.1; 7.3 to 7.18; 8.1; 8.2; 8.4; 9.1; 9.2; 10.1 to 10.5; 10.7; 10.9; 10.10; to 10.14; 11.1; 12.1; 12.2; 12.5; 13.7 to 13.9; 14.5; 14.15; 15.1 to 15.6; 15.8 to 15.11; 15.13; 15.14; and 16.1.

A small number of Commitments could safely be deleted, as they are no longer relevant., namely: 6.4; 6.4c; 10.1 to 10.4; 10.9; 10.11 to 10.13.

The remainder of the Commitments should be retained, as they do not duplicate other Commitments, nor are they duplicated by the Conditions of approval.

Commitment 4.12 is not duplicated by Commitment 10.8, as Commitment 10.8 does not require signing up of drivers to the Code. It is not self-evident that Commitments 6.9 and 7.18 duplicate Commitment 6.5. Commitment 9.2 is still relevant, because it is possible that items of suspected non-Aboriginal heritage significance could be identified at some time during the life of the Project. Commitment 10.5 is also still relevant as transportation of concentrate is still proposed.

In accordance with Condition 3 of Schedule 2 to MP10\_0054, if there is any inconsistency between a Commitment and a Condition of approval, the Condition

prevails. The Proponent has not identified any inconsistencies, and where it claims that a Commitment is "now addressed by" a Condition, this claim is usually incorrect. Commitments are very often based on undertakings given in the 2010 Environmental Assessment, and set out the manner in which the Proponent proposed to address the general requirements that were later imposed as Conditions by the Planning Assessment Commission or the Land and Environment Court.

#### Other Comments

I note that my submission (no. 262) is claimed by the Proponent in Appendix 4 to its Response to Submissions to constitute an objection to, rather than support for, Modification 3. In fact, my submission was made in support of the Modification. The first sentence states that "with the exception of the proposed revision to the Statement of Commitments, I strongly support Modification 3, on both economic and environmental grounds".

This raises the question of whether the Proponent has misrepresented the main purpose of other submissions.

Secondly, it is unfortunate that the issues categorised in Appendix 4 as constituting the main objections of submitters to Modification 3 do not include the Revised Statement of Commitments. There is therefore no indication of the number of submitters who objected to the Revised Statement. Perhaps this could be addressed in any further Response to Submissions in relation to Modification 3.

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

**Carol Kindrachuk , of Araluen NSW, made the following submission on the project:**

## **Dargues Reef Mine - Modification 3**

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### **Objects to this project**

Please see attached submission from myself and my husband Conrad.

- Attachment: [Dargues Reef Mine Kindrachuk's submission, Dec 2015.pdf](#)



## **Submission regarding Dargues Reef Gold Mine Modification 3 MP\_10 0054 July 2015 Response to Submissions from Big Island Mining November 2015**

We are commercial vegetable farmers and have been living in the Araluen Valley for 35 years.

The area of Braidwood, Majors Creek, Araluen and on down the Deua River to Moruya is home to many people who love the clean country life. It supports upwards of 100,000 people.

We as farmers and Carol as a former long time treasurer of the Upper Deua Landcare Group have been involved in repairing damage to the creeks caused by the last gold rush in the 20<sup>th</sup> Century. We are still dealing with the sandlogs caused by the dredging clogging the Araluen Creek.

We have seen the effects of drought and the great work of those local farmers who have changed their methods from the old ones based on the European way of settlers who were used to having plenty of water constantly to a more sustainable way based on Australia's drought and flood prone land.

Unity told us at an Araluen meeting that they do not use creek water, they only use "run off" water from the land, roads etc. Well, that's what fills the creeks and rivers!

We see many major rain events which the Mine says happen rarely. We had 284mm rain here in 2 weeks in December 2014 including 150mm in 12 hours and a similar amount in August 2014. These events cause the creeks to rise very quickly. In February 1992, we had a few days rain ending with 257mm falling in 24 hours. The Araluen Creek flooded most of our garden.

The mine had 5 spillages in 6 months in 2013. The Company allegedly denied that 2 of the breaches had occurred until the EPA & public pressure forced them to admit it. They were fined for this.

The orchard, farming, tourist, writing, other trades, retirees superannuation & property economy along this waterway is worth much more economically, probably \$100s of millions for years to come, than the short term destructive mining of a metal of which there is sufficient already to supply the world's needs. The jobs promised are a small number and historically, most mining jobs go to fly in workers, not locals.

We are relieved by the decision to withdraw the Application to process on site using cyanide.

### **However there are still major concerns for us in the Response to Submissions by Big Island Mining Pty. Ltd, and Unity Mining Ltd**

- In the Executive Summary it is stated that "the Proponent withdrew from the Proposed Modification : Construction of an enlarged Tailings Storage Facility."
- It is also stated that " Approval is therefore sought to modify MP10\_0054 to allow for (2) " A minor increase to the total resource to be extracted and associated extension of the life of the mine."
- The proposed increase from 1.2 million tons to 1.6 million tons is 33% of the original. The proposed time extension is 6 years and 4 months. These are not minor increases and begs the question of whether the Tailings Dam will be able to contain the extra volumes. New designs are needed for all dams & constructions. It is still a concern that the Dam is at the edge of a very steep escarpment and, even without cyanide, major damage to the Araluen Creek and Deua River would result from a spill. The water will not be pure.
- The noise and pollution issues for residents of Majors Creek remain, along with truck movements on narrow roads in a notoriously foggy area.
- It appears that Unity has not complied with the original Conditions of Approval, as recently determined by the Department of Planning 's Compliance Officers. These include:
- continuously modifying the design of the Project before and during construction to suit local rainfall & evaporation.
- Doing environmental studies.
- Putting in one of the ground water bores on site for independent testing of the water.
- The Company should fulfil *all* conditions of approval before this Modification is approved.

As this is our very busiest time of the year, we have found it difficult to absorb the huge amount of reading involved with this response. However, thank you for the opportunity to respond.

Carol and Conrad Kindrachuk

Little Oakey Creek, 5258 Moruya Road, Araluen, NSW 2622

16 December 2015

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

**Darren Hunt , of Araluen NSW, made the following submission on the project:**

## **Dargues Reef Mine - Modification 3**

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### **Objects to this project**

No practices that could cause any risk factor at all of pollution to our creeks and waterways in the local area, and beyond.

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Emily Gormly , of BELDON NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

After thinking on the recent tailing dam disasters elsewhere in the world, namely Mt Polley, Mariana, and China, how can this company seriously think they have sufficient funds to bring people back from the dead-that I would like to see! That doesn't even take into account the water supply,wildlife, agriculture, tourism. It should be mentioned that this tailings dam also has the potential to outflow into the Shoalhaven River as well as the Deua/ Moruya system.

Where is the independent financial review of this Company's accounts and where is the money set aside for future potential disasters?

Although I know live in Perth, I was born and grew up in Moruya. I have fond memories of growing up in this pristine area which I would like to ensure to a future generation.

New South Wales Government

Department of Planning

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## Patricia Gardiner , of Deua River Valley NSW, made the following submission on the project:

### Dargues Reef Mine - Modification 3

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#### Objects to this project

Submission: AMENDMENT TO MODIFICATION 3, DARGUES REEF GOLD MINE

Application Number: MP 10\_0054 MOD3

Location: Majors Creek

As a long time resident of the Deua River Valley I strongly object to the amendment of Modification 3 for the Dargues Reef gold mine by Big Island Mining.

I also object to the timing and time frame of the submission period - immediately before Christmas, when people do not have the time, inclination or energy to properly review or research information on such an onerous document.

Therefore this, my second submission to modification 3, will list the reasons for my objection in point form as they come to mind.

- \* the original approval was given without consulting downstream water users. Now it appears that we are `stuck with it' and can only comment on modifications as they arise, and yet we are the ones who will suffer the consequences of a TSF failure. We do not benefit from the mine in any way.

- \* rainfall data used was inaccurate as it was not for Majors Creek.

- \* Majors Creek is susceptible to high rainfall events.

- \* Unity Mining has not complied with the original Conditions of Approval. For example, the design was supposed to be continuously modified to suit local rainfall and evaporation.

- \*the amount of ore to be mined has increased by 30% and the mine life extended by 6 years. Surely the original dimensions of the TSF would be inadequate to cope with such increases. Or will there be further modifications in the future?

- \*the TSF will still contain heavy metals - a risk to downstream water users and the environment in the event of a breach or collapse of the bund wall.

- \*at RISK in the event of bund wall failure: all residents downstream that use the Deua River for domestic and agricultural water use, Eurobodalla Shire's water supply, endangered and threatened ecological communities along the river and within Deua National Park, Batemans Marine Park.

- \*recent tailings dam failures around the world, including Australia(Texas) is a warning that siting a TSF at the headwaters of a river system has disastrous consequences in the event of a breach or failure(Brazil being a prime example).

- \* the TSF will NOT be monitored forever, and it will NOT last forever as history shows.
- \* soil structure at the mine site is extremely susceptible to erosion, as evidenced by EPA breaches during construction during normal rainfall conditions. TSF bund wall and levee mounds to divert runoff are inadequate to withstand a heavy rainfall event, particularly if the ground is already saturated.
- \* mine site located on Majors Creek Fault Line. Ground movement, whether activated by mining or not, would interfere with the stability of the entire mine site. The implications of which could be catastrophic.
- \* in the event of TSF failure, will Unity's bond/insurance cover clean up, rehabilitation of the river system, compensation to residents/farmers and an alternative water supply for an entire shire?
- \* does Unity have a contingency plan if the river system and Eurobodalla's water supply is contaminated?
- \* who bares the responsibility/cost if Unity goes bankrupt?

\*ON MONDAY 7th Dec. Unity announced a take over bid by Diversified Minerals Pty Ltd. This opens up a whole new 'can of worms'.

I cannot but feel that this whole process is a waste of time. All I know for sure is that Dargues Reef Mine is, and will be a threat to all that live downstream.

Patricia Gardiner  
 3054 Araluen Road  
 Deua River Valley, 2537  
 ph: 02 44788582  
 e: fergustricia@activ8.net.au

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Jackie French , of Araluen Valley NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

Submission from Jackie French on Big Island Mining Pty Ltd Environmental Assessment for the Dargues Reef Gold Project MOD 3.

Submitted via email to Phillipa Duncan of the Department of Planning, 18.12.2015 with an assurance that this is an appropriate way to make this submission.

#### **Proposed Vehicle Crossing over Spring Creek**

This new creek crossing provides a vulnerable point for accidents for the entire watershed, and given the Dargues history, it is reasonable assume that accidents will happen.

If one accepts that the 'mean time to first accident' is a guide to a project's design and management, Dargues managed ten days before its first major accident, with the next ten days later.

The site is steep, and even a company with a proven record of speed, expertise and willingness to remediate damage would find it difficult or impossible to prevent major damage to areas downstream if the contents of truck, or even an oil or fuel spillage, were to occur on or near the proposed new creek crossing.

It would be irresponsible to allow yet another point where a further pollution accident can cause damage to residents immediately below the site, as well as the entire Araluen/Deua and Moruya water system

#### **Construction of a Waste Rock Emplacement Area**

No in depth assessment has been given for the prevention of acid leaching from the waste rock emplacement area, which again, may affect households, businesses, endangered species and areas of great ecological and economic value downstream.

#### **Proposed Expansion of the Mine**

The proposed expansion of the mine will lead to increased truck movements which require careful management both to avoid spillage and increase road hazard. Long-term effective management of the Tailings Storage Facility remains a risk that requires continual and rigorous monitoring for at least 50-100 years to prevent any future breach or collapse. The NSW Government record in making sure that derelict mine sites are fully and effectively rehabilitated is poor. Concern remains regarding the likelihood of there being an acid mine drainage problem at the mine. This needs to be assessed by

an independent consultant with knowledge in this problem. Both issues have the potential to create negative impacts on downstream aquatic ecology.

There needs to be a full and independent i.e. not by Unity employees or long term consultants investigation of water quality from the mine backfilling, including modeling of dissolution associated with changes in hydrology, groundwater flow and the nature of the aquifer matrix.

I would remind the Department of the following

1. The company's poor record of Compliance, with many Compliance issues still unresolved, despite the Department's request that they be followed up. These issues include such major omissions as a further on site test bore; stygofauna monitoring to determine possible pollution or acidification; and cooperation with downstream water users during and after pollution events, and re evaluation of the entire design before and during the life of the Project, to fit the local rainfall data.
2. The five pollution events in the six months the Dargues Project operated, which took up much of those six months, and the repeated public denial of pollution events until forced to admit them in court.
4. The refusal to inspect or discuss remediation or reparation for damage downstream during those events
5. The public dispersal of information the company knew to be false, and their refusal to retract this information, when requested to.
6. Many of the 'independent' assessments made for the impact statements have in fact been made by Unity employees, or long term contractors
7. Knight Piesold can only work on the data they have been provided. This data has been shown to be faulty, underestimating rainfall and overestimating evaporation on site even though the Company was able to access and provide more accurate information. It is noteworthy that the information they have provided has led to a cheaper design, suited more to flat arid land than a steep slope above a major river system, with a record of extreme weather events.
8. The company's refusal to reply to a request for details on their financial ability to remediate and compensate for damage done downstream of their Project. They have only stated that they have the financial capacity to remediate the site itself. given the company's previous refusal to inspect or evaluate damage downstream in 2013, this omission would indicate that the company does not have the financial resources to remediate damage downstream, nor any willingness to do so.
9. The lack of any cost benefit analysis of potential damage downstream. This project has already cost the local community at least 29 jobs, and the NSW economy over three million dollars, not counting the public expense of the time taken by the EPA, Department of Planning and other government officers. I refer the Department to previous submissions about the major and long term value of downstream industries, including my own, that have already been dramatically affected financially by mistakes

from this project, and the major potential for even greater damage.

10. The Company has refused to install electronic water level loggers in selected key monitoring bores and installing multi-level vibrating wire pressure sensors in selected open exploration bores in proximity to the mine workings if significant seepages are intersected in fault zones during mining. While this is far cheaper for a cash strapped company, it is at the cost of obtaining accurate data. The continuous data record available from a logger will capture short term variations in water levels which would otherwise be missed by the periodic manual measurements. These variations may well be significant, especially in interactions between shallow groundwater, surface water (streamflow) and rainfall. The separation of the baseflow component of streamflow also would be more meaningful and accurate if a continuous record was available from a data logger installed at each measurement station. In order to further enhance data collection QA/QC, the level logger should be capable of recording temperature and electrical conductivity of the water (EC) as basic indicators of water quality. A suitable application would be to equip the v-notch weir at the upper spring zone in Spring Creek with a water level/EC/temperature data logger to improve the basic monitoring at this location, as recommended by AGECC.

To put it bluntly: the Company appears to operate on the lowest level of monitoring and fulfillment of Conditions it can get away with, and the latest comments by the company do not give any confidence that the company culture has changed, nor is likely to. This represents a continuous risk to households and businesses worth far more than the projected profit and contribution that this project will provide, if funds can be raised for it to operate.

There is also a danger that of this mine proceeding without sufficient funding for in depth monitoring, compensation and reparation after pollution events.

Unity, and as it was formerly known, Bendigo Mining, has proved to be unsuccessful at estimating gold reserves at both Bendigo and Henty. The Ten Year 'at least' gold reserves announced by Unity in 2012 at Henty proved to be false; the massive reserves promoted at Bendigo also could not be located, and as has happened in 2014-5, led to near bankruptcy and a company name change.

If the company is similarly incorrect about the extent or continuity reserves at Dargues, or the cost involved in reaching those extremely deep reserves, both the communities downstream as well as the NSW taxpayer may be faced with a bankrupt company, high remediation costs not just for the site but areas downstream, and a pollution problem for tens, if not hundreds, of years.

The NSW economy cannot afford to approve further Modifications and risk to valuable industries downstream, by a company with such a poor record.

I submit that no new Modification should be approved until the company has:

- . complied with all Conditions of Approval
- . updated the project design, including dams, tailings dams, and ore storage areas to fit local rainfall and evaporation figures
- . provided evidence of a cost benefit analysis that includes businesses immediately downstream, and evidence that the company has the financial ability, and willingness, to investigate, remediate and compensate for damage downstream

I further submit:

- . That a new creek crossing would mean a far greater risk of the accidents this project has been prone to.



.That the risk of acid leaching is too great, given the site and the project's record, for the other Modifications to be approved.

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[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Jennifer Edwards , of Mossy Pt NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

I object to this proposal on the following grounds :-

1. It intends to use the "approved" tailings dam. However it has since been established that the wrong rainfall and evaporation figures were used.
2. Although the proponents say they will not use cyanide, the dam is inadequate to store the volume of tailings without spilling. This position is made even worse since the volume of ore is to be increased as well.
3. Sediment spills from the tailings dam will have a devastating effect on local aquatic life, and on water quality for those who need to extract from the creek and river downstream.

[New South Wales Government](#)

[Department of Planning](#)

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Stephanie Birk , of Moruya NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

I object to extending the approved mine life from 31 August 2018 to 31 December 2024. I believe this company requires regular reviews of its operations. I would like to see yearly operational reviews of the tailing dam site due to the sensitive environment and vagaries of the impact of climate change.

I object to increasing the approved maximum ore extraction from 1.2 to 1.6 million tonnes over the life of the project. This company has already been bought & sold many times, therefore the continuity of management and accountability requires regular monitoring.

I object to the construction and use of a waste rock emplacement area;

I object to construction and use of a vehicle crossing over Spring Creek and to the amendment to the project boundary.

Overall I do not believe this Company has a secure financial base. To this end I would like to see an independent audit of the Company 's financial accounts with monies set aside by an independent body, eg EPA or Council, to have funds for any potential remedial works to offset any failures of the above modifications.

I would also like to mention the the poor risk management strategies of this industry in general. Brazil, Mt Polly and the more recent 150 deaths in China, all failed tailings dams, are surely good enough reasons to be very suspicious of any Company in the present financial and environmental atmosphere.

New South Wales Government

Department of Planning

[Skip to content](#)

[Home](#) > [Development Assessments](#) > [Major Project Assessments](#)

## **Bryan Sullivan , of Braidwood NSW, made the following submission on the project:**

### **Dargues Reef Mine - Modification 3**

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#### **Objects to this project**

Submission from Bryan Sullivan on Big Island Mining Pty Ltd Environmental Assessment for the Dargues Reef Gold Project MOD 3.

Submitted via email to Phillipa Duncan of the Department of Planning, 18.12.2015 with an assurance that this is an appropriate way to make this submission.

I oppose the Modifications on the following grounds:

##### **Proposed Vehicle Crossing over Spring Creek**

The company has shown itself incapable of conducting operations without considerable damage to landowners like myself downstream, and the local ecology. This crossing would mean a greater risk from the accidents this company is prone to.

##### **Construction of a Waste Rock Emplacement Area**

There has been no in-depth assessment given for the prevention of acid leaching from the waste rock emplacement area. Given the company's record, this indicates a lack of willingness to acquire the necessary data, and to carry out remediation, especially if the company goes into liquidation before final remediation. I draw the Department's attention to the auditor's report in 2014 stating that Unity is at risk of not being able to meet its obligations. Unity has now changed auditors, but a risky financial position means risk for those who may be affected downstream.

##### **Proposed Expansion of the Mine**

This should not be permitted until the company has met all Conditions of Approval and resolved the issues remaining from remediation and compensation from the 2013 spillages.

I submit that no new Modification should be approved until the company has:

1. complied with all Conditions of Approval, and that reports on this Compliance have been made available to the local community who have suffered so much from this project.
2. updated the project design, including dams, tailings dams, and ore storage areas to fit the local rainfall and evaporation figures, as required under the LEC Conditions of Approval, and that reports on this Compliance have been made available to the local

community

I submit that:

1. A new creek crossing would mean a far greater risk of the accidents this project has been prone to.
2. The risk of acid leaching is too great, given the site and the project's record, for the other Modifications to be approved.

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