

TO 92286466

Minister of Planning
Department of Planning
GPO Box 30 SYDNEY NSW 2001
FAX 02 9228 6466

**PLEASE DO NOT MAKE MY NAME AVAILABLE TO THE PROPONENT OR ON THE
DEPARTMENTS WEBSITE**

29th October 2010

Dear Sir/Madam

RE GOLD MINE AT MAJORS CREEK - REF NUMBER 10_0064

I oppose the current proposal for the gold mine near Majors Creek.

I think there should be further investigation into a number of environmental issues.

This is a very quiet neck of the woods neighbouring some pristine areas of bushland. Mining activity and the partial crushing of the rock will severely affect the amenity of the local residents. A 24 hour a day operation will be intolerable for the local residents.

Crossing the street in Braidwood is already a dangerous concern to many older residents and children. Further truck movements will only add to this danger. The trucks must be made to bypass the town altogether. Perhaps the fill from the mine could go into building the very much needed bypass, which would be only approx 4km long. It would make an enormous difference to the town.

More testing should be done to make sure the Araluen aquifers are not affected, even with the most catastrophic natural event - such as flooding or seismic activity.

We still don't know where the trucks will be travelling to.
Can we be assured that the mine will not end up using chemical processing in the future?

Yours sincerely

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

✓

Kane Winwood - Online Submission from [REDACTED]

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 25/10/2010 10:26 AM
Subject: [REDACTED]
CC: <assessments@planning.nsw.gov.au>

I do not wish to have my name made available/public. A great opportunity for a small town. The jobs it will create for our young people who usually have to head for the cities will be significant. The overall boost to the economy of the surrounding towns of Majors Creek and Braidwood will be advantageous. I support the opening of the mine.

Name: [REDACTED]

Address:
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
https://majorprojects.onhiive.com/index.pl?action=view_job&id=3871

Site: #2222 Dargues Reef Mine
https://majorprojects.onhiive.com/index.pl?action=view_site&id=2222

Kane Winwood

E: kane.winwood@planning.nsw.gov.au

Kane Winwood - Online Submission from [REDACTED]

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 27/10/2010 1:53 PM
Subject: Online Submission from [REDACTED]
CC: <assessments@planning.nsw.gov.au>

I would like my name to remain anonymous please. I am a year 12 graduate this year and reside in both Majors Creek and Braidwood. I welcome the opening of Dargues Reef gold mine and the opportunities that will arise in the job sector where employment is scarce in this district.

Name: [REDACTED]

Address:
[REDACTED]
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

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Kane Winwood

E: kane.winwood@planning.nsw.gov.au

Kane Winwood - Online Submission from [REDACTED]

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 27/10/2010 5:23 PM
Subject: Online Submission from [REDACTED]
CC: <assessments@planning.nsw.gov.au>

I would like my name to remain anonymous to the public but my comments can be made public.
I own a small business in Braidwood and welcome the opportunities that the Dargues Reef mine will bring to my business and many others in Braidwood. I think that this will surely put Braidwood on the map. The influx of work I have had since the activity has increased at Majors Creek has already made a great difference to my business. Overall I see nothing other than a positive outcome for the district.

Name: [REDACTED]

Address:

[REDACTED]
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

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Kane Winwood

E: kane.winwood@planning.nsw.gov.au

Kane Winwood - Online Submission from [REDACTED]

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 21/10/2010 2:33 PM
Subject: Online Submission from [REDACTED]
CC: , <assessments@planning.nsw.gov.au>

I would strongly like my name to remain anonymous.

I have been in close communication with Cortona since the intense drilling operations and i am happy with their commitment to resolve the ongoing issues and problems arising from our close proximity to the mine. They have been open,honest and upfront, and our issues have been resolved. I think that Cortona will have a positive impact on Majors Creek and the shire of Palerang

Name: [REDACTED]

Address:
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
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Site: #2222 Dargues Reef Mine
https://majorprojects.onhiive.com/index.pl?action=view_site&id=2222

Kane Winwood

E: kane.winwood@planning.nsw.gov.au

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
CC: <assessments@planning.nsw.gov.au>
Date: 21/10/2010 1:00 pm
Subject: [REDACTED]

I would firstly like to strongly impress upon you that my name is not given out publicly as i am a member of this small community and wish to remain anonymous to them,however my name can be given to the proponent and relevant authorities.

Being directly affected by the preliminary drilling operation and future mining activity,i am most impressed by the professional, efficient, timely, concerned manner in which our predicament was handled by Cortona. Every promise was met and arrangements made to rectify and fix the situation. In saying this i have every confidence that Cortona will meet all the requirements to make this a profitable and positive venture for the stake holders, the township of Majors Creek, and the wider community of Braidwood and surrounding regions.Many thanks for the generous donations already given for improvements to facilities and events in our district.

Name: [REDACTED]
[REDACTED]
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[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

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Kane Winwood - Online Submission from [REDACTED]

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 19/10/2010 6:39 PM
Subject: [REDACTED]
CC: <assessments@planning.nsw.gov.au>

The development of a mine in an area with a lower than average income and a higher than average youth unemployment can only be a good thing. A second industry in the district will lead to an influx of cash into the district, power upgrade & road improvements as well as land value increases. This gold mine is the best thing to happen to Braidwood in the last 20 years. I support the development and the EA has provided excellent mitigation of all environmental issues. Please withhold my name, I dont want it available to the proponent, any website or the government authorities. Thank you

Name: [REDACTED]

Address:
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
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Kane Winwood

E: kane.winwood@planning.nsw.gov.au

~~TO + FAX NO 9228 6466~~

To: Minister of Planning Mining and Industry Projects Department of Planning GPO Box 99 SYDNEY NSW 2001 FAX 02 9228 6466	[REDACTED]
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Dear Sir/Madam

27th October 2010

Ref Number 10_0054

Cortona Resources proposal for gold mine at Majors Creek.

**PLEASE DO NOT MAKE MY NAME AVAILABLE TO THE PROPONENT,
AUTHORITIES OR ON THE DEPARTMENTS WEBSITE**

I oppose the current proposal for the underground mine near Majors Creek on several issues.

WATER

Further testing and study into the possibility of contamination of the Araluen (Upper Deua Catchment) water supply should be completed.

TRANSPORT

It is still not known publicly where the partially processed ore will be going by road. Surely this should be part of the planning process and publicly stated.

Braidwood is already badly in need of a bypass, suffering over 3 million cars passing through the town each year, with 90% having no intent to stop in town. The impact of further regular truck movement through the historic town (the only fully heritage listed town in NSW) will be adverse to the residents, to the architecture and to the business community. While a Kings Highway bypass may not take Cortona's trucks off the main street, it would reduce the other traffic movement substantially.

At present there is no Palerang Council plan for a bypass. As a State road, the NSW Government should fund a bypass of this increasingly busy road.

NOISE

Majors Creek is a particularly quiet spot and the amenity of the residents will be impacted by the noise from the crushing and milling on site. All processing should be soundproofed indoors and an alternative to truck reversing beeping should be found.

FUTURE

With the extent of exploration leases currently in place across SE NSW, assurances should be received that no further processing (chemical processing) will take place at the Majors Creek site in the future.

Other gold mining proposals may come on line in the region and the Dargues Reef project could well be extended further throughout the exploration licence area.

Yours sincerely

[REDACTED]

George Mobayed - Online Submission from [REDACTED]

From: [REDACTED]
To: George Mobayed <George.Mobayed@planning.nsw.gov.au>
Date: 28/10/2010 8:07 PM
Subject: Online Submission [REDACTED]
CC: <assessments@planning.nsw.gov.au>

I object to the proposed Dargues Reef mining project on the grounds that no assessment has been made of the impact on the loss of groundwater beyond the two square kilometer radius of the mine, nor on the fragile and threatened ecosystems below the mine.

I request more time for these and other questions raised by the Environmental Assessment to be investigated, including test bores 2-6 kilometres downstream from the mine site, to test the impact of drilling on the groundwater over a period of a year, to allow for variation in rainfall.

I also request that a detailed assessment be made of endangered, critically endangered and threatened flora and fauna in the four kilometres below the mine site. This also needs a year for completion, as some species are migratory, and others, such as the endangered powerful owl, can only be easily identified in late winter when they are calling.

I also request that a detailed assessment be made of heritage and Indigenous sites 2-6 kilometres down stream from the proposed mine site and the tailings dam.

The information provided by the Mining company to residents was vague and unqualified.

Please do NOT include my name available to the proponent or on the website. Thank you

[REDACTED]

Address:

[REDACTED]

[REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
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Site: #2222 Dargues Reef Mine
https://majorprojects.onhlive.com/index.pl?action=view_site&id=2222

George Mobayed
Planner - Mining & Industry Projects

P: (02) 9228 6467
E: George.Mobayed@planning.nsw.gov.au

Reference: 10_0054

Submission on Dargues Reef Mine, Majors Creek

I object to the opening of the Dargues Reef Mine.

The environmental assessment of this proposed development is grossly inadequate. The proponent's public claims that 'groundwater modelling covered an area of 7km by 6km' has been done cannot be substantiated.

Test bores and other assessments have been made in the area predominantly uphill from the mine, where the impact can be expected to be least. Only two test bores appear to be downhill from the proposed development, both close to that development. No test bore has been placed beyond the Major's Creek Bridge, within 1 Km of the proposed development.

The proponent also claims that impacts an area of 2 .5 square KM in a radius of the proposed development has been thoroughly tested.

Despite the proponent's claims no study has been done of any impact on water levels, ground water effects, flora fauna or the local economic economy beyond 1.5 kilometres downstream of the proposed mine, and possibly even beyond half a kilometre downstream of the development, despite the likelihood of such an impact downstream, rather than upstream.

There has been no study of the hydrology, ecology, wildlife or businesses beyond 1.5KM (or less) along the Major's Creek watercourse downstream from the mine. This is the area most likely to be impacted by the mine, not the area up hill from the mine.

The proponent's claims are grossly misleading. The proponent has also neglected to include vital hydrological information provided by local landowners and the Araluen progress Association in the preparation of the EA.

I request that additional research is undertaken before any final consideration of the Environmental Assessment prepared by the mining company takes place and before any consideration of whether the Dargues Reef Mine can proceed.

This would include:

- Placing test bores between various test locations from 1 to six kilometres downstream from the proposed mine, to study the impact of test drilling on the groundwater, and potential dramatic lowering of the watertable, over a one year period, to allow for natural fluctuations in rainfall
- Undertaking a survey of endangered, critically endangered and threatened flora and fauna in the area 1.5-6 km downstream of the Dargues Reef Mine
- Undertaking a study of the heritage sites and Indigenous sites 1.5- six kilometres downstream be carried out before the EA is considered

I also request that as we and others who have been taken by surprise by the contents of the EA which - despite much public relations work by Cortona over an extensive period - has only allowed for a six week comment period - be given at least twelve months to obtain independent hydrological and environmental assessments.

The preliminary assessments reveal a major risk to the ecology and farming based industries directly below the mine.

They also emphasise that there has been no evaluation of the possible impact on the land, flora, fauna and industries below the mine, and that even hydrological assessments given to Cortona by the Araluen progress Association and other data supplied have been ignored.

I also request that because of the unprecedented numbers of rare and endangered, threatened and critically endangered flora and fauna in the four kilometres downstream from the proposed Dargues Reef Mine, that this matter be referred to the Federal Minister for Environment under the EPBC Act.

Federally listed animals include:

New Holland mouse (*Pseudomys novaehollandiae*): vulnerable

Zieria adenophora- Araluen Zieria: endangered

Button Wrinklewort

Rutidosis leptorrhynchoides- endangered

Araluen Gum

Eucalyptus kartzoffiana: vulnerable

Grey Deua Pomaderris

Pomaderris gilmourii var. cana

Spotted-tailed Quoll

Dasyurus maculatus

Status: endangered

Impact of the mine on downstream environment

The Dargues Reef Mine is directly 1.5 km from the Major's Creek National Park Reserve, created to protect the extraordinary variety of rare, threatened and endangered species and ecosystems it contains.

The proposed mine is also four kilometres to the north of our property, adjacent to Majors Creek National Park Reserve. It is only six kilometres from the Endangered Araluen Grasslands Ecosystem. The vertical mineshaft will descend a total of 500 metres, which will take it to 130 metres below the level of our property.

No study has been done on the impacts of the proposal in these areas, despite our repeated requests that test bores be established in the National Park Reserve and our property to test the effect of drilling on the water table. There appears to have been no request from the proponent to put test bores or do other studies in the Major's Creek National Park Reserve along the course of Major's Creek, from 1.5-4 km directly downstream from the proposed development.

It is noteworthy however that Cortona has made considerable investigation of the two kilometre radius predominantly upstream from the mine, where it is expected that the impact will be far less. Cortona also failed to include any of the professional hydrological assessments provided by the Araluen Progress Association.

The EA has been limited to areas where major impacts are least likely to occur, except in the immediate vicinity of the mine.

There are many other areas where the proponents have either failed to do the tests they claim in the areas they claim to have tested, or have neglected other highly relevant information publically available or made available to them.

These are detailed below.

1. Inadequacy of the Environmental Assessment

Despite the proponent's claims, no assessment has been made beyond 1.5 kilometres downstream the mine site on the impact of mining operations on the groundwater, endangered, critically endangered and threatened species in the Majors Creek National Park Reserve, the Threatened Araluen Grass Escarpment, the Deua National Park, or our property and any other private nature reserves, nor on the businesses we conduct.

Even though the area downstream of the proposed mine is the most likely to be affected by the development, no test bores have been sunk in this area apart from two close to the mine site. The Major's Creek National Park Reserve is directly 1.5 km downstream: no test bores have been dug and no testing has been done in this area, nor have any studies been done of threatened flora, fauna, heritage or Indigenous sites.

The properties owned by Jackie French and Bryan Sullivan border the Major's Creek National Park Reserve, and are 4 km directly downstream of the mine. Despite repeated requests, no test bores have been placed on this property, no test bores have been dug and no testing has been done in this area, nor have any studies been done of threatened flora, fauna, heritage or Indigenous sites.

While the proponent has tested areas within 2.5 km of the proposed mine site, apart from one small area directly below the mine these have not been the areas most likely to be affected by loss of ground water, water pollution or an accident to the tailings dam.

The bulk of studies done by the proponent have been in the areas least likely to be affected by loss of ground water.

Note: the proponent would have been able to get permission to test in the Major's Creek National Park Reserve, and has been repeatedly offered access to test the impact of drilling on our property. It is entirely

their choice not to test in this critically significant area directly below the proposed mine, along the course of Major's Creek.

Given the value both ecologically and economically of the area below the mine, collection of data in these areas is essential.

2. Effect on the watertable

This is the most critical of all the objections, and the one with potential for environmental devastation.

Cortona's Environmental Assessment shows plans to remove a total of 66.2 mega litres from Spring Creek and Majors Creek water tables annually, and 14.5 mega litres per annum from the Shoalhaven watertable, with a total of 130 mega litres a year from all local sources.

The natural forest systems and agricultural industries in this area are already suffering from lack of water, with major orchard areas in the Araluen Valley below the proposed mine no longer viable because of diminished creek flow and drop in the water table. Households have been regularly forced to purchase water from outside the region. While 2010 has been a year of unusually high rainfall; this variation can only be expected to last for one to three years.

Removing 130 mega litres of water from this region and the consequent lowering of the water table will have a dramatic impact on local flora, fauna, agriculture. It may also make living in the vicinity of the mine impossible.

Despite the proponent's claims, no study has been done on the impact of removing this water from the area downstream of the proposed mine. No test bores have been sunk in the area 1.5-8 km downstream from the mine; no data of any kind has been collected in the area. Data from this area offered to the proponents has not been included in the EA.

No study has been done to test the effect of drilling a vertical shaft 500 metres, with a series of horizontal tunnels up to two kilometres in length, on the ground water of the Araluen valley 300 metres below the mine site. Insufficient detail has been given about the length of these tunnels, if they will extend under private land not owned by Cortona, or under the Major's Creek National Park Reserve.

Cortona has already expressed its commitment to extending mining operations even further, into areas not covered by the existing EA. (Braidwood Times, 20 October 2010).

Our property and the Majors Creek National Park Reserve are in the same belt of decomposed granite as the proposed Dargues Reef Mine. There is known to be a severe draw-down of rock and regolith water in similar areas of decomposed granite that underlie both our property, the Major's Creek National Park Reserve and the proposed Dargues Reef Mine.

It is inevitable that both our property and the Reserve will be affected by changes to the ground water from mining operations.

In March 2010, when test drilling at the mine site was in place, bores in Majors Creek sank by up to seven metres according to the hydrologist employed by Cortona at a meeting with us on 18 October 2010; springs on our property and in the Major's Creek National park Reserve vanished and Majors Creek stopped flowing. This is despite an above average rainfall in March 2010, when it is likely there would be little water drawn from local bores, and when the water level should have been naturally higher, not lower.

All data observed indicate a probability that drilling both 300 metres above and drilling 130 metres below our property and the Reserve will have a major impact on the water table, possibly in excess of the 10.7 metre ground water drop in the area near the mine at Major's Creek.

A drop of even 1.5 metres would mean the extinction the majority of flora and fauna in this area. It would also mean that the area would become uninhabitable due to its steepness and fragility without ground cover.

I strongly urge that no assessment of the Dargues Reef mining application be made until these have been surveyed and the risks evaluated.

These are covered in more detail below.

1. Effect on Ground water and the Watertable

The proposed Dargues Reef Mine will reach to 500 metres below ground level, with horizontal tunnels up to two kilometres in length. According to the hydrologist who prepared the Environmental Assessment, all water in the surrounding area will flow down to the lowest spot - the mine.

The mineshaft will reach 400 metres below the Majors Creek National Park Reserve and 130 metres below our house and property. The mine will therefore be deeper than our property, and deeper than the whole of the Reserve. It is inconceivable that this will not have a major effect on groundwater - far greater than the EA affirms.

It is extraordinary that there has been no attempt to put monitoring devices downstream from the mine site, especially given the depth of the mine. There has certainly not been sufficient time or warning for us to undertake any independent hydrological assessment.

The impact of dropping groundwater levels and depletion of the watertable

Cortona have made no study whatsoever of the impact of mining beyond a two kilometre radius.

Even on Cortona's own figures, the drop in ground water would lead to the death of most flora and fauna in the vicinity. Even deep-rooted eucalypts draw water from only 2-4 metres of subsoil; most of the bushes (like the critically endangered *Zieria adenophora* – see below) would be killed by a drop of as little as 60 cm.

Wildlife in the Majors Creek National Park Reserve, Deua National Park and our property- and other privately owned nature reserves down the valley- relies both on Majors Creek and a number of springs. I have mapped 21 of these on our place alone; places of damp soil where animals can scratch enough moisture for survival. In March 2010 when Cortona was test drilling, 8 of these springs dried up, despite an above average rainfall. I suspect that any further drilling would be even more disastrous.

To put it simply: if this amount of groundwater is removed from the watertable of this valley for any extended period of time the Reserve and our property will become a desert.

At a time when governments across Australia are recognising the need to conserve ground water and release more - not less - into ecosystems and to conserve Australia's food bowls, the proposal to proceed with an operation that involves lowering groundwater is extraordinary. It makes neither financial nor economic sense.

I request that at the very least, the effects of the mine on groundwater in the Majors Creek National Park Reserve, the endangered Araluen Grasslands Community, the Wisbey Orchards and on our property need to be studied before any approval is given for the mine to go ahead.

Note: On reading the EA it appears as though Cortona has made adequate provision for the effect of their operations on the flow of Majors Creek and Spring Creek. This appears to have been primarily a public relations exercise - confusing the public with assurances that creek flow will be compensated for, while neglecting to mention the devastating effect of a drop in the ground water. The fact that a drop in groundwater will also impact on creek flow is not mentioned.

The dams from which water to remediate Major's and Spring Creek will be drawn however, will already have removed potential water from these creeks i.e. there will in fact be no 'extra' water returning to these creeks.

The use of water recovered from abandoned workings will definitely reduce the base flow in Major's creek and lower the regional water table.

3. Short-term versus long-term economic effects

It is claimed the Dargues Reef Mine will employ 50-80 people over a ten-year period. This is less than the number already employed in the 8 km area directly downstream from the mine.

The Braidwood/ Major's Creek /Araluen district has a labour shortage: it is impossible to find sufficient people to employ in the orchards, in our

business, and in many Braidwood businesses, despite over award wages and conditions being offered. The proposed mine would add to this, offering short-term employment to the detriment of the long-term businesses.

No study has been done by the proponents on the economic climate of the Major's Creek Araluen district.

No study has been done by the proponents of the impact on 50-80 short-term jobs on the community. The housing, school and preschool places, and medical services are already overstretched. The need for short term rather than long term solutions to these will have a negative, not positive, impact on the social and economic life of this community.

The Dargues Reef Mine will produce an income for five years; the books, artwork and peaches produced in this valley bring in a far greater income and with either no or minor environmental impact.



4. Wider Australian and International reputation

The Araluen valley appears to be only a small regional community. It is, however, dear to tens of thousands, perhaps millions, around the world.


In less than a week copies of nearly 1,000 submissions directed to the Department have been sent to me. I have had emails from many countries offering support and help. There is no doubt that if the time for submissions had been longer, an increasing number of submissions would have come in.

The Araluen Valley is familiar to millions of readers.

Diary of a Wombat has become one of the world's loved children's books. It is based on a real wombat, Mothball, who lives in this valley. In addition there are the thousands who have bought peaches at the Wisbey's or Harrison's sheds, bought vegetables from the Kindrachuks' stalls, camped or simply driven through the valley for its peace, serenity and beauty.

What would it do to Australia's international reputation to admit that the wombat loved by so many has died because its habitat has been destroyed to benefit a short lived gold mine?

5. Effects on the Neverbreak Hills Araluen Arboretum


 Australia's largest Agricultural Arboretum. It has been the work of 34 years to which we have devoted a large part of our lives and resources. With over 800 fruit trees we grow 272 different kinds of fruits, testing the cold tolerance of once presumed tropical trees like avocados and custard apples. The Arboretum contains 132 varieties of apple, 13 varieties of quince (Australia's largest collection), 13 varieties of lillypilly, 57 varieties of avocado (Australia's largest collection) One of these, a new variety called Wedding Day,

promises to be Australia's most cold tolerant avocado, able to be grown as far south as Melbourne, with fruit that bears just after Hass - the only avocado to fruit at this time. The flesh is oil rich; the seed small; it has great commercial potential. Like other varieties bred here however, grafting stock will be made free to the public.

I have been conducting research on natural pest control, weed control and drought tolerance here since 1974. The results are published in books such as *Natural Control of Common Weeds*, *Organic Control of Garden Pests*; my contributions to organic farming and gardening methods and philosophy are detailed in CSIRO's latest publication: *A History of Organic Farming and Gardening in Australia* by Reebecca Jones.

This property was one of the first in Australia to demonstrate the commercial viability of drip irrigation, minimum tillage, biological control of various agricultural pests and diseases and weeds and other agricultural practices than are now commonplace. It is reasonable to assume that further research will show the value of equally important agricultural practices.

I have also been conducting a 34 year continuous study of local ecology, wombat and macropod ecology.

 the Arboretum demonstrates new methods of organic farming and gardening; the creation of drought resistant agricultural ecologies and businesses, and methods by which commercial orchard and market gardening can co exist with wildlife, including methods to mitigate bird, possum, wallaby, wombat, grasshopper/plague locust and flying fox depredation of crops.

Any drop in ground water, further depletion of Major's Creek, or increase in heavy metal pollution of the water in Major's Creek would make these ongoing studies and demonstrations impossible.

Our arboretum contains irreplaceable agricultural genetic material, as well as being a source of inspiration and knowledge for many thousand of farmers and gardeners who have visited it or studied at workshops here. The trees are watered only for the first 12 months; after that they survive on ground water. Any lowering of the water table will mean the loss of all species. An accident to the tailings dam, four kilometres upstream with an embankment 25 metres above the natural surface, would of course destroy not just the arboretum but our house and any person or animal in its sway.

I request that before an assessment is made of the Dargues Reef proposal a test bore be installed to monitor loss of groundwater in the Arboretum, and that if the ground water does fall, that those operating the Dargues Reef Mine remediate that loss within a three month period.

6. The Dargues Reef Mine tailings dam

No study has been made on the effect of the tailings dam failing, either from extreme rainfall events or from human agency. ~~No study has been~~ made by Cortona of the extreme fluctuations at Majors Creek- all rainfall data has been taken from Wallace Street Braidwood. While this is only 20 kilometres away, Majors Creek is subject to an unusual 'double dip' effect, where westerly rain-bearing winds are blocked by coastal easterlies.

Cortona has made no attempt to locate any of the rainfall records kept at Majors Creek or Araluen; or if they have, they have preferred to use the largely irrelevant Braidwood figures.

The Dargues Reef tailings dam will be 25 metres above the surrounding ground level; it will hold 800,000 cubic metres of tailings kept in permanent suspension. The Dargues Reef tailings dam will be only four kilometres from our property, and approx 350 metres above us. If the tailings dam fails, the sediment will wash through a narrow gorge, less than 40 metres wide in places, leading to a venturi effect - the sediment will be forced higher and swifter. Any failure will destroy not just the nature reserve but our house, livelihood, and the arboretum, as well as endanger our lives and destroy the species mentioned above, as well as the other flora and fauna of the area.

Cortona has said that the tailings dam will be 'world's best practice'. However, according to New Scientist, 18 October 2010, world's best practice involves a secondary wall in case the first fails. No secondary wall is proposed for the tailings dam at Majors Creek.

The potential for a failure of the tailings dam wall is highly likely to reduce the value of our property, as few purchasers would be attracted to a property with such a massive and nearby threat to its existence.

I request that if the Dargues Reef Project is accepted, that - at the very least- a secondary wall be made mandatory.

I also request that the entire tailings area, not just part of the tailings dam, have a plastic lining as well as clay.

7.The Majors Creek fault line

A major fault line runs along Majors Creek. It has been subject to minor slippage in the past 30 years; the major slippage in the past of this and other nearby fault zones is the major reason for the existence of the Araluen valley.

The proposed Dargues Reef tailings dam and the Dargues Reef Mine itself are only 1.5km away from the Majors Creek fault line.

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Any slippage on this fault line could result in the failure of the dam; a wall of tailings kept in suspension for decades or longer - down the fragile gorge country, over our house and land.

No assessment seems to have been made of the effect of slippage from the Majors Creek fault line. There is no reference to this in the Environmental Assessment.

8. Mine depth and radon exposure

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.... there appears to have been no testing of radon gas levels in the three existing historic mine shafts. There is also no mention in the Environmental Assessment of monitoring radon gas levels, nor of the threat to worker health.

9. Threat to Endangered Species, Critically Endangered Species and Threatened Species in the four kilometres below the Proposed Mine Site

Cortona has made no attempt to identify any of the critically endangered, endangered or threatened wildlife or fauna in the area below the dam that may be affected either by loss of groundwater or failure of the tailings dam.

The Dargues Reef Mine EA studied only the impact on the flora and fauna of the mine site, and not the gorge nature reserve or private 'wild' lands within the catchment area, and the area likely to be affected by the massive use of groundwater. They have made no attempt to contact us to get access to study the endangered species on our property, or to the National Park Reserve around us.

The Majors Creek National Park Reserve, the Majors Creek gorge, and the Araluen Scarp Grassy Forest are areas of considerable biological richness, in both numbers of species and habitats. The survival of the extraordinary number of species is due to the steepness and roughness of the terrain, which has meant that it has not been logged or affected by earlier mining. It is possibly the only remnant of the original ecology present before the disturbances of farming and gold mining.

The four kilometres directly below the proposed Dargues Reef Mine ranges from rainforest dominated by *Backhousia myrtifolia* (one of the few such 'dry temperate' rainforest remnants in Australia) to grasslands with rich populations of orchids, to dry sclerophyll and wet sclerophyll forest, each with their own unique but interlocking communities of plants and animals. Several do not exist elsewhere; all are already under threat from climate change and water loss to bores. Any further loss of groundwater would see their extinction.

In 2006 The NSW Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list the

Araluen Scarp Grassy Forest in the South East Corner Bioregion as an Endangered Ecological Community in Part 3 of Schedule 1 of the Act. Part 2 of the Act provides for listing of Endangered Ecological Communities.

Note: details of many of the endangered, threatened or critically endangered species have been provided, but will not be made public, as publicly revealing their presence or site might further endanger them. The ones publicly mentioned include:

The following are endangered or critically endangered species that will be threatened, or possibly wiped out by the impacts mentioned above of the Dargues Reef Mine. Due to time constraints - I only received the EA two and half weeks before the close of submissions - it is not complete.

As there has been no assessment of these species in the Dargues Reef Mine Environmental Assessment I ask that before consideration of this assessment is made and before there is any consideration of approval of the mine that an in-depth assessment is made of the risk to these species.

Rare and endangered species within a three-kilometre radius of the mine The Araluen Scarp Grassy Forest has been listed as endangered. The entire area is within 2-5 kilometres of the mine and all parts of this bioregion will be affected by the proposed massive depletion of groundwater.

Specific species listed in NSW as rare and endangered species in the area likely to be affected by the mine include:

- *Eucalyptus kartzoffiana*- critically endangered and all existing wild specimens are within the area affected by the mine use of groundwater. It grows in proximity to creeks and springs and available groundwater is critical for its survival- far more than for most eucalypts.
- Powerful Owl (*Ninox strenua*): these regularly nest within one to two kilometres of the mine. Status: vulnerable
- Barking Owl (*Ninox connivens*). Status: vulnerable.
- Araluen *Zieria adenopora*: the only wild specimens of these are within five kilometres of the proposed mine. Status: critically endangered.

-Majors Creek Leek Orchid: *Prasophyllum* sp. Majors Creek: status, endangered

New Holland mouse (*Pseudomys novaehollandiae*): vulnerable

Zieria adenopora- Araluen *Zieria*: endangered

-Button Wrinklewort

Rutidosia leptorrhynchoidea- endangered

-Grey Deua *Pomaderris*

Pomaderris gilmourii var. *cana*

-Spotted-tailed Quoll

Dasyurus maculatus

Status: endangered

- Gang-gang Cockatoo: These are transitory, visiting the area within two kilometres of the mine, usually for four to six weeks each autumn.
- Bettong: nesting sites last observed two years ago. Status ??
- Red Goshawk: these live and nest within the gorge and cliffs just below the mine site. Status: endangered.
- Grey-headed Flying-fox

- *Pteropus poliocephalus*. Status: threatened
- .
- Eastern Bentwing-bat(*Miniopterus schreibersii oceanensis*): status.
- Squirrel Glider
 - *Petaurus norfolcensis*: status, vulnerable. Presence in the area not confirmed but probable

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– .

Many species exist locally only within the gorge below the mine site. These include:

- The southern most natural occurrence of Bunya Bunya nut trees.
- The southern most natural occurrence of *Ficus coronata*, or Sandpaper Fig, not endangered, but present in only two gullies in this region, both affected by the proposed Dargues Reef Mine.
- The southern most natural remnant of Cabbage Tree Palm.
- An otherwise unknown pink subspecies of the common brown snake
- *Backhousia myrtifolia* or Neverbreak tree or Grey Myrtle: one of the few remaining remnants of backhousia dry rainforest canopy left.
- *Notothixos subaureus*, parasitic mistletoe.
- *Dodonaea viscosa* -a local subspecies, not yet positively identified.
- *Adiantum formosum* - giant maidenhair- not endangered but this is the only area locally where it appears.
- An unnamed stringybark, possibly a hybrid of the red and yellow stringybarks; still to be positively identified.
- *Macropus rufogriseus*: Red-necked Wallaby; not threatened, but almost extinct in this district. This appears to be the single surviving local population.

Other wildlife: Due to the short period of time allowed for comment I have not had time to list all the other animals which currently thrive in the valley below the mine site. These include 127 species of birds, eight species of snake, Common Wombat, Eastern Grey Kangaroo, New Holland Mouse, echidna, Black-tailed Wallaby, Wedge-tailed Eagle *Aquila audax*, lyrebird, Pretty-faced Wallaby, Brushtail Possum, Ringtail Possum and Sugar Glider to name just a few.

The Wedge-tailed Eagle

Aquila audax is listed as a declining species in this area.

, Crimson Rosella

Platycercus elegans, Eastern Yellow Robin, Grey Fantail,

10. Effect on Households Downstream

Although the EA asserts that no households downstream draw water from household uses downstream from the mine, at least four households within 1 kilometres of the mine do so, and seven within four kilometres of the mine.

11. Water quality

Two of the sources of water to remediate Major's Creek come from already polluted sources- dewatering the active water and mine pumped from old abandoned mines. This proposal will reduce the ground water even further.

The water testing of the old mines was in the seasons 2009-2010, a time of above average rainfall in this area, unlike the drought years 1994-2008. It is likely that the level of contaminants is far fewer in these tests, as the water was diluted by recent rainfall. Tests of the water in the abandoned Dargues Reef mine in 1982 showed extreme heavy metal pollution...portion deleted here; not for public release

Any further pollution of water downstream from the mine may destroy flora, fauna, property values and local businesses, including the orchards and market gardens of Araluen and the oyster farms of the Moruya River. (Major's Creek flows into the Deua River, which becomes the Moruya River when it enters the town.)

I request that all water returned to the Major's Creek and Araluen aquifers be tested on a daily basis and the levels of pollution made available to all who have made submissions to this enquiry.

Questions and Recommendations

Before any consideration is given to approving the Dargues Reef Mine, I humbly submit that:

1. That the proponents substantiate their claim that a 'groundwater modelling covered an area of 7km by 6km' has been done by providing details of bores tests and data collected in the Major's Creek National Park Reserve, 1.5 km directly downstream from the proposed mine, and the property owned by Jackie French and Bryan Sullivan, 4 km directly downstream from the proposed mine.

Without this data the proponents can not justify their claim that an area 6- 8 square km has been tested; nor can they even justify the claim that an area of 2 square km from the proposed mine has been tested.

2. That the proponents explain how results of the impact of the development on the area beyond 2 kilometres from existing test bores can be confidently extrapolated, given the terrain? Can this extrapolation be substantiated with references to current hydrological theory, and references for this degree of confident extrapolation supplied?

3. That the proponent explain why the bores tested are on land predominantly above the proposed mine, not below it i.e. on the land least likely to be affected by proposed mining, with only two test bores downstream close to the mine site, and no test bores on the land most likely to be affected.

4. That the proponents explain why despite repeated requests by the landowners no ground water testing has been done from 1.5-20 to kms directly downstream from the mine.

5. That the proponents explain why despite repeated community and landowner requests no ground water testing has been done along the course of Major's Creek, from 1- 20 km directly downstream from the mine, at a distance of within half a KM each side of the watercourse. .

6. That the proponents explain why they have publicly asserted that "The groundwater modelling covered an area of 7km by 6km" (in a letter to the Braidwood times 27 October and to local landowners) when no test bores or accurate modelling had been done from 1- 6Km beyond the proposed mine site along the course of Major's Creek, the area most likely to be affected by groundwater drop.

7. That the proponents substantiate their claim that a 500 metre shaft extending 130 metres below the level of the Araluen valley, with 2KM of tunnels, will have no effect on the water table. Can the proponents produce data that would substantiate this, such as an example of a mine similarly extending under a valley floor with no impact on ground water or the level of the water table?

8. It appears to be expert hydrological consensus that whenever a large amount of water is removed will be a severe drawdown of rock and regolith water in similar areas of decomposed granite. The Major's Creek National Park Reserve and the properties of 381 and 402 Major's Creek Road Araluen are part of the same area of decomposed granite as the proposed mine.

If this expert hydrological consensus is correct then it appear that the area 1.5-6 KM below the proposed mine is at severe risk of a lowered water table. Can the proponents give reasons why this hydrological consensus should be ignored in the case of the proposed Dargues Reef mine?

9.. That the proponents substantiate their claim that data from tests a restricted and relatively level area can be extrapolated to give valid results about a possible result 1.5-8 km downstream, with a sudden 300 metre drop into a valley, especially when no test bores have been sunk nor data collected in this area.

10. That the proponents substantiate their claim that data from tests a restricted and relatively level area can be extrapolated to give valid results in a valley who's hydrology and geology have been so disrupted by a century of gold mining that experts who have studied the area claim that no valid extrapolation can be made of how bores in one part of the Araluen catchment will effect other areas, without direct testing.

11. While in many areas tests done in a limited area can be extrapolated to give reliable data many kilometres away, can the proponents substantiate their claim that tests done 300-400 metres above a valley that begins 1.5 km from their mine will give valid results for the

hydrology of that valley? Can they provide independent references to support this claim, with special references to hydrology studies done in the Major' Creek Araluen area from 1980-2002. (Note: local hydrology studies done in this period exist, and are accessible to the proponents with details given by the Araluen progress Association).

12. That the proponents demonstrate where in their EA they have examined and made use of data provided by the Araluen Progress Association from the varied studies done on the complexities of the water table in the Major's Creek Araluen area, and how that might relate to possible dramatic falls in ground water in the Major's Creek Gorge/ Araluen Valley.

13. That the proponents explain why they have used rainfall figures from Wallace Street Braidwood and not rainfall figures from major's Creek and Araluen.

14. That the proponents substantiate any claim that Braidwood rainfall is a sound basis for predicting Major's Creek rainfall. It is further requested that in answering this question, the proponent's provide data on the rainfall differences in Braidwood and Major's Creek on January 1, 1983, May 1988, and in the year 2003.

15. That the proponents explain why they have not accepted the offer of relevant local data on the rainfall figures Major's Creek/Araluen catchment, and why they have failed to use those more relevant figures in their EA.

16. That the proponents provide a valid explanation for the inconsistencies in the figures for the total amount of water required for operational use of the proposed development, and different figures that will be available under harvestable rights in the EA.

17. That the proponents demonstrate where in their EA they have examined the effects of existing and possible heavy metal pollution in water taken from Major's Creek for household, stock and irrigation uses? This explanation needs to include data from low flow periods, as well as current 2010 high flow periods.

18. That the proponents demonstrate knowledge of the effects of possible heavy metal pollution in water taken from Major's Creek for household, stock and irrigation uses, and indicate the threshold level at which heavy metal concentrations in the water will affect plants downstream. Note: various species have different thresholds for uptake of heavy metal pollution and tolerance to heavy metal pollution in the water.

The proponents will need to demonstrate a knowledge of the differing thresholds for the major species, both wild and commercial, in the area that might be contaminated from heavy metal pollution downstream.

19. The proponents demonstrate knowledge of the degree of existing heavy metal contamination of water in Major's Creek watercourse, and provide figures on how that heavy metal concentration fluctuates in times of heavy and light flow and when flow has ceased and irrigation, stock and bush animal use is dependent on pools subject to high evaporation levels.

20. That the proponents demonstrate knowledge of what level of greater heavy metal pollution is needed to take the existing heavy metal pollution in dry periods of the Major's Creek watercourse to levels that would be toxic for flora, fauna and orchard and household use.

21. That the proponents provide data on the heavy metal concentrations in the Dargues Reef and other old mine sites, with reference to the changing concentration rates in the first and subsequent 30cm sections of those mines, and that the proponents also provide studies showing whether such heavy metal pollution might vary at different depths.

22. That the proponents provide further data and expert substantiation, as well as comparison with actual performance in other gold mining operations in similar rainfall areas, for their claim on Page 7 that:'

- *'the tailings would be unlikely to oxidize to form an acidic leachate'*

23. The EA states Araluen is 20kms away and will not be or will be only minimally affected based on Araluen Valley water studies. Can the proponents explain why they have made no study of the impact on the first and second commercial properties in the Araluen valley i.e. those belonging to Bryan Sullivan and Jackie French, and Robyn Clubb of 'Wisbeys'.

Can the proponents explain how they can substantiate this claim when no test bores or drilling has been done outside of 1.5 km from the proposed development?

24. Can the proponents explain why they have publicly claimed to have 'groundwater modelling covered an area of 7km by 6km' when no such

tests have been done outside of 1.5km downstream of the site? Do the proponents accept that this is an attempt to mislead and deflect scrutiny of the area most at risk from the development?

25. That the proponents explain why they made no attempt to contact Mr Bryan Sullivan, as the owner of the first commercial property downstream from the proposed development, before the EA was prepared, or during its preparation, and why emails were ignored until three weeks after the EA had been made public?

26. That the proponents substantiate their claim that no households within a 4 km area downstream of their mine use the Major's Creek water for household purposes, despite information to the contrary being repeatedly offered to them by residents of Major's Creek and Araluen, and also included in submissions to the Department of Planning?

27. That the proponents explain why they do not accept the assertion of Best practice in relation to Surface and Groundwater Balances in the Murray-Darling Basin Commission report of 2004, which stated that 'Disconnected stream-groundwater areas tend to be associated with unregulated stream sections or mid to lower alluvial areas of catchments. The connected re-charge and discharge areas may be distant but should not be ignored in the water management planning. '

Can the proponents provide evidence to show that the claims made by the authors of this report are invalid?

Can the proponents provide evidence why this claim should not be related to the possible effects of a massive use of available water upstream and 300-400 metres above an area of orchards?

28. The Araluen aquifer system is ranked *as the third most "at risk" aquifer in the Sydney South Coast Region*, based on both the quantity and quality pressures on the groundwater resource'. Can the proponents demonstrate where in their EA they have taken this into account?

29. The 2000 NSW Water Hydrology Reports report states that ...*'it appears that less than 40% of the flow in Araluen Creek was from rainfall, with the large component coming from either shallow or deep groundwater, or a source outside the valley'*.

- Can the proponents explain why this information was not included in their EA?
- Do the proponents dispute that this report and other data was provided to them, but not included in their EA?
- Can the proponents substantiate a claim that this report is irrelevant to their EA, with reference to independent assessments, and nit their own extremely limited study?

30. The EA states that the project site operation will depend upon the pumping of water from the mine incline to the surface and its use and management around the site for a variety of purposes and then discharge to Majors Creek to fulfil the EA environmental flow determination. Can the proponents explain why there is no mention of management of water quality in this proposal?

Can the proponents substantiate their claim that there is no need to monitor water quality in this scenario?

31. Can the proponents provide data on possible subsidence in the four square km around major's Creek, the Major's Creek national park Reserve

and that part of the Araluen Valley, which is within 3 km of the proposed development?

32. Can the proponents explain why there is no mention in the EA of the impact of such development on the growing accommodation and tourist businesses in the Major's Creek and Araluen areas, with reference to noise, dust, traffic impact and the tourist perception of an area containing major extractive industry?

33. That the proponents provide a definitive study, drawing on previous expert studies, of whether the Major's Creek and Araluen aquifer boundaries are the same, interlinked, or separate. If such a study has not been made part of the EA, on what basis and expert opinion has this choice been made? (Note: such studies exist and have been made available to the proponent)

34. That the proponents give an expert assessment of possible reasons why during test drilling in 2010 the level of Major's Creek dropped, so that it ceased to flow from a point 2 km from the proposed development, even though Major's Creek at that time experienced a year and month of above average rainfall?

35. Did the proponents measure the flow rate of Major's Creek during the period of test drilling? If so, can they provide measurements of flow rate, and the rate at which flow rate dropped from the mine site to the point where flow ceased? The proponents are requested to compare this flow rate to flow rates in other comparable rainfall years.

If the proponents claim that there was no impact on the flow rate, how can they reconcile this with observations 4 Km downstream that the flow stopped and springs dried up, despite above average rainfall?

Why did the proponents fail to measure flow rate further downstream, given the death of drilling ?

36. If the proponents cannot produce figures to compare flow rates in comparable years, can they explain why they did not attempt to procure such data? (Note: such data is available).

37. That the proponents explain when the samples were taken from the old Dargues reef Mine for testing for heavy metal contamination, and correlate those with the rainfall in the previous three months before testing.

If the samples were taken at a time of above average rainfall (either using Braidwood or Major's Creek or Araluen figures) then the proponents are requested to provide sampling figures from a time of below average rainfall, to show that possible heavy metal contamination would not be present in a more typical year.

38. If the proponent is not able to provide such figures, could the proponents please explain why have they not considered this matter, nor done such testing?

39. That the proponents explain why their EA does not include data on the many threatened, endangered and critically endangered species from 1.5-8 km directly below the mine in the Major's Creek- Araluen gorge, and why the proponents have not conducted such a study, given that the Major's Creek National Park Reserve begins 1.5km from their proposed

development, downstream, in the area that could logically be considered to be most at risk?

40. That the proponents explain why their study of endangered species in their EA is limited only to the area to be developed, and not the area from 1.5 km and further down the Major's Creek gorge of the proposed development?

41. That the proponents demonstrate their knowledge of the relevant studies of flora and fauna in the area 1.5-20 km directly below the proposed mine, on land adjoining Major's Creek and the Araluen and Deua Rivers, by providing survey details including date and season of the year when they were conducted.

42. That the proponents clarify what species of endangered, threatened and other orchids are in the area 1-4 square Km directly downstream from the proposed mine, within half a KM either side of the Major's Creek waterway. Can they substantiate that a survey was done of these species, and give information on the sampling methods used, and the time of year where these orchids in the area, and can so be identified? Can they substantiate that the number of species identified is comparable to the number of species identified in other surveys of this area?

43. That the proponents demonstrate that they have researched examples of similar gold mine developments within 1.5 km of threatened, endangered and critically endangered species and ecosystems, and give examples of where such developments have co existed with no harmful effect on such species or ecosystems.

44. Can the proponent elaborate on what studies have been done on the impact of noise, dust and explosions on the nesting habits of wedgetail eagles, and endangered powerful owls, masked owls and little eagles, known to nest in the area 1.5-4 km directly below the mine?

45. Can the proponent provide details of migratory or mobile species that may be affected by the proposed development, with special reference to the varied species of bat, frog, and reptiles in the 4 square km vicinity of the proposed mine? To substantiate this, can they provide details of local surveys done, the methodology used, and the time of year that calls would indicate the presence of the eight frog species likely to be in the 2 square KM vicinity of the area directly below the proposed mine? Can they also substantiate this with details of the methodology used to sample the bat populations of the area, and the times of year when these surveys are likely to reveal the species present within a 2 km radius of the proposed development?

If such a study has been done, can its results be substantiated with comparison with existing surveys of such wildlife?

46. That the proponents give an expert assessment of possible reasons why during test drilling in 2010:

- . the powerful owls that had nested within 2.4 km of the test drilling for the previous eight years failed to nest, and moved their hunting grounds aprox. 4 km further down the Major's Creek gorge
- . a little eagle, white goshawk and red goshawk similarly moved their territory further away from the disruption of noise, blasting and vibration?

Did the proponents do any study of the effects of drilling, blasting and vibration on wildlife within a 1.5-4km zone during the test drilling and blasting? If this was not done, can the proponents substantiate a claim that there was no need for such a study to be done?

47. That the proponents substantiate their statement that the tailings dam meets 'world's best practice;' when New Scientist of 18 October 2010 states that world's best practice now includes a secondary wall in case the first wall fails, especially given the sudden and unexpected floods that Major's Creek is especially prone to, and given the extraordinary steepness of the terrain immediately below the proposed mine site, leading to such a valuable resource as the Araluen valley.

48. Have the proponents done any study of how a lowered water table might affect bushfire risk in the Major's Creek and Araluen areas? Can they substantiate a claim that possible ground water effects will have no impact on bushfire risk, with reference to independent expert sources?

49. Can the proponents provide details on how soil types and locations will be assessed, stored and then replaced when the mine project is finished?

50. That the proponents give details on the methods used to maintain organic matter in stockpiles soils so that effective restoration can take place, or how this organic matter will be replaced when the mine is decommissioned.

51. That the proponents provide an assessment of the six largest employers and highest grossing industries within a 10km radius of the mine, and detail the possible impact of the development on those businesses. If the proponents claim that no such assessment is necessary, can they substantiate that claim with reference to the impact on local communities of similar short-term mining ventures?

52. That the proponents give details of the payments provided to Major's Creek landowners and community groups and Palerang Council, and of share offers to local residents and local councillors, and details of payments promised if the proposal goes ahead unhindered, and that the proponent give details of payment they will guarantee to make to any business, resident or landowner adversely affected by the mine's development?

53. That the proponents provide data on similar developments where 800,000 cubic metres or more has been stored near an active fault line, and that the proponents provide seismic data on the movements in the Major's Creek fault line in the previous ten years, with expert advice on .the possible effect of the estimated weight of tailings on a nearby active and inactive fault line

. effect of the projected weight of tailings on the tailings dam wall over the extent of its projected usefulness in the event of a slippage in the Major's Creek fault line

. the effect of blasting in the vicinity of an active or inactive fault line

. a half km deep mine shaft in the proximity of an active or inactive fault line

54. That the proponents provide data on the effect of possible subsidence on the nearby active Major's Creek fault line. If the proponents allege that the fault line is not active, can they produce data to substantiate their claim?

55. That the proponents provide data on the possible effects of slippage along the length of the Major's Creek fault line, and they they provide data on the length of the Major's Creek fault line, and on nearby human activity to the fault line.

56. That the proponents provide data on any other fault lines within 8 square kilometres of the proposed development, and on whether these fault lines are active or may become so in the proposed lifetime of the tailings dam.

57. That the proponents estimate the current annual income produced within the 4-20 square km directly downstream from the mine in the Araluen Valley, with details of each business assessed, and the value of the land on which that business occurs, to enable authorities to estimate a reasonable bond that would be required to compensate residents, landowners and businesses in this area if any loss of water table or loss of quality of water occurred as a direct or indirect action of the proposed development.

58. That the proponents estimate the costs of remediation to the local ecology and local businesses and residents in the event of:

- . a fracture or leak from the tailings dam
- . a lowering of the water table, from 1.5-10.7 metres
- . a loss of water quality from heavy metal or other pollution
- . an increase in bushfire risk
- . a loss of water for household, business or irrigation purposes

I humbly request that:

- before any consideration be made of the Dargues Reef proposal that the questions above be answered and the data provided and answers substantiated by independent published report or assessment.

A further Environmental Assessment be provided, by an independent source with a hydrological report and study of eight kilometres downstream from the proposed mine, with particular attention to the region six kilometres downstream along the Major's Creek waterway from the proposed mine site.

- That a secondary wall be erected below the tailings dam
- That Cortona pay for independent flora and fauna studies of the Major's Creek National Park Reserve, as well as the 4 square kilometres downstream of the reserve, to document the endangered and critically endangered species at risk; or if not, that local landowners be given a year to commission such studies. (The year is necessary as some of the endangered bird species are migratory, and the powerful owl can only be reliably recorded during late winter when its call can be heard. The grey-headed flying fox is also seen in some local areas only towards the end of summer.)

. If, despite objections, the proposed mine is given permission to proceed, I humbly ask that:

1. A series of no less than 12 test bores be established in the region from 1.5 to 6 kilometres *below* the mine site, on the Major's Creek National Park Reserve and the land belonging to Bryan Sullivan, Jackie Ffrench and Robin Clubb, at a distance of no more than 50 metres from the course of Major's Creek, and that before mining takes place assessments are made of the normal groundwater fluctuations over a period of a year, so that the mine's effect can be adequately assessed. .

2. That data from the test bores be collected daily while all mining operations are in place, and made available to all landowners downstream from the mine and all other interested parties

3. That an independent hydrologist be employed to assess the ground water reading. If, in their opinion, mining operations are causing a drop in groundwater below the mine, then those operations will cease and a remediation plan will be put into effect within three months in consultation with the relevant government departments and all landowners affected.

4. That the proponents agree to compensate all landowners, residents and businesses in full and within a three month period, for any loss of amenity or production directly or indirectly caused by the operation of their proposed development, both during the lifetime of the development and afterwards.

5. That a bond appropriate to allow this be calculated and set as a condition of development.

This will need to cover not just the an estimated \$AU3 million per annum income already generated in the Araluen Valley, but other personal and financial loss, including loss of value of properties and businesses. The value of land and businesses in the eight kilometres just below the mine alone amount to more than \$AU 20 million, and this is without costs of remediation and long-term business and personal loss. This compensation should not be limited to those in the catchment below the mine, but to all who have a demonstrated financial and personal interest in the land and water system affected.

Note: as the proponents have indicated that they are confident that there will be no impact beyond two kilometres of the mine site, they can have no objection to a condition asking for remediation if such an effect occurs.

6. That alternate water sources be purchased instead of using water from an already endangered catchment. This could include the trucking in of water from areas of greater water as well as the smaller capacity from the capture of clean storm flow run-off from extensive roof areas

that might be constructed over mine facilities such as the tailings stockpile.

7. That the quality of water returned to the Major's Creek and Araluen aquifers from the Dargues Reef Mine be tested on a daily basis for levels of toxicity, heavy metal and other pollution as well as any increases in acidity or alkalinity, and that this data be made available on a daily basis to all who have made submissions to this enquiry.

8. That if these levels of pollution, toxicity, acidity or alkalinity are shown to be higher than the levels measured in the current EA then all work should cease until the relevant NSW and Federal Departments can assure the community that the water is safe for residents to drink, wash in, use on the orchards and market gardens, and for the continuation of the animals and plants downstream.

9. That a secondary tailings dam wall be erected

10. That if whichever company is currently mining at Dargues Reef goes into liquidation before rehabilitation and compensation can occur, and if the cost of compensation and rehabilitation is more than the bond entered into by the company at the Department of Planning's request, then the NSW Government accept full responsibility for such compensation and rehabilitation necessary for any negative effects of the proposed Dargues Reef Mine included in this and other submissions.

The five-year Dargues Reef mining profit is extremely small compared to the sustainable income threatened by the proposed Dargues Reef operation, the tourism potential of the region, and the emotional attachment so many feel towards the Araluen Valley.

Due to the lack of relevant data provided by the proponent on ecological, hydrological, and economic effects of their development within 1.5KM of the site, and:

due to the proponent's claims that such a study has been done in the 6-8 km radius of the mine, despite no such approval being given or requested from National Parks and Wildlife for the Major's Creek National Park Reserve, 1.5 km from the site, and the properties of Bryan Sullivan, Jackie Ffrench and Robin Clubb from 4-8 km below the prosed mine site, I humbly urge the Department of Planning and the Minister to call for a full and frank investigation of possible impact in these areas within the area claimed to be tested by the proponent as well as public release of data on these tests before further consideration is given to the Dargues Reef proposal.

I further humbly request that once this vital data is gathered and assessed then there be the opportunity for further public discussion and submissions before a decision is made on this development.

References

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Australian National Wildlife Collection Database (CSIRO 2005).

Australia's Virtual Herbarium database (ANH 2005).

Australian National Herbarium (2005) Australia's Virtual Herbarium database, Centre for Plant Biodiversity Research, CSIRO and Australian National Botanic Gardens, Department of Environment and Conservation, Canberra.

Drake, JA. Greene, RSB. Macdonald, BCT. Field, JB. Pearson, GL. 2010. A review of landscape rehabilitation frameworks in ecosystem engineering for mine closure. In *Proceedings of the V International Conference on Mine Closure*. Vina del Mar, Chile.

J.A. Drake *The Australian National University, Australia*

R.S.B Greene *The Australian National University, Australia*

B.C.T Macdonald *CSIRO Land and Water, Australia*

J.B. Field *The Australian National University, Australia*

G.L. Pearson *Barrick (Cowal) Limited Gold Mine, NSW, Australia*

Jones, Rebecca, *a History of organic farming and gardening in Austrlia, CSIRO 2010*

The NSW State Groundwater Policy Framework Document

Southern Rivers Catchment management Authority – *Case Study Araluen Creek*

NSW Water Hydrology Reports – *Araluen Valley 1997, 99 2000*

Water Management Act 2000

Future Climate and runoff Projections (2030) – *NSW Water in conjunction with CSIRO Land and Water and CSIRO Marine and Atmospheric Research.*

Murray-Darling Basin Commission – *Guiding Principles for Sustainable Groundwater Management May 2004.*

Kane Winwood - Online Submission from [REDACTED] (support)

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 23/10/2010 9:32 AM
Subject: Online Submission from [REDACTED] (support)
CC: <assessments@planning.nsw.gov.au>

I wish my name to remain anonymous. I look forward to the opening of Dargues Reef gold mine and the positive impact it will have locally with employment and future prospects for the old gold mining township of Majors Creek and its surrounds

Name: [REDACTED]

Address:
[REDACTED]

[REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
https://majorprojects.onhiive.com/index.pl?action=view_job&id=3871

Site: #2222 Dargues Reef Mine
https://majorprojects.onhiive.com/index.pl?action=view_site&id=2222

Kane Winwood

E: kane.winwood@planning.nsw.gov.au

[REDACTED]

Kane Winwood - Online Submission from [REDACTED] (object)

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 26/10/2010 3:25 PM
Subject: Online Submission from [REDACTED] (object)
CC: <assessments@planning.nsw.gov.au>

I am registering my objection of this project. I do not believe the impact on the environment, local ecosystems and residents has been properly considered.

I do not wish my name to be made available to the Proponent.

Name: [REDACTED]

Address:
[REDACTED]
[REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
https://majorprojects.onhiive.com/index.pl?action=view_job&id=3871

Site: #2222 Dargues Reef Mine
https://majorprojects.onhiive.com/index.pl?action=view_site&id=2222

Kane Winwood

E: kane.winwood@planning.nsw.gov.au

George Mobayed - Objection to Proposal, Reference Number: 10 0054

From: [REDACTED]
To: <plan_comment@planning.nsw.gov.au>
Date: 26/10/2010 3:28 PM
Subject: Objection to Proposal, Reference Number: 10 0054

Name: [REDACTED]
Address: [REDACTED]
Reference number: 10 0054

I object to the proposed Dargues Reef mining project on the grounds that no assessment has been made of the impact on the loss of groundwater beyond the two square kilometre radius of the mine, nor on the fragile and threatened ecosystems below the mine.

I request more time for these and other questions raised by the Environmental Assessment to be investigated, including test bores 2-6 kilometres downstream from the mine site, to test the impact of drilling on the groundwater over a period of a year, to allow for variation in rainfall.

I also request that a detailed assessment be made of endangered, critically endangered and threatened flora and fauna in the four kilometres below the mine site. This also needs a year for completion, as some species are migratory, and others, such as the endangered powerful owl, can only be easily identified in late winter when they are calling.

I also request that a detailed assessment be made of heritage and Indigenous sites 2-6 kilometres downstream from the proposed mine site and the tailings dam.

Kane Winwood - Online Submission from [REDACTED] (support)

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 24/10/2010 7:54 AM
Subject: Online Submission from [REDACTED] (support)
CC: <assessments@planning.nsw.gov.au>

I do not wish my name to be made available.

I support the development of this project because of the benefits it will bring to the local and surrounding communities, economic and employment opportunities. Demographically Palerang Shire is among the State's oldest and lowest income groups, and in this area employment opportunities for school leavers and young people are very limited, forcing them to leave the district to seek employment elsewhere. This project will provide opportunity to participate in one of Australia's strongest employment sectors. The area has a strong historical association with gold mining, and recent heritage classification will further emphasize the district's link with this sector. All facets of tourist activity and related employment also stand to benefit from this project. In my opinion it would be irresponsible to deny the residents of Palerang this significant contribution to its demographics.

Name: [REDACTED]
Organisation: Self employed

Address:
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
https://majorprojects.onhive.com/index.pl?action=view_job&id=3871

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Kane Winwood

E: kane.winwood@planning.nsw.gov.au

George Mobayed - Online Submission from [REDACTED] (support)

From: [REDACTED]
To: George Mobayed <George.Mobayed@planning.nsw.gov.au>
Date: 30/10/2010 8:45 PM
Subject: Online Submission from [REDACTED] (support)
CC: <assessments@planning.nsw.gov.au>

The proponent so far has demonstrated far more than their lawful accordance.

I believe the mine approval will benefit local community financially and environmentally.

Cortona have the ability to create jobs, and have promised to do so, whilst supporting local established businesses. Their ability and willingness to enhance and restore the already degraded mine site and surrounding land left by past mining and farming practices means Majors Creek and Downstream townships of Araluen and Neringla will benefit from erosion control, control of noxious weeds and revegetation creating animal habitats.

An injection of populous due to skilled workers will positively affect local community by way of positive injection into the local economy.

Thus far, the proponent has demonstrated commitment to the Majors Creek community through funding and sponsorship of community projects where they have had no legal commitment.

They are committed to maintaining the small community nature and social structure of this special place that we call home.

By viewing their demonstrative displays and reading through planning and E.A documentation, I have no hesitation in welcoming this friendly "backyard" company into Majors Creek to mine for Gold on our outskirts.

I would like to thank the Managing Director for all his hard work in reassuring our community that he and all involved in Cortona are here to co-exist with Majors Creek and even improve our quality of life rather than detract from it.

At a recent community meeting, the managing Director was invited to explain the EA and processes. He is hands on, and committed to the community and ensuring a high level of understanding in relation to the Dargues Reef mine.

I fully support the development of a Goldmine in this close proximity to our village centre, and have full confidence that the project can move forward without adversely affecting the village residents' quality of life.

I do not support the speculation of the Majors Creek Community Liaison Committee (MCCLC) that fault lines will cause tremors and vibrations that will destroy houses when blasting occurs.

I do not support the speculation of the MCCLC that the water table will be so severely affected that the trees will experience Die Back.

I do not support the speculation of the MCCLC that excessive lighting will cause harm to the village zone.

I Do NOT support the speculation of the MCCLC about traffic movements.

In the last 5 years, Majors Creek has grown rapidly. Every day there are a plethora of vehicle movements to and from Majors Creek. This includes Heavy Trucks, cement trucks, buses, motorbikes, delivery trucks, farm machinery, and many 4 wheel drives. The proponent will be upgrading the road, easing the current situation with the road, and making way for further vehicles. As Palerang council has neglected the standard of the road for many years, and has not been compliant with minimum standard requirements, we only stand to benefit.

I have full confidence in the evidence provided that Cortona seek to contain noise pollution by containment of crushers and ball mills and placement of ROM pad. The placement of the ROM Pad will also maintain the surrounding beauty and ambience.

I am confident that the proponent will not cause further water pollution or environmental degradation, and that they have the finance and abilities to IMPROVE the current situation.

I am confident that we can co-exist positively; Cortona has demonstrated a willingness to be a part of our community and welcomes community input in the development of the mine.

The company is a credit to the mining industry by way of the practices they keep, and in future years, will be able to set higher standard and "Best practice" example to many other companies? world wide.

From the beginning of exploration, many years ago, the proponent have been willing, giving, and accepting of local landholder views, without pushing their lawful rights.

They have worked with us, and never against us, and it has given me full trust and acceptance of the company. I can only hope others feel the same way.

I DO NOT WISH MY NAME TO BE PLACED ON EXHIBITION WITH THE DEPARTMENTS WEBSITE FOR PUBLIC ACCESS. HOWEVER, THE PROPONENT MAY HAVE ACCESS TO MY NAME THANKYOU.

Name: [REDACTED]

Address:
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
https://majorprojects.onhiive.com/index.pl?action=view_job&id=3871

Site: #2222 Dargues Reef Mine
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George Mobayed

Planner - Mining & Industry Projects

P: (02) 9228 6467

E: George.Mobayed@planning.nsw.gov.au

[REDACTED]

Kane Winwood - Online Submission from [REDACTED] (object)

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 25/10/2010 10:34 PM
Subject: Online Submission from [REDACTED] (object)
CC: <assessments@planning.nsw.gov.au>

I object to the proposed Dargues Reef mining project on the grounds that no assessment has been made of the impact on the loss of groundwater beyond the two square kms radius of the mine, nor on the fragile and threatened ecosystems below the mine.

I request more time for these and other questions raised by the Environmental Assessment to be investigated, including test bores 2-6 kms downstream from the mine site, to test the impact of drilling on the groundwater over a period of a year, to allow for variation in rainfall.

I also request that a detailed assessment be made of endangered, critically endangered and threatened flora and fauna in the four kms below the mine site. This also needs a year for completion, as some species are migratory, and others, such as the endangered Powerful Owl, can only be easily identified in late winter when they are calling.

I also request that a detailed assessment be made of heritage and indigenous sites 2-6 kms down stream from the proposed mine site and the tailings dam.

I also request that an investigation be carried out into the need for a second tailings dam wall. World's best practice is to have a secondary wall in case the first fails. This has not been provided under the proposal.

Thank you.

Please do not make my name available to the Proponent, interested public authorities, or on the Department's website.

Name: [REDACTED]

Address:
[REDACTED]

IP Address: - [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
https://majorprojects.onhiive.com/index.pl?action=view_job&id=3871

Site: #2222 Dargues Reef Mine
https://majorprojects.onhiive.com/index.pl?action=view_site&id=2222

Kane Winwood

E: kane.winwood@planning.nsw.gov.au

Kane Winwood - Online Submission from [REDACTED] (object)

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 27/10/2010 9:11 PM
Subject: Online Submission from [REDACTED] (object)
CC: <assessments@planning.nsw.gov.au>

I object to the proposed Dargues Reef mining project on the grounds that no assessment has been made of the impact on the loss of groundwater beyond the two square kilometre radius of the mine, nor on the fragile and threatened ecosystems below the mine.

I request more time for these and other questions raised by the Environmental Assessment to be investigated, including test bores 2-6 kilometres downstream from the mine site, to test the impact of drilling on the groundwater over a period of a year, to allow for variation in rainfall.

I also request that a detailed assessment be made of endangered, critically endangered and threatened flora and fauna in the four kilometres below the mine site. This also needs a year for completion, as some species are migratory, and others, such as the endangered powerful owl, can only be easily identified in late winter when they are calling.

I also request that a detailed assessment be made of heritage and Indigenous sites 2-6 kilometres downstream from the proposed mine site and the tailings dam.

I do not wish my name to be available on the Department's website.

Name: [REDACTED]

Address:
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
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Site: #2222 Dargues Reef Mine
https://majorprojects.onhiive.com/index.pl?action=view_site&id=2222

Kane Winwood

E: kane.winwood@planning.nsw.gov.au

Kane Winwood - Online Submission from [REDACTED] (object)

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 26/10/2010 8:07 PM
Subject: Online Submission from [REDACTED] (object)
CC: <assessments@planning.nsw.gov.au>

I object to the proposed Dargues Reef mining project on the grounds that no assessment has been made of the impact on the loss of groundwater beyond the two square kilometer radius of the mine, nor on the fragile and threatened ecosystems below the mine.

I request more time for these and other questions raised by the Environmental Assessment to be investigated, including test bores 2-6 kilometres downstream from the mine site, to test the impact of drilling on the groundwater over a period of a year, to allow for variation in rainfall.

I also request that a detailed assessment be made of endangered, critically endangered and threatened flora and fauna in the four kilometres below the mine site. This also needs a year for completion, as some species are migratory, and others, such as the endangered powerful owl, can only be easily identified in late winter when they are calling.

I also request that a detailed assessment be made of heritage and Indigenous sites 2-6 kilometres down stream from the proposed mine site and the tailings dam.

(Please remove my name from publishing.)

Name: [REDACTED]

Address:
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
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Kane Winwood

E: kane.winwood@planning.nsw.gov.au

Kane Winwood - Online Submission from [REDACTED] ()

From: [REDACTED]
To: Kane Winwood <kane.winwood@planning.nsw.gov.au>
Date: 26/10/2010 1:30 PM
Subject: Online Submission from [REDACTED] ()
CC: <assessments@planning.nsw.gov.au>

Hi there,

I object to the proposed Dargues Reef mining project on the grounds that no assessment has been made of the impact on the loss of groundwater beyond the two square kilometer radius of the mine, nor on the fragile and threatened ecosystems below the mine.

I request more time for these and other questions raised by the Environmental Assessment to be investigated, including test bores 2-6 kilometres downstream from the mine site, to test the impact of drilling on the groundwater over a period of a year, to allow for variation in rainfall.

I also request that a detailed assessment be made of endangered, critically endangered and threatened flora and fauna in the four kilometres below the mine site. This also needs a year for completion, as some species are migratory, and others, such as the endangered powerful owl, can only be easily identified in late winter when they are calling.

I also request that a detailed assessment be made of heritage and Indigenous sites 2-6 kilometres down stream from the proposed mine site and the tailings dam.

I don't want my name to be made available to the Proponent, these authorities, or on the Department's website.

Thanks and kind regards,

Name: [REDACTED]

Address:
[REDACTED]
[REDACTED]

IP Address: [REDACTED]

Submission for Job: #3871 Dargues Reef Gold Project (PA 10_0054)
https://majorprojects.onhiive.com/index.pl?action=view_job&id=3871

Site: #2222 Dargues Reef Mine
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Kane Winwood

E: kane.winwood@planning.nsw.gov.au
