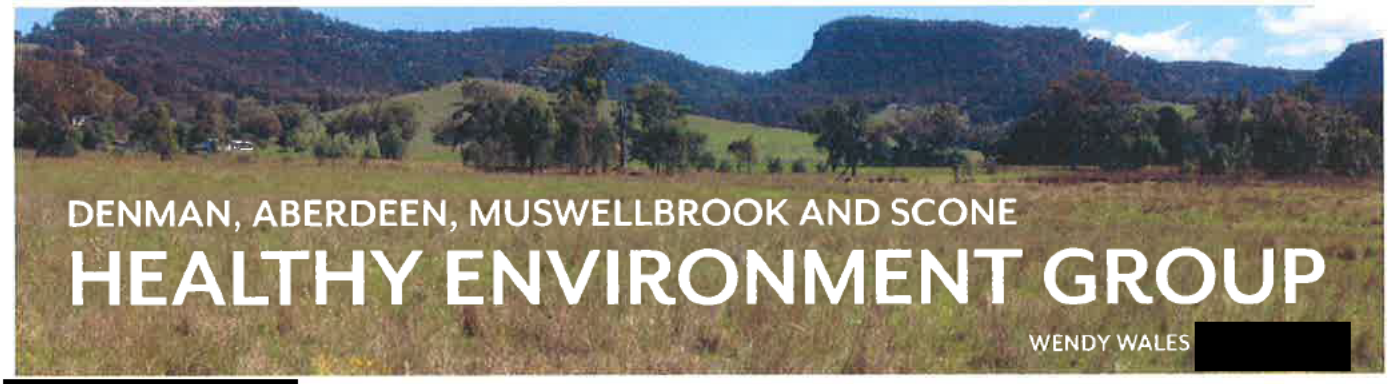

DENMAN, ABERDEEN, MUSWELLBROOK AND SCONE

HEALTHY ENVIRONMENT GROUP

WENDY WALES [redacted]

[redacted]
Muswellbrook, 2333
NSW

4th July, 2018
Public Meeting
Upper Hunter Conservatorium of Music

Objection to Mt Pleasant Modification 3

Acknowledge & pay my respects to the true owners of the land, the Wonnarua people.

Thank you for providing me the opportunity to speak on behalf of the Denman, Aberdeen, Muswellbrook, Scone Healthy Environment Group DAMS HEG. DAMS HEG is a group of people across the Upper Hunter, prepared to stand up and speak in this David and Goliath contest. None of us have an appetite for conflict and none of us can escape the moral compunction to speak out against the ongoing destruction of our environment.

My name is Wendy Wales, I have served two terms on the Upper Hunter Air Quality Monitoring network, am a recently retired Science teacher and have been teaching at Muswellbrook High School for more than 20 years. In that time I have seen Muswellbrook change from a town being nestled in a rural setting, as portrayed in the Millennium community designed and created tapestry displayed at Muswellbrook Shire Council to a town transitioning to be nestled in a mullock heap.

At school I carried on my Science teaching duties and took on Environmental Education as an add on, across the school. I sincerely believed that we would not knowingly destroy our unique heritage let alone the global climate system and that education is the key. Frustration with institutional inertia, lead me to study a Masters of Env Education. At the same time it seemed like Australia might change direction, with Kevin Rudd the new Prime Minister and Malcolm Turnbull saying he would *"not lead a party that is not as committed to effective action on climate change as I am."*

Well we got to see the power of the mining lobby and their multi million dollar advertising campaign during the Resource Rent Tax debacle. It effectively took out the Prime Minister and destabilised the Australian Government for a decade. Now we know how a human civilisation will cut down its last remaining forest, ecotype and tree. Allow the Great Barrier Reef to become lifeless, koalas become stranded in smaller and smaller island populations. We are going about business as usual in a very methodic and pleasant circumstance while our civilisation is going though its death throws. We are 7 billion, we cannot continue to consume energy so wastefully, nor can we continue to mine sequestered carbon. We must stop pretty much in our tracks and ~~find~~ implement solutions.

Proceeding with the mine at Mt Pleasant as if nothing much has changed much in the last 20 years either to the mine plan or our circumstances is proceeding with the lemmings over the cliff. We know so much more about climate change, of which I will say more, the impact of pollution on health, the impact of noise on sleep, the importance of wildlife and wildlife corridors. Denying that the cumulative impact of a new mine upwind of a population of 10,000 is already past a reasonable threshold is denying natural justice to us and flying in the face of the worlds climate scientists who

Set 15

Force and Motion

SET 15

1. 4.8 N
2. 13 ms^{-2}
3. 0.050 kg
4. 5 000 N
5. 20 kg
6. 2 s
7. 8400 N
8. 3.14 N
9. 2640 N
10. 57.6 N

$F = m\,a$

F = force
m = mass
a = acceleration

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1. What force would be needed to make an object of mass 3.0 kg accelerate at 1.6 ms^{-2}?

2. A force of 9.1 N was applied to a box of mass 0.70 kg resting on a smooth horizontal surface. What acceleration would be expected?

3. An acceleration of 17.0 ms^{-2} was produced when a force of 0.85 N was applied to a body. What was the mass of the body?

4. A sports car of mass 550 kg accelerated from rest to 45 ms^{-1} in 5.0 s. What net force must have been applied to produce this acceleration?

5. A rocket travelling at 5.50×10^{1} ms^{-1} fired its motor which gave a thrust of 1.880×10^{3} N. At the end of 6.2 s its velocity was 6.378×10^{2} ms^{-1}. What was the average mass of the rocket during this process?

6. The force applied by a fan to an air track glider of mass 850 g was 0.34N. How long did it take the glider to travel 80 cm if it started from rest?

7. A small van of mass 840 kg was brought from 15.0 ms^{-1} to rest in a distance of 11.25 m. What net force must have been applied for this to happen?

8. A mass of 1.96 kg is pulled along a rough horizontal table top by a force of 10.00 N producing an acceleration of 3.50 ms^{-2}. What was the force of friction between the mass and the table?

9. A crate of mass 240.0 kg was lifted by a crane with an initial acceleration of 1.20 ms^{-2}. What force would the rope have to supply during this part of the lift?

10. A box of mass 14.4 kg slid smoothly across a floor at a velocity of 5.00 ms^{-1} when it hit a rough patch 3.00 m wide. After crossing this patch, the box had slowed to 1.00 ms^{-1}. What must be the size of the force of friction applied over the rough patch?

10/10 10/10

2852

warn us by every means at their disposal that catastrophic climate change cannot be controlled by Borderforce, that the best way to sequester carbon is to leave it in the ground.

Professor Howard Bridgeman, designer of the Upper Hunter AQ Monitoring Network observed at the Wambo PAC in February 2018 that Upper Hunter air quality was to the point that there could be no more incremental increases in pollution. The monitors revealed we are already experiencing significant air pollution.

Muswellbrook has not had the same degree of PM10 excedances as Singleton, Camberwell or Mt Thorley, until recently. This would most likely be because none of the mines around Muswellbrook are upwind of the prevailing Nor-westerlies of Sou-easterlies, until now, with Mt Pleasant. It is not right that Mt Pleasant can be built up wind of town. Many people have relocated to Muswellbrook after the mining down turn because investment housing became affordable housing. People who have relocated here for lower rents do not necessarily have support systems, their own transport or good health. Air pollution reduces life expectancy for everyone but people with cardio and respiratory problems will certainly be suffering the most.

If you travel on the New England Highway at change of shift time and you get a good sense of how many people work in the Upper Hunter but do not live here. I believe air quality would be a major factor in those workers decision making. They would rather risk another couple of hours on the road after long shifts than risk their families health. Even though the PM 10 exceedances are recent, the visible pollution from the power stations would be enough.

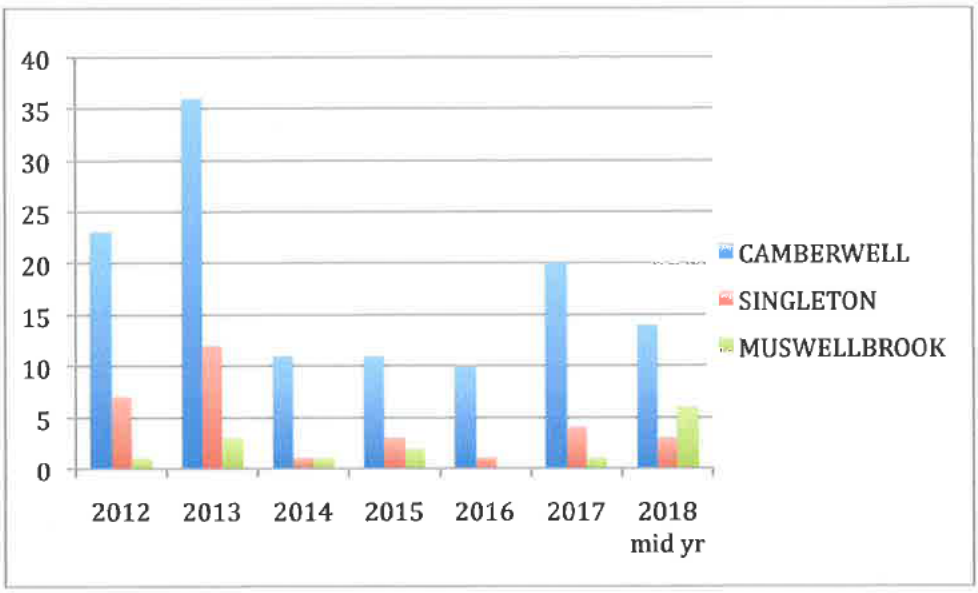
I have included two tables and two column graphs that provide a very simple comparison between the monitoring sites at Camberwell, Singleton and Muswellbrook. Muswellbrook's PM10 exceedences this half of the year are more than double the readings of any other year, and we are only half way through the year. The Minerals Council had the audacity to say increasing pollution levels are a consequence of the hot dry weather. We know when it is dry and hot it will be dustier. We can expect the weather will stay dry and get hotter because of climate change. If this mine goes ahead we can expect more health alerts, medical emergencies and premature deaths due to poor air quality. These simple data sets give some comparison to how Muswellbrook's air quality is deteriorating and what we can expect when we encircle the town with coal mines.

Number of PM10 exceedances each year			
	CAMBERWELL	SINGLETON	MUSWELLBROOK
2012	23	7	1
2013	36	12	3
2014	11	1	1
2015	11	3	2
2016	10	1	0
2017	20	4	1
2018 mid yr	14	3	6

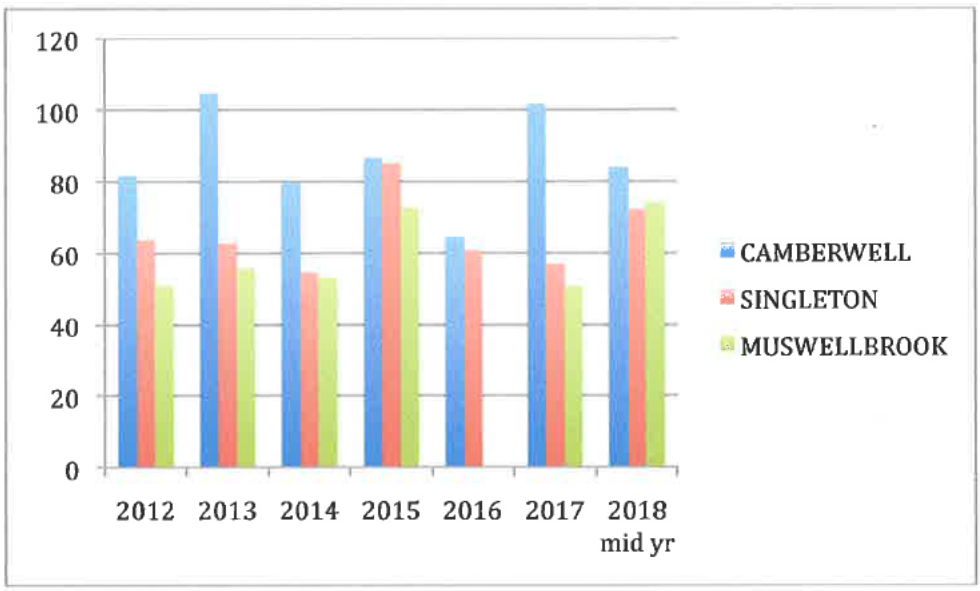
Year 9 Chemistry Topic Test

Name:

TYPE OF REACTION **(Use the formulas to help you, write your word equations**	**Type of Reaction**	**Word Equation** (Use the proper names of the chemicals if you can, otherwise use the general names, eg salt, acid)
$2Mg + O_2 \rightarrow 2MgO$ (burning Mg)		
Complete $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$		
Incomplete $4CH_4 + 6O_2 \rightarrow 2CO + C + CO_2 + 8H_2O$		
$Fe + O \rightarrow FeO$ (eg a nail in water)		
$CuSO_4 + BaNO_3 \rightarrow CuNO_3 +$ $BaSO_4$ ppt		
$HCl + Mg \rightarrow MgCl_2 + H_2$		
$H_2SO_4 + CaCO_3 \rightarrow CaSO_4 +$ $CO_2 + H_2O$		
$NaOH + HCl \rightarrow NaCl + H_2O$		
$CaCO_3 \rightarrow CaO + CO_2$		



Highest concentration of PM10 recorded			
	CAMBERWELL	SINGLETON	MUSWELLBROOK
2012	81.6	63.6	51
2013	104.8	62.7	55.6
2014	79.7	54.5	53
2015	86.7	85.3	72.6
2016	64.3	60.8	0
2017	101.5	57	50.8
2018 mid yr	84	72.1	74



Mach Energy bought Mt Pleasant knowing the lease had nearly expired, 8 years after Muswellbrook Shire Council and others had already argued that the conditions of consent were antiquated and that applying for a modification under s 75W was denying the completely changed circumstances since Mt Pleasant was first approved. Their on site improvements are not going to help with this fact, there is already very high impact on air quality and health from existing coal

and power generation. The visual desecration and its impact on community mental health will be something for researchers.

At different times in my life I have visited Kalgoorlie, Broken Hill, Mt Isa and Mt Morgan, all more than 10 years ago. I always felt completely confident that these environmental disasters could not happen in Australia today. It was the last thing I ever would have imagined to see this devastation progressing every time I come to town.

I will now draw the commissioners attention to the global reality of Climate Change.

At the Paris conference in 2015 the Abbott government committed Australia to a goal of limiting a global temperature increase to 2 degrees C.

The only way to achieve this target, of course, is to reduce the amount of greenhouse gases going into the atmosphere. That means reducing the production of all fossil fuels, and most urgently, coal.

The consequences of global warming are real and with us now.

Recent research has shown the millennium drought to be larger in area, and longer than any other drought in southern Australia, in the past 400 years.
As a result of record low rainfall in the past 18 months and record high temperatures, the current drought in NSW is even more intense. The duration has yet to be seen.

The Great Barrier Reef, a wonder of the natural world and source of employment for tens of thousand Australians, was devastated by coral bleaching in 2016-17, as a direct result of global warming. These bleaching events were unknown before 1998 and are occurring frequently. The reef's future is bleak.

In 2015 Hurricane Patricia crossed the Mexican coast with sustained wind speeds of 325 km/h, the highest ever recorded.
In 2013 Cyclone Haiyan killed 6300 people in the Phillipines alone. Cyclones Pam in 2015 and Winston in 2016 are amongst the largest ever to occur in the South Pacific and devastated many our island neighbours.

Wild fires are at record levels across the globe, devastating ecosystems and people's homes and livelihoods.

Drought is forcing millions of climate refugees from their homes across Sub Sarharan Africa, as snowfall and rainfall declines in many of the world's most unstable and densely populated regions.

Recent research has shown that the rate of sea level rise has tripled in the last 5 years. Many experts are not ruling out sea level rises of up to 2 metres by the end of this century. Many major cites face inundation in this or early in the next century. And of course many millions of people live in river deltas across the world, especially in our region.

A hotter world will inevitably result in food shortages, civil unrest and the mass migration of refugees. The US Pentagon has noted this and is making preparations.

Scientists tell us that going beyond 2 degrees is unthinkable, and 3 degrees may well be incompatible with human civilisation. We have to leave most of the coal in the ground.
The ten million tons of coal produce by this mine annually will result in around 30 million tons of CO_2 being released into the atmosphere. That's every year. It makes no difference where it is burned or against whose scorecard it is tallied. Most of the world's coal is produced in "small" mines like this one. It makes a significant difference.

We are a rich country by any standard. We have the highest per capita emissions in the developed world. The Climate Change Performance Index ranks for effort the 58 countries that produce 90% of the greenhouse gases. We come in at 57. We beat Saudi Arabia.

We have to do better for the planet. We have to do better for our children. We have to get off coal. Someone has to show some courage and stop this madness.

THANK YOU