2011

MY PLACE OR MINE

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Submission to:

Rural Affairs and Transport References Committee

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I write this submission as an individual; as a husband, father and grand-father; as a concerned resident and as a member of TOOWOOMBA COAL MINE ACTION GROUP (TCMAG). I will be arguing against open-cut Coal mining in particular, but not exclusively, with special reference to mining in close proximity to a) closely settled established communities; b) environmentally sensitive areas; c) fertile, viable food producing land. My submission is keenly focused on the health perspective which embraces 1) Human Health; 2) Environmental Health and 3) Social Health. My concern is not restricted to those immediately affected by mining, but also for those whom I call secondary victims. These are the ones who are nowhere near the primary source of mining and yet their lives are being negatively affected all the same.

TOOWOOMBA COAL MINE ACTION GROUP is a self-funded community based organisation formed early in 2011 initially to oppose the proposed coal mine under EPC 1979 which covers an area between Oakey and Toowoomba, directly affecting the thriving, growing communities of Kingsthorpe, Glencoe and Gowrie Junction and covering valuable farming land between. The proposed mine would be within view of Toowoomba, especially the prestigious western suburb of Cotswold Hills and Curtis Park and the established, expanding community of Highfields to the north. Since its formation we have pledged to become better informed ourselves so we can inturn educate other residents of the impending atrocity which is looming over us. Many of us have banded together to advise and educate our communities in the void of local and state government inactivity. We also stand for the elderly and the children to defend their trophies and their inheritance respectively. The people and communities featured in this report have expended huge amounts of time and energy to try and represent their concerns to the authorities, to gain and hold some sway with the regulation of coal mining. Our concerns are real and genuine, sometimes dire, and yet their collective story is one of frustration at the way that the government manages the regulation of coal mining. This paper will be presented in three sections where mining has a negative impact, viz. HEALTH, ENVIRONMENT and SOCIAL.

In this submission I will deliver a summary of research which has been presented by scientists and doctors. I believe that there is case for change based entirely on science alone but also believe that science is driven by emotion and the two lean heavily on each other. Without an initial emotive issue, there would be no dilemma and without a dilemma there would be no research and without research there would be no solution. People's health is being affected and they want to know why and so we do the research to establish a cause and present a solution. Vegetation is dying and so we do the science to find out why. The emotion I experienced learning I could be looking out of my house to a very different landscape to the one which impressed me to purchase my property; the emotion I experience knowing my property has already dropped in value; the emotion I feel when I consider the negative impact

on my and my family's health due to a mine close by, all drive me to research the science to establish a solution.

In 1912 Dr. Alexus Carrel wrote
The Importance of Minerals
"Minerals in the soil control the metabolism of plants, animals & man.
All of life will be either healthy or unhealthy according to the fertility of the soil."

1. HUMAN HEALTH

Dr Pauline Roberts PHD., B.SC. (HONS)., DBM. – Coal is Toxic"…. *"Mother nature knew what she was doing when she buried organic coal sediments deep underground within sedimentary layers of rock. She did not want coal's toxic components near the fertile and life-giving topsoil, competing for absorption with life-giving elements and thereby entering and adversely affecting the food chain, plant band animal health. Neither did she want them contaminating the aquifers by allowing water to filter through the strata and mobilise toxic compounds. Nor did she want coal's radioactive particle load disseminated in the local airflows or intercontinental jet streams".* [1]

Coal and its associated strata, contains the elements of arsenic, mercury, lead, cadmium, selenium, nickel, vanadium and copper in varying proportions. These toxic heavy metals have negative physiological effects, both chronic and acute on plants, animals (including human) and aquatic life. Uranium, thorium and radium are radioactive elements which are also accumulated and concentrated within coal strata and are toxic in their own right due to the radioactivity they emit. Coal seams contain significant amounts of sulphur and sulphides. Their bio-toxicity increases when exposed to air or water. Therefore any disturbance of coal will naturally result in the release of these toxic elements into the environment in dangerous quantities.

The disruption of sub-strata, caused by mining will cause these heavy metals to be oxidised and will provide an avenue for them into water within the strata. This contaminated water can now seep through mining-created fractures, into quality water veins and aquifers. This will result in contamination of town, irrigation and horticultural supplies. There are well documented cases of arsenic poisoned ground water near coal mining sites. The US Environmental Protection Agency lists arsenic in group 1A of its toxins list: known human carcinogen.

As coal is exposed to the atmosphere it changes in particle sizes due to the mining process. The sizes of these particles vary from large to fine dust and it is these fine particles which become air-borne from wind-blown tailing ponds, blasting, excavating, coal heaps and transportation.

Dr. Dick van Steenis, spent over 16 years researching industrial air pollution (including opencast mining) with its consequential health damage. There is published research which confirms that both PM1 and PM2.5 particulate matter produced by opencasting of coal causes new cases of asthma to develop in children and adults as well as exacerbating know cases.

There is also increased incidence of chronic pulmonary obstructive disease, heart attacks, generalised premature deaths, strokes, type 2 diabetes, clinical depression. Other conditions resulting from toxic waste and associated machinery emissions include cancers, hormone disorders, birth defects, low birth-weight babies, skin rashes, behaviour disorders, infections, and immune system disruptions.

It has been known in America since 1943 that PM1 size particles are the most dangerous to our health, because even though they are so small they still have hundreds of chemicals in them. These particles are inhaled and descend to the bottom of the lungs and those that dissolve go into the blood stream causing effects on the brain, kidney and heart. What doesn't dissolve is walled off in the lungs by macrophages with the aid of T lymphocytes from the immune system. These lymphocytes protect us against infections and help us handle vaccines, therefore a large concentration of PM1 in the lungs will attract virtually all T lymphocytes to try and fight infection, leaving the immune system unprotected. Inturn we are left vulnerable to other infections and susceptible to ordinary bugs, viruses and retroviruses.

The toxic effects of coal is not confined to human health, but also includes animal and plant well-being. PM1 & PM2 are also very acidic and will corrode roofs and gutters and then wash a cocktail of toxins into your rainwater tanks. In Gloucester, NSW, 100 people sent tank water samples to the Government for analysis and the residents received no replies. Presumably the results were just so bad.

"Studies in NE Derbyshire (1994 – 2000) comprising school medical records, school asthmas inhaler use, microscopy of dust outside and within buildings, and PM2.5 monitor readings with filter analysis at 5 schools covering a 3 year period, all confirmed a rise in asthma to affect 33% of primary school children living within one mile, a cumulative rise to 21% at two miles and even 12% at three miles. A Lanarkshire study (1998) proved that hospital admissions for asthma rose with open casting of coal, again within three miles or so, with cumulative rises year after year, falling when the opencasting ceased. A Liverpool University study even showed a rise in asthma in schools within 2 km of moving coal at the docks."

"Hospital admissions for asthma in the Tinsley area, since opencasting began at Orgreave, rose to 11 per 1000 population as against 3 per 1000 at Sheffield City Centre and 1 per 1000 in Worcestershire. GPs in the area of SE Sheffield have noted a large rise in asthma incidence in their area since Orgreave opencasting began."

"The Douglasdale (Scotland) 2009 Coal Health Study proved COPD (chronic obstructive pulmonary disease) incidence had risen 60% between 2004 – 2008 while other areas had no rise. A 2003 profile revealed 52% rise in disability living allowance claimants compared with a clear area, 27% rise in those too ill to work cf. Scottish average, 19% rise in low birth-weight babies and a 23% rise in cancer."

"In the Hunter Valley, NSW (Australia) death rates by 2009 were 37% higher than the Australian average."

Science Daily (March 27, 2008) reports; *"Pollution from coal mining may have a negative impact on public health in mining communities, according to data analysed in a West Virginia University research study."*

"Residents of coal-mining communities have long complained of impaired health," Michael Hendryx, Ph.D., associate director of the WVU Institute for Health Policy Research in WVU's Community Medicine department, said. "This study substantiates their claims. Those residents are at an increased risk of developing chronic heart, lung and kidney diseases."

Hendryx and co-author Melissa Ahern, Ph.D., of Washington State University, used data from a 2001 WVU Health Policy Research telephone survey of more than 16,400 West Virginians. That was correlated with data from the West Virginia Geological and Economic Survey, which shows volume of coal production from mining in each of the state's 55 counties. The goal was to determine whether there is a relationship between coal production and forms of cardiovascular, lung and kidney disease in the state. According to Hendryx, as coal production increases, so does the incidence of chronic illness. Coal-processing chemicals, equipment powered by diesel engines, explosives, toxic impurities in coals, and even dust from uncovered coal trucks can cause environmental pollution that could have a negative affect on public health.

According to Hendryx, the data show that people in coal mining communities

- *have a 70 percent increased risk for developing kidney disease.*
- *have a 64 percent increased risk for developing chronic obstructive pulmonary disease (COPD) such as emphysema.*
- *are 30 percent more likely to report high blood pressure (hypertension)."*

"We've considered that chronic illness might be prevalent in these areas because rural West Virginians have less access to health care, higher smoking rates and poorer economic conditions," Hendryx said. "We've adjusted our data to include those factors, and still found disease rates higher in coal-mining communities."

"Hospitalization rates in these communities also were studied. Data show the risk of hospitalization stays for

- *COPD increases 1 percent for every 1,462 tons of coal.*
- *hypertension increases 1 percent for every 1,873 tons of coal."*

"Total mortality rates are higher in coal-mining areas compared to other areas of Appalachia and the nation," Hendryx said. "The incidence of mortality has been consistently higher in coal-mining areas." Total mortality data for West Virginia suggests there are 313 excess deaths every year from coal-mining pollution."

"People in coal-mining communities need better access to healthcare, cleaner air, cleaner water, and stricter enforcement of environmental standards," he said. "Our study helps open the door for further explorations of community health and coal mining. We owe it to people in those communities to start protecting and repairing their health."

According to The Hunter Valley Coal Chain Logistics Team website, coal mines in the Hunter Valley form part of the supply chain for the world's largest coal export operation. Lee Rhiannon (Australian Greens MP) has been calling for a parliamentary inquiry into the health impacted of coal mining and associated industry. The government responded with

announcement it had made a deal with the industry to set up a regionally co-ordinated air quality monitoring network, but failed to say how they would do it or what they would do with the results. Air monitoring has been carried out around Acland and Jondaryan where the crude rail-loading facility is located. It is the New Hope Coal themselves who are performing such tests. According to locals, tests are only done on select days.

With all the scientific evidence for coal-related illness, mining companies are still only obliged to monitor particulate matter of 10 micron or less dust particle (PM_{10}) emitted to the air (Australian Standard 2222). Dust particles less than 10 micrometers in diameter (PM_{10}) come from crushing or grinding operations, and dust from paved or unpaved roads. They pose a health concern because they can be inhaled into and accumulate in the respiratory system, the finer the particle, the more invasive. However monitoring does not adequately measure the more dangerous very fine dust particles that are less than 2.5 micron in diameter ($PM_{2.5}$) emitted from all types of combustion (diesel motor vehicles, power plants).

Dr. Tuan Au, of Singleton, researched the incidence of children visiting local GPs presenting symptoms of asthma and other respiratory problems. In response to a study performed by the NSW government, he has called on them to perform a more thorough investigation into the region's health issues, saying that he believes that the wrong particles are being measured and in the wrong places. Dr. Nick Higginbothom, who has previously published a study saying health in the region had been ignored due to the dependence of the Government on coal. He also said that whoever wrote the report was clearly aware on the new international evidence of the dangers of coal dust pollution and criticised the report for not including date from the National Pollution Inventory that showed high levels of fine particles could be found in the air over Muswellbrook and Singleton.

Local Lithgow GP., Dr Richard Stiles says health problems in the area aren't due to poor lifestyle. NSW may have a $13 billion-a-year coal boom, but Doctors and environmentalists fear the people of Lithgow are paying for it with their health.

"The rate of premature deaths (before the age of 75) in Lithgow is almost a third greater than the state average. This has led to calls in Parliament for the Environment Protection Agency to have a full-time office in the town to monitor pollution.

Springvale Colliery in Lidsdale, just outside Lithgow, has logged 833 incidents of non-compliance of its Environmental Pollution Licence since 2000 - the worst performance of a coalmine in the state.

Sydney West Area Health Service (SWAHS) figures show prostate cancer in men and lung and colorectal cancer in both men and women are greater than the NSW average while the number of people admitted to hospital for asthma-related illnesses is almost double the state average.

"We know people are dying and getting diseases in Lithgow at a rate much higher than elsewhere and it is a legitimate question to ask if the coal industry is contributing to that," local doctor Richard Stiles said.

The SWAHS 2005-10 Healthcare Services plan showed Lithgow's cancer rate to be 20 per cent greater than the state average. But 2008 figures show a drop. A spokeswoman for the health service explained: "Over time, rates of some individual cancers have been higher in

some years but the number of cases in the small Lithgow population means that rates vary from year to year."

The earlier figures also showed the rate of heart attacks at almost 50 per cent greater than the rest of NSW.

Dr Stiles said: "What the community needs is an independent health inquiry to see if this environmental pollution, both air-bourne and water-borne, is having an adverse impact on the health of the people living here."

The figures also show a greater number of smokers and overweight people in the area, but Dr Stiles said: "It doesn't stack up that these problems are just down to poor lifestyle. From a local doctor's perspective this is a major issue that should not be swept under the carpet."

Conservationists also raised the alarm about the nearby coal-fired Wallerawang power plant releasing toxic metals and pollutants such as arsenic into the Coxs River, which feeds into Sydney's water supply.

People living near the power station, at Blackmans Flat and Wallerawang, were regularly exposed to high levels of sulphur dioxide, which the report said was linked to greater levels of respiratory and cardiac disease. Residents regularly complain about talcum-powder-like ash from mines dusting their homes.

Asthma Foundation NSW chief Greg Smith called on the state government to improve air monitoring: "[We are] aware of long-standing concerns about the very high rates of asthma in Lithgow and of the anecdotal evidence that coal dust and pollution from heavy machinery used in mining and the transport of coal may be either causing or exacerbating asthma."

Kirsty Ruddock, principal solicitor with the Environmental Defenders Office, said the law needed to be reformed to provide greater protection to residents in areas around coal-fired power stations and coal mining.

She pointed to American research that found long-term exposure to fine dust particles increased the risk of heart disease and lung cancer.

"Coal companies are making huge windfall profits yet the NSW government is failing to enforce the environmental conditions of mine approval," Ms Rhiannon said.

"Coal companies barely get a slap on the wrist for pollution breaches, so they continue to reoffend. The Springvale colliery in Lidsdale, the state's worst offender, continues to breach its license every year.

"Communities do not want to breathe coal dust, nor do they want arsenic, nickel, zinc and copper entering the water catchment."

The Physicians for Social Responsibility (PSR) (an American group) have released a reassessment of the adverse health impacts of coal excavation, coal combustion, and coal waste storage.

The 64-page PSR report, "*Coal's Assault on Human Health"*, details the respiratory, cardiovascular, and nervous system effects of air-borne coal pollution. In addition, the authors present recent World Health Organization data on human health threats posed by global warming, a relevant topic for inclusion as coal-fired power plants comprise greater than 1/3 of US CO2 emissions.

They made five policy recommendations as a conclusion to the PSR report. They are:

1. *"Emissions of carbon dioxide should be cut as deeply and as swiftly as possible, with the objective of reducing CO2 levels to 350 parts per million, through … legislation that establishes hard caps on global warming pollution coming from coal plants, and … EPA carbon dioxide regulation under the Clean Air Act… "*

2. *"There should be no new construction of coal-fired power plants, so as to avoid increasing health-endangering emissions of carbon dioxide, as well as criteria pollutants and hazardous air pollutants."*

3. *"The U.S. should dramatically reduce fossil fuel power plant emissions of sulfur dioxide and nitrogen oxides so that all localities are in attainment for national ambient air quality standards."*

4. *"The EPA should establish a standard, based on Maximum Achievable Control Technology, for mercury and other hazardous air pollutant emissions from electrical generation."*

5. *"The nation must develop its capacity to generate electricity from clean, safe, renewable sources so that existing coal-fired power plants may be phased out without eliminating jobs or compromising the nation's ability to meet its energy needs. … U.S. should fund energy efficiency, conservation measures, and clean, safe, renewable energy sources such as wind energy, solar, and wave power."*

Coal's Assault on Human Health is freely available. [Download 3.3MB PDF file from PSR]

This document is best summarized:

"Physicians for Social Responsibility has released a groundbreaking medical report, "Coal's Assault on Human Health," which takes a new look at the devastating impacts of coal on the human body. Coal combustion releases mercury, particulate matter, nitrogen oxides, sulfur dioxide, and dozens of other substances known to be hazardous to human health. This report looks at the cumulative harm inflicted by those pollutants on three major body organ systems: the respiratory system, the cardiovascular system, and the nervous system. The report also considers coal's contribution to global warming, and the health implications of global warming."

The mining practice of blasting also raises more serious concerns, not only for miners, but for close neighbours of mining operations. With the government not enforcing adequate no-go zones around opencast mining blasting comes closer and closer to populated areas and thoroughfares. On June 5th 2011, Cole Latimer reported "More miners at BMA's coal mines have been hospitalised following exposure to blast fumes." BMA confirmed that several miners, who were well outside the shot firing exclusion zone and more than 10 kilometres from the blast, needed to be hospitalised due to exposure to fumes at the Saraji coal mine.

The proposed East Acland mine on EPC1979 is purported to commence operation 14 kilometres from Toowoomba's CBD. There are many residences and schools within that zone. What does it mean for those people?

The Queensland Department of Employment, Economic Development and Innovation in their Safety Alert No. 44 V2, published on 15th March 2011, entitled Prevention and Management of Blast Fumes, states: *"The purpose of this alert is to make sure that everyone involved in open-cut blasting is aware of the potential for oxides of nitrogen to be generated from the use of ammonium-nitrate-based explosives. Exposure to oxides of nitrogen can posses a serious health risk."*

Point 7 of the alert says that in the USA between 1992 – 2002 eight post-gas events resulted in workers being injured including 1 fatality, whilst point 8 states, *"In the Phillippines in 2006, a shot-firer was conducting a post-blast inspection at a quarry, when he fell eight metres into a cavity. He was rescued and taken to hospital with apparently only minor injuries. At the time of his recovery, it was noticed that his breathing was laboured, but this information was not passed on to the hospital staff. He died the next day of severe pulmonary oedema (NOx poisoning), which was not recognised by either the medical team or operational staff."*

Page four of this document is an information sheet to be sent with a patient, overcome by blasting fumes, to the treating Doctor. There appears to be no obligation for mining companies to supply "neighbours" with such information.

Transportation of coal along public roads, through towns and on rail lines poses yet another concern due to uncovered loads spewing dust along their paths. Toowoomba Coal Mine Action Group is making preparations towards embarking on our own independent and impartial data-gathering exercise to prove that secondary victims of coal-mining are suffering ill health due to careless and contemptible handling and transportation of coal.

2. ENVIRONMENTAL HEALTH

a) Land Disturbance

The most obvious environmental health issue is the total decimation of the land. Coal mining, particularly surface mining, requires large areas of land to be disturbed. Top soil is removed and "stored" and eventually returned on top of the replaced overburden following the complete removal of the coal. This raises a number of environmental challenges, including soil erosion, dust, noise and water pollution, and impacts on local biodiversity. Disturbance of topsoil to this extent can never be reversed. Even though mining companies assure us that an area will be totally regenerated, it never is, nor can it ever be successfully. Generally mines where regeneration is attempted become a vast, arid wasteland.

b) Land Subsidence

It only stands to reason that if you remove a certain volume from the earth and do not replace it with the same volume or more then you will experience subsidence. I watch train load after

trainload after trainload of coal being transported from an area that we never see any soil being shipped back to back-fill the huge hole created by the extraction of coal. What happens when the void cannot be filled? Is the overburden lightly replaced and then the topsoil laid on top just as loosely? What happens then as the months go by and rain falls over that area? The only thing that can happen; the soil settles, compacts and we are left with a huge crater which has no practical use and by this time the mining company is long gone and turning some other productive land into a wasteland.

c) Water Pollution

The first thing to do with water is its excessive use by mining companies. In a country which treasures its water as a scarce commodity and works hard to preserve the resource to the extent of farmers having their supplies closely monitored and domestic use under strict restrictions, miners seem to blatantly use and abuse this precious commodity at the approval and invitation of the same government which runs expensive conservation advertising.

Mining close to waterways and water reserves makes these vulnerable to dust from trains & trucks contaminating these watercourses. Miners promise to filter, recycle and reuse mine water but photographic evidence shows water being sprayed into the air so it will evaporate to reduce the volume in chemical-saturated water dams.

ABC News reported on 21st March 2011 that plans for an underground coal mine in Margaret River (WA) had been rejected on the grounds that it could have irreversible consequences for the Margaret River region. EPA Chairman, Dr Paul Vogel said one of the board's main concerns was that the proposed mine would sit directly below a main water source. *"We are in a drying climate, water resources in that part of Western Australia are very important, this poses an additional, in our view, significant risk to the protection of those water resources,"* he said.

In the Hunter region, creeks have dried up over night due to adjacent mining activity. How many farms would have relied on that water? Mining in our region, or anywhere for that matter, has the potential to do the same. In a climate like ours, every drop counts and farmers, with their restrictions, don't need any other battles over water use.

Acid Mine Drainage (AMD) can be a challenge at coal mining operations. AMD is metal-rich water formed from the chemical reaction between water and rocks containing sulphur-bearing minerals. The runoff formed is usually acidic and frequently comes from areas where ore or coal mining activities have exposed rocks containing pyrite, a sulphur-bearing mineral. However, metal-rich drainage can also occur in mineralised areas that have not been mined. AMD is formed when the pyrite reacts with air and water to form sulphuric acid and dissolved iron. This acid run-off dissolves heavy metals such as copper, lead and mercury into ground and surface water.

How are water ways, water reserves, aquifers and other underground water supplies monitored to ensure acid mine drainage isn't occurring? What processes have been activated to regularly test samples from these sources and what preventative measures are being employed to ensure seepage doesn't occur? If it is established that seepage has occurred, what contingency plan, if any, will be activated to rectify the problem and how long will it take to restore the water to its previous state?

With coal seam gas mining, are their practices 100% guaranteed not to contaminate any of the above mentioned water sources? If we do not have an iron-clad guarantee of their safety, then the practice should cease immediately. If there is any measure of doubt at all, we need to stop all drilling and fracking to be certain our water is kept safe. The cocktail of chemicals, apart from the saline, have the potential of destroying our underground water supplies for a long time. Some may never recover. Any disruption underground can release pockets of contaminated water which has been encased for millions of years and allow them to seep into pure supplies.

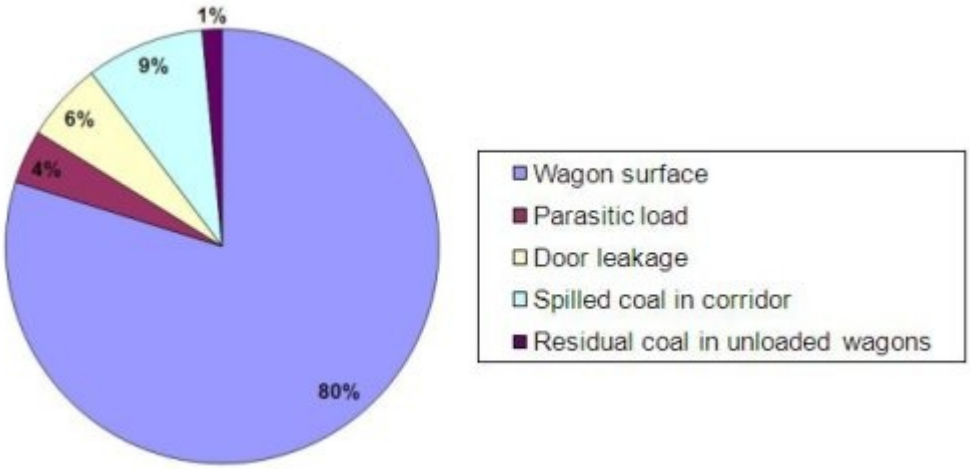
d) Dust & Noise Pollution

Unfortunately these two pollutants are not confined to the mining site and it seems that quite often, where one is, the other is there keeping it company. There is the machinery making the access roads and creating great clouds of dust in the process. There is the noise from blasting with the obvious result of the ground being thrown into the air with all sizes of particles being exposed and left to the mercy of the wind. Then the machinery is back disturbing the fine particles which become airborne in the digging process. The wind blows across the now barren mine site picking up overburden and topsoil dust and carrying it as far as the wind will before it deposits it. Noisy excavators scoop copious amounts of topsoil, overburden and coal into trucks or conveyors to transport their loads to the next destination. Any movement circulates the fine dust particles again and deposits them beside haul roads and the like where they are once again stirred up by passing machinery. So far all this noise and dust emanates from the precincts of the mine itself.

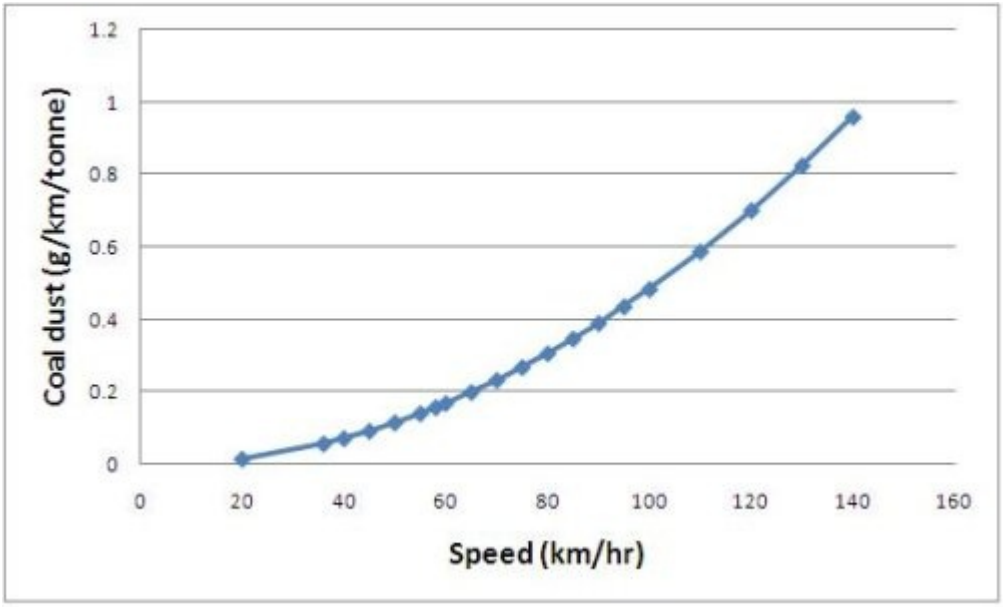
Let's look now at the situation of Acland Mine as an example. These trucks carry their cargo to the township of Jondaryan where their load is dumped onto stockpiles awaiting loading onto train wagons. When dumped at Jondaryan noisy dozers continually sculpture the piles making it easier for the excavators to again scoop tonnes of coal into awaiting wagons. Each disturbance is accompanied by noise and dust. Then the noisy train begins its journey snaking its way through the countryside littering its route with those fine coal dust particles, which have already featured so prominently in this paper, poisoning the vegetation close to the line; blowing onto house and shed roofs, settling in rain water tanks, contaminating animal water troughs, and if you look at the route of the trains from Jondaryan to Toowoomba it runs beside Gowrie Creek for such a long way (Oakey to Toowoomba) spewing off its dusty cargo some of which undoubtedly will fall into the Creek which is part of the headwaters for the Murray-Darling System. There is little doubt, when households in Toowoomba, three times the distance from railway line to creek, are experiencing coal-dust problems, that the creek must also be contaminated.

The figures below show researched data highlighting the dust created by rail movement:

QR Limited Coal Systems Covered by Environmental Evaluation.



Relative contribution to total coal dust emissions of various coal dust emission sources.



Model of emissions from the surface of coal wagons developed as part of the Environmental Evaluation.

http://www.katestone.com.au/kp_10.html

Although the data contained in the above graphs has been collected from train movement, I cannot see why it cannot be translated to road movement of trucks also. Although the combined surface are of train wagons would be greater than trucks, the trucks would have an elevated top speed compared to a train.

The noise and dust pollution doesn't stop there. Once the noisy train or truck reaches the port or power station, the loads are disturbed again and dust production is inevitable.

There are requirements and set acceptable levels on both noise and dust, but by and large it all takes extra time and money to maintain. For so long we saw Beaumont's coal-carrying trucks travelling the Warrego Highway, through Oakey, Toowoomba and Brisbane with their loads blatantly uncovered and return with fine dust residue also uncovered. Trucks travel the haul road, (a public road) from Acland to Jondaryan uncovered with the blessing of the government. Queensland Rail has the ability and technology to foam the coal wagons both full and empty but fail to along this line. The loading facility at Jondaryan has a continual stream of dust blowing from the site on windy days.

Dust at mining operations can be caused by trucks being driven on unsealed roads, coal crushing operations, drilling operations and wind blowing over areas disturbed by mining, but these unacceptable levels can be controlled by spraying water on roads, stockpiles and conveyors. Other steps can also be taken, including fitting drills with dust collection systems and purchasing additional land surrounding the mine to act as a buffer zone. Trees planted in these buffer zones can also minimise the visual impact of mining operations on local communities.

Noise can be controlled through the careful selection of equipment and insulation and sound enclosures around machinery.

e) Rehabilitation/Regeneration

Coal mining is only a temporary use of land, so it is vital that rehabilitation of land takes place once mining operations have stopped. In best practice a detailed rehabilitation or reclamation plan is designed and approved for each coal mine, covering the period from the start of operations until well after mining has finished.

Mining companies claim:

- Mine reclamation activities are undertaken gradually – with the shaping and contouring of spoil piles, replacement of topsoil, seeding with grasses and planting of trees taking place on the mined-out areas. Care is taken to relocate streams, wildlife, and other valuable resources.
- As mining operations cease in one section of a surface mine, bulldozers and scrapers are used to reshape the disturbed area. Drainage within and off the site is carefully designed to make the new land surface as stable and resistant to soil erosion as the local environment allows. Based on the soil requirements, the land is suitably fertilised and revegetated. Reclaimed land can have many uses, including agriculture, forestry, wildlife habitation and recreation.
- Companies carefully monitor the progress of rehabilitation and usually prohibit the use of the land until the vegetation is self-supporting. The cost of the rehabilitation of the mined land is factored into the mine's operating costs.

Doesn't it all sound idealistic? The reality is that over and over again mining companies walk away following half-hearted attempts to return the mine site to slightly resemble what was previously there. Queensland's own long-term mining operations are testimony to this. Overburden is replaced and contoured in some cases, but even after replacing the topsoil nothing of any consequence will grow. There are photographs of mounds of dirt being strategically placed beside a highway in the Hunter Valley to deceitfully hide from view the

devastation left behind on the other side. It is out of sight and therefore out of mind, unless you are able to get an aerial view, which most people cannot.

Creeks disappear or are re-routed, vegetation is lost, animal and bird habitats are destroyed, fertile farming and grazing land is decimated, towns and communities disappear. Week by week we hear of prime agricultural land being bought up to be destroyed by mining. 43 farms around Gunnedah, NSW, 43 out of a possible 46 farms around Wandoan, Qld., threats over Felton and the rest of the Darling Downs. Coal Seam Gas industry clearing prime land and sinking wells at an alarming rate and using highly toxic chemicals and questionable practices resulting in the surfacing of high concentrate of salty water which no one knows how to dispose of safely. How will they revegetate satisfactorily after the evaporation ponds have been leeching salt into the soil around?

3. SOCIAL HEALTH

So how does opencast coal mining and the coal seam gas industry affect our society? In coal mining affected communities, the issues are all similar. It is simply the location and the coal company that changes.

a) Displacement

Of all social impacts, physical displacement, whether voluntary or forced, is the most serious, and has the greatest and most far-reaching effects on the community and family life. Displacement is not purely a one-time physical transfer to a new location, but a series of changes and events that fundamentally affect the way of life of individuals, families and communities. Physical displacement is the actual physical relocation of people from their homes; their heritage; their communities; their social network, their clubs, groups and organizations, resulting in a loss of connectivity, continuity and routine. Involuntary or forced displacement sets in motion a series of events which extend over many years, affecting more than one generation.

Displacement is brought about by discovering that a mining company has been granted exploration rights or mining rights either over or in close proximity to your property. What do you do? You can try and sell before any activity begins. You can wait and see if the company is interested in buying you out, or alternatively be bullied by the company into selling. Or you can stand your ground against the company and remain, not knowing what your neighbours are doing because of the underhanded tactics of the coal giants. Whatever happens the anxiety levels rise effecting productivity, sleep patterns and straining family and community relationships.

If you decide to sell or are being forced into selling, there is often a sense of failure at losing the family generational property, no matter how large or small. There is also the matter of the amount you received for the property. Was it a fair price? Will it be enough to give you the opportunity of settling somewhere else? What will your neighbours think?

Relocation can mean diminished membership in clubs, groups, sporting teams, schools, voluntary Fire Brigade, service organizations and the like. Local businesses, especially rural

suppliers, and Real Estate Agents will lose business. As a community downsizes so too will the Government and multinationals begin to remove services. Banks, Government offices, Hospital, Aged Care facilities, Insurance offices, Post Office, Police Ambulance will all be downsized in proportion to the remaining population.

b) Remnant Population

What of the ones left behind, who either resisted the buy-out or who were just outside the mining site. These are the ones whose property values will plummet. They will be the battling primary producer who is still fighting against weather conditions, unrealistic water quotas, rising running costs, lower returns on his product, and now faced with the added trauma of a coal mine setting up operations right next door. They will, no doubt, also be told that farming and mining can co-exist. Wendy Bowman tried for three years to continue to run her dairy farm after an opencast coal mine moved in next to her in the Hunter Valley. After a long futile battle, the mining company bought her out and then set about proving that mining and farming can co-exist. They were going to run the farm themselves and gave up some months later proving the opposite – farming and mining cannot co-exist.

The remnant population will be the hard-workers, who looking for a quieter lifestyle moved to a rural residential community and have spent years paying off a mortgage and probably still doing so on a property that is now worth far less than the loan they are paying off. These are the ones who cannot leave even if they wanted to because they simply can't afford to and besides who will buy their property – no one wants to live near a coal mine. These are the ones who are left to endure the noise pollution and vibration from machinery; the air pollution from blasting, machinery, trucks and trains and coal dust sneaking through every crevice into their houses and over their washing and killing their gardens; these are the ones who will have bright lights to contend with and all of this 24 hours a day, seven days a week.

These are the ones whose health will suffer the most and have their sleep patterns drastically affected. The EIS for Stage 3 Acland has admitted that their noise level will increase over a period of operation. They estimate it will be a 10 decibel increase over the upper allowable limit. They have admitted to increased light pollution.

4. RECOMMENDATIONS

Immediate:

- Stop all applications for EPC on the Darling Downs
- Revoke all current EPC's on the Darling Downs
- Condemn and relocate Jondaryan rail loading facility away from established communities

Foreseeable future

- Change legislation to monitor particulate matter of PM2.5 and PM1. There is now a **World-wide PM2.5 legislation,** USA commenced legislation for PM2.5 levels in 1997 and they have noted a 6% reduction in mortality rates and a reduction in the associated health bill. Canada, Japan and France have followed suit. In contrast, in other polluting countries such as Australia the mortality rates and health expenses are rising.

- Change Legislation to ensure no-go zones will always protect **a**) all food producing land, **b**) established and growing communities, **c**) environmentally sensitive areas ensuring more than adequate protection is provided for in perpetuity

- Independent bodies (uninfluenced by mines) to perform EIS and monitor mining practices

- Covering loads of coal securely during transportation by road and by foaming rail loads with GE DusTreat DC2119E (or similar) as used in USA to suppress dust

- Stricter monitoring of coal and coal seam gas mining leading to heavier penalties and prosecution for breaches of mining practices. Severely punish uncooperative mining/transport companies

- Strict control of overseas buying and owning Australian land and assets

- Reduce dust emissions from mining sites, handling and loading facilities to nil

In articles I read, interviews I listen to and people I talk to, the recurrent themes for people living in coal mining communities and near coal mines are:
- problems of noise and dust pollution
- groundwater contamination
- damage to rivers and waterways due to subsidence caused by longwall mining.
- concerns for the loss of pristine native habitat and vegetation
- threats to vulnerable, threatened and endangered species
- inadequate compensation for subsidence caused by mining
- sub-standard mine site rehabilitation
- poor quality of EIS
- mining companies that only invest little back into local communities
- lack of independent monitoring of the effects of coal mining operations on:
    - human health
    - air quality
    - water quality
    - soil quality
    - subsidence
    - regeneration
    - loss of jobs

Everyday Australians shouldn't have to give up their valuable time and spend years dealing with governments to have these serious issues properly managed. Giant coal companies, already making billions of dollars, are profiting even further because the government is

failing to properly regulate their mining activities. Profits that should be curtailed in the planning phase of mines to minimise risks to the local environment, or spent on the proper rehabilitation of mine sites, are instead flowing straight into shareholders' pockets. Mining communities and the environment are the big losers.

5. CONCLUSION

And on the emotional side – My wife and I work hard, we love our community where we built a house seven years ago and continue to make it our home. We, like most other working-class people, struggle to make ends meet. We are at the stage of life where we were making plans for retirement. We are not scientists. We don't have the money or resources to purchase test equipment. We are not analysts who can effectively piece together data to support an argument against these giants – that's why we have a government, to do these things on our behalf. Why should we be putting our valuable time and energy into trying to protect what we have worked so hard to get. We have always paid our taxes and what do we get in return? We get a government who is selling us out; a government who is trying to make a quick buck at the expense of a future without food; a government who is selling off all our assets and now wants to sell off our land from under us. This lunacy has to stop!

We can listen to the heartbreaking stories of individuals who have had their lives and livelihoods torn away from them; we can empathise with them as we see and feel their emotion; we can collect and analyse the data, do the sums, write the reports and do the science but can all this mean anything when we read the words of a 10 year old girl who has the guts and determination to write to our minister. This is our future! This is her future! At 10 should she be concerned for her future? Should she be having to challenge our politicians to stop the lunacy. Caitlyn, I thank-you for your concern.

> ***Dear Mr Hinchcliffe***
> ***I would like you to stop the Coal/Coal Seam Gas mining in our local area. I believe it is a bad idea because:***
> ***Firstly it pollutes our air and water. And I think there is enough pollution in our country already.***
> ***Secondly the mining company is planning to put the mine right next to a national park and a mine would kill many species of plants and animals.***
> ***Thirdly the earth does not belong to us, we belong to the earth. Why do you not get this, why does everybody not get this?***
>
> ***So in conclusion, Stop the Coal mining NOW.***
>
> ***Nice Regards***
>
> ***Caitlyn Alyssa Larkin***
> ***(10 yrs Old)***

(Used with permission from Caitlyn and her father)

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