

OAKEY COAL ACTION ALLIANCE (OCAA) SUBMISSION TO THE SENATE INQUIRY INTO THE IMPACTS ON HEALTH OF AIR QUALITY IN AUSTRALIA. March 2013

Background

The OCAA is an incorporated community group whose members are opposed to the Stage 3 expansion of the New Acland Coal mine (NAC) on Oakey's doorstep, Darling Downs, Queensland. This proposed expansion will involve mining a total 5000 ha (with Stages 1 and 2) of good quality agricultural land. The mine output is currently 4.8 mtpa and will increase to 7.5mtpa if Stage 3 is approved. There are existing serious social, environmental and health impacts as a result of mining in such a densely settled agricultural area, which will be made considerably worse if mine expansion occurs.

The population at risk associated with this mine

- Residential and rural properties adjacent to the mine(Acland townsite, Muldu and Balgowan area, all within 2km of the pit) (at least 6 families affected)
- Jondaryan Rail Loading facility, located 8 km from Acland but adjacent to Jondaryan township (90 homes and 200 people affected).
- Along the Western Line rail corridor between Jondaryan and the Port of Brisbane (Many thousands of homes affected).

We believe the experiences of our members in dealing with the issue of poor air quality as a consequence of open cut coal mining makes us qualified to speak on this important topic from a community standpoint. We will attempt to address the Terms of Reference using emissions data recorded by the company, personal anecdotes of people living in the dusty shadow of the mine or along its transport corridors, and National Pollution Inventory (NPI) figures. We will highlight the intrastate and interstate discrepancies in monitoring and reporting standards, and how coal communities can be allowed to suffer appalling living conditions due to an abrogation of responsibilities from resource companies who seem concerned with mining as cheaply and secretively as possible, and State Governments that fail to properly regulate their day to day operations.

We invite the Senate committee to visit our area- described as worse case examples of mining pollution and poor regulatory control- to see first- hand impacts the on Queensland communities.

Living near a coal mine is not a lifestyle choice

Families living close to an open cut coal mining operation are usually not there voluntarily. Acland in the 20th Century was a rural hamlet, surrounded by farmland. There were four small underground collieries operating in the district between 1913 and 1984, including the Acland Number 2 colliery (now listed on the QLD Heritage Register) within the town boundary. This was small scale, low impact mining with Acland farm and community life occurring above ground while men worked 8 hours per day below ground. Mining was a welcome source of income for farmers during drought years.

Open cut coal mining began in 2001 at Acland and has meant the purchase and removal of more than 60 farms as well as 50 houses in the town. It has caused profound social impacts for those enduring property negotiations, breakdown in community structures and/or the pollution associated with coal mining activities. The hundreds of reports in either print media, television, radio, books and public addresses linked to Acland are testament to the scale of problems associated with New Acland Coal's operations. Described variously as a 'metaphor or parable of modern Australia' Acland's mine raises questions such as whether coal companies should have the right to displace communities, or whether the stated benefits of mining (employment and royalties) are reason enough to allow hardship, stress and poor air and noise quality to nearby 'sensitive receptors'. A further grave issue with Acland is the loss of thousands of hectares of good quality Darling Downs farmland.

Emission monitoring associated with the Acland mine is flawed science and lacks independancy

Air monitoring at Acland and Jondaryan is limited to depositional dust monitoring (see Figure 1) and some PM10 measures, in addition to NPI annual reports. The company measures noise and air pollution itself, or via paid consultants, as they do in all Australian mines. Reporting of results is not regular and is via letter to some residents only. Despite promises in July 2011 to begin on-line reporting of monthly PM 10 results at Jondaryan, this has not occurred. Test results may be with-held from residents.

Complaints handling is poor. In Queensland the Department of Resource Management (DERM) operates under a system of complaints driven response to exceedances. DERM scientists will only investigate if a complaint coincides with the high levels, yet people do not know that pollution levels are high because there may be a lag of many months between recording and reporting.

We have heard anecdotal reports of dust funnels frequently being tilted away from the mine or coal stockpiles, or containing insects or foreign material like rags. Some funnels were apparently missing in Jondaryan but values were still listed. Funnels may be located under trees or partially under cover of buildings. A report by an Air Emission expert to

Doctors for the Environment Australia described the inadequate placement of these basic monitoring devices also at the Acland mine (DEA 2011). DEA has also stated that the examples of Acland and Jondaryan are some of the worst their organisation have heard of. Toowoomba Regional Council has recently questioned the company on the positioning of monitors at Jondaryan, stating they are further away from the stockpiles than people's homes: *'Please provide the continuous monitoring results for the Total Suspended Particles monitoring station at Jondaryan rail Loading facility (JRLF) and Jondaryan township. It is understood that compliance is not required at the JRLF, however, It is important to understand the concentrations recorded at JRLF as the monitoring station in Jondaryan township is not the closest sensitive receptor'*. (TRC 2012)

Environmental management is substandard

The dust management practices at the coal stockpile are not best practice, but use bulldozers and loaders instead of hoppers. There are Queensland best practice manuals written for dust mitigation during rail loading operations, but they are not followed by this company. Earth bunds are not present despite houses being less than 1km from these massive stockpiles. Dust is proportional to stockpile height, and yet despite many years of complaints these Jondaryan stockpiles remain massive in size. Fires have occurred within the coal piles, potentially releasing more noxious gases.

The Environmental Authority for Jondaryan states that the company must 'do all they can to minimise environmental harm' yet people's homes and cars are grey with coal dust, coal runs freely from the site and into Lagoon Creek and riparian areas during storms (Fig 2) Residents frequently complain to us of illness and being short of breath and describe their intolerable living conditions. Table 1 shows some emissions levels for Jondaryan.

Ambient Air quality Jondaryan

The recommended Ambient Air reading in Jondaryan is not supposed to exceed 80mg/m². (there are discrepancies over this figure- NAC say 120mg/m². This doesn't matter really because exceedances are much higher than both figures.)

There is no Government legislation recommended for dust percentage inside homes.

Recordings of 30% and 35% coal as a percentage of dust inside homes is common and is unacceptable by any standards (it should be Zero).

The readings in Table 1 are **monthly averages**, which is a statistically flawed method of recording. To get such high readings of >1000 mg/m² there could be much higher spikes on some days...Results do not reflect these extreme spikes, nor the dire health conditions that residents are tolerating as a consequence of them. It is possible that every day residents are subject to air pollution beyond recommended thresholds. At times residents are

experiencing air pollution more than 15X greater than recommended levels, yet nothing is done to remediate this by New Acland Coal or DERM.

PM¹⁰ is tested 3 times per year usually when the winds blow away from the town. The only reading for PM¹⁰ when the wind blew over Jondaryan was in November 2009 which was 71 – the allowable amount is 50. The figures supplied to DERM are rolling averages, submitted once per year. They are unaware of huge peaks.

A Personal account of living near a coal stockpile. (this information has recently been provided to the Prime Minister by the author).

- **Ear plugs** 24/7 – Lessens the ringing in ears. You will often find coal dust on plugs – inside and outside. Ear plugs do not help with Low Frequency Noise.
- **Eye wash** and **Drops** (eg Sustane)
- **Eye protection** as much as possible. I find I have black specks in my vision .
- You will be told that the Hairs in your nose will prevent coal particles from entering your body. What about your mouth, your eyes, and your ears?
- Be prepared for lack of sleep.
- Noise testing is not accurate. Noise testing will always done for an hour when the site employees are is on dinner break.
- **Protective clothes** – If asked for you will be told that these are not necessary, There is a 98 page document on health and protection for mine employees who work their shift and then go home to their clean air.You will be in it **24/7** with no protection. Mine employees have health checks every **12 months**.
- **Strange odours** – could be burning coal – highly toxic. This will be denied by the mining company and Government employees have explained away as dew (even when smoke is seen coming from the stock pile at 3pm). However at the same time there was a whole night of rains and approximately ¾km of coal stockpile was sent to port urgently.
- DO NOT buy **white clothes** at all as they will be grey after the first wash and wear.
- BUY ALL **drinking water** – use for washing eyes as well.
- Everything in your house will be **gritty**.
- **Dust** with a damp to wet cloth very lightly – coal WILL scratch furniture
- You will be tempted to dust all the time but only dust once a week – less upsetting that way.
- **Cover** furniture with **plastic** sheets as coal will penetrate any cloth. Painting sheets are good as you can still see what is underneath.
- **Wash** clothes only when winds have been blowing in the opposite direction for some time – remember the winds change so can be blowing coal back to you

- Clothes will feel **scratchy** on the skin. This can be from washing in contaminated tank water or hanging on the line.
- Closed **windows** with curtains pulled across at all times 24/7. This will lessen the amount of dust in your house. A lot of the dust will penetrate even closed **sliding** windows however the larger particles will remain on the window sills. Preferably buy floor length curtains.
- Cover electrical equipment at all times ie Computers, Printers, sewing machines washing machines etc. Coal will penetrate. Replacement or repair costs for these are the sole responsibility of the victims. Government and Mining companies do not want to know about it.
- Cleaning and painting costs are your responsibility.
 - - Be prepared to remain **indoors** for weeks at a time
 - When indoors only do **non-exertive** jobs – wash-up, iron, sew
 - Try to breathe **as little air** as possible
- **Don't** bring children, elderly, anyone with lung or heart problems to visit for holidays.

A weekend here with unfavourable winds has been known bring about an asthma attack for someone who suffers from the illness.
- Be prepared for your cars paint to be ruined in no time – coal also sticks to the car paint. – Car paint jobs are the sole responsibility of the victims.
- Houses will move with blasting – repair costs are the sole responsibility of the victims.
- All medical is paid for by the victims - that's providing you can get the right medical assessments done. Unlike Mine Employees who have 12 monthly health checks.
- If you wish testing on Dust, Noise, Tanks etc – cost is your responsibility but difficult or impossible to do and costs thousands of dollars. I rang a few companies and was told 'they test for mines so couldn't test against them'.
 - It is advisable not to bother having air tests conducted at our own expense as testing procedures are inadequate and it will only be wasting your money.
- Before the mine commences go to a Doctor well away from your district and have the following tests:
 - Heavy metal blood tests
 - Pet scan
 - Lung scan
 - Brain scan
 - Kidney, liver, and heart tests
 - **HEALTH SYMPTOMS**
 - Burning Eyes – sometimes our eyes are so bad we can hardly see. A neighbour and I have compared notes and when I told her I started to drive to town and

had to go back home because my eyes were so bad I couldn't see, she said it had happened to her as well.

- Burning Tongue
- Throat
- Itchy burning skin
- Panting Breathing with the least amount of exertion – if you continue with your task you will black out
- Headaches
- Lack of concentration
- Ringing in ears - worse at rest
- Ringing in brain - worse at rest
- Strange sensations in brain in sleep or near sleep
- You will wake often at around 3am with nausea – upon rising you will be unsteady when walking – This sensation is not one where you feel like you are going to pass out.
- High Blood pressure
- Jaw problems – caused from stressful sleep from noise
- Asthma type symptoms
- Diabetes

A personal account of living one kilometre from the Acland mine (in terms of air pollution only- light and noise also intolerable). Please see Figure 3 for view from the window.

'We lived under dust storms for days, or even weeks, at a time. The dust was so bad that we didn't open our house for 6 years, except for the occasional Christmas Day when the mine wasn't working. However very fine dust still came in and every morning I could wipe significant amounts from around the windows. We worked with dust masks on outside a lot of the time due to the dust from the mine and some members of the family slept in masks as well.

Often orange, and other coloured, clouds from the mine's blasts would drift over our house, as can be seen in some of our photos. Many of our family suffered burning nose, throats and chests, recurring bleeding noses and other symptoms for up to 4 days.

Our tourist business came to an end after the mine started as there were often asthmatics on the buses and after 10 minutes they would get back on the bus and request the driver to take them away. This happened often and after a while the buses stopped coming.

The doctors told us that our family were asthmatics - strange - we have been gone 28 months and are no longer asthmatics and we weren't before the mine either. All the respiratory problems our stock had while near the mine have gone and the health of our herd has improved dramatically since leaving the mine area'.

NPI Emissions figures.

Oakey's industries requiring NPI reporting include the New Acland mine, an export abattoir and several feedlots as well as the Oakey Gas and Electricity Sub-Station. The vast majority of pollutants are from coal mining

Table 2 compares the NPI emissions data for major air pollutants in Post code area 4401 (Oakey) in 2004/5 when mine output was 2 million tonnes per annum and 2010/11 with mine output at 4.8 mtpa. The increases in some pollutants are disproportionately large (far more than expected with the doubling of coal outputs), and of concern is the increase in PM10.

Table 3 compares Oakey's NPI emissions for the major pollutants, with Pittsworth (Postcode 4356). It is valid to compare these communities as they are both small rural commuting towns close to Toowoomba, and in the same council area. Pittsworth has 8 large agricultural industries including poultry processors, feedlots and abattoirs, but no nearby mines.

We believe it is a matter of concern that the inhabitants of Postcode 4401 are subject to vastly more pollution than neighbouring districts, against their wishes and beyond their control. The disparity in air quality between agricultural and resource industries is extreme.

Queensland monitoring standards lag behind other states, and other countries.

We have repeatedly requested better monitoring for our community, with transparency in reporting emissions on-line and in real time. We have asked for reporting parameters as used for the Upper Hunter Air Quality Network. Whilst we accept the limitations of this study, it is much better than what is available to our communities. New Acland Coal defends their actions, stating they do all the monitoring required by law. This attitude sums up the difference in mine regulation in Queensland and other states, where we believe communities may have more of a say in consultation committees.

Where does a community turn when their elected representatives do not listen or care?

OCAA executive and its members have written and/or met with the numerous politicians, health experts and media representatives over the past 2 years in an effort to get the Jondaryan and Acland sites monitoring and environmental conditions improved. These include the following:

Doctors for the Environment Australia
Prime Minister of Australia, Julia Gillard.
Lawrence Springborg , Queensland Minister for Health
Campbell Newman, Premier of Queensland.

Jeff Seeney, Deputy Premier of Queensland
Andrew Cripps, Qld Minister for Mining and Natural Resources
Tony Burke, Federal Environment Minister
Ian MacFarlane, Federal Member for Groom
Ray Hopper, Member for Condamine,
Deb Frecklington, Member for Nanango
Dorothy Pratt, retired Member for Nanango
HRH Prince of Wales
Ms Penelope Wensley, Governor of Queensland
Keith Davies, previous Coordinator General of Queensland
Queensland Coordinator General's Office (Sonya Booth)
AgForce Queensland
Paul Antonio, Mayor of Toowoomba Regional Council
Peter Taylor, ex Mayor Toowoomba Regional Council
All local councillors, past and present.
Prof Marion Lloyd Smith Australian Toxicity Network
A/Prof Jack Ng Eco toxicologist
Prof Lydia Morrow Pollution expert
DERM officers, past and present Queensland Department of Environment and Heritage
New Hope Coal (Bruce Denney, Jim Randall and many others)
Anna Bligh, Ex Premier of QLD
Kate Jones, ex Minister for Environment
Dr John Bradley, ex DG Environment
Lisa Backhouse (ex ABC and now Corporate Affairs manager of New Hope Coal)
Helen Williams (New Hope Coal Liaison Officer)
Dr Bob Brown (retired Greens leader)
Christine Milne (leader of the Greens Party)
Larissa Waters (Greens Senator)
Bob Katter Federal MP, leader of the Katter Australia Party
Alan Jones, AO
Paul Cleary Senior Australian Journalist
Nick Cater, Editor Weekend Australian
Chris Calcino, Chronicle newspaper journalist
Troy Rowlings, Qld Country life Journalist
Andrew Backhouse, Oakey Champion journalist
Many other journalists from TV and print media.
Oakey Care Committee
Oakey Chamber of Commerce
Life Line Darling Downs
Combined Qld Churches Environment Group
Catholic Social Justice Commission

Environmental Defenders Office
Legal Aid Queensland (mining)
The Australia Institute.
Queensland Rail
Queensland Department of Transport
Lock the Gate Alliance
HOPE Toowoomba (Householders Options for the Protection of Environment)
National Rural Womens Network

OCCA have also felt it necessary to draw public attention to Jondaryan and Acland by protesting at the coal dump, at Community cabinet meetings and at Parliament House. We have organised several large rallies, written dozens of emails, letters and three submissions to State or Federal government inquiries. We have spent considerable personal time and money on behalf of the communities at Acland and Jondaryan and our members that live there. Our efforts have met with varying degrees of responses, ranging from no help to great understanding and assistance, however nothing has actually changed on the ground, except the stockpile is larger and there are now plans for expansion of the site (which seems unlikely to change the stockpile size or position). Everyone tells us privately 'this dump is a disgrace and should not have been allowed in the first place' but nothing gets done.

We feel we cannot have done more to highlight the 10 years of mistreatment of the people of Jondaryan and Acland and yet feel ashamed to live in a state where corporate profits appear to be given far more emphasis than human health and wellbeing. As New Acland Coal is currently pressuring the LNP Government to allow further expansion of their mine, we think that we are running out of time and options and a decision will be made soon against the wishes of our communities.

The OCAA believe that Jondaryan and Acland operations may be leading to human rights infringements.

We are left with an opinion that the infliction of open cut mining in close proximity to people's homes and all its potential detrimental impacts on lifestyle, health and mental health, may be a civil rights infringement. Article 2 of the International Covenant on Civil and Political Rights (1976), to which Australia is a signatory states-

'Each State Party to the present Covenant undertakes to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognized in the present Covenant, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status'. The Covenant also states 'Recognizing that, in accordance with the Universal Declaration of Human Rights, the ideal of free human beings enjoying civil and political freedom and

freedom from fear and want can only be achieved if conditions are created whereby everyone may enjoy his civil and political rights, as well as his economic, social and cultural right.' <http://www2.ohchr.org/english/law/ccpr.htm>

We have recently flagged this issue with the Queensland Coordinator General. Our members tell us they do not live without fear (for their health, families health and for the future) and they do not live without wanting clean air and water and freedom from the anxiety and depression that living in the shadow of a coal mine brings. There is no civil freedom for people forced to live behind closed doors and windows.

Our recommendations

1. State planning processes should require proper health impact assessments before coal and gas mining is approved.
2. There should be mandatory baseline air quality monitoring and on-going monitoring of both particulate matter and other potentially dangerous substances during coal and gas mining. Currently operating mines should be subject to any new regulations in regard to dust minimization, air emission recording and reporting and rail loading practices. Coal trains should be covered.
3. Standards in the National Environment Protection Measures (NEPM) should be improved - standards on particulates should match those set by the World Health Organisation and standards should be introduced for emissions from gas production.
4. The Federal Government should introduce changes to enforce compliance with NEPM, possibly through their inclusion in the Environment Protection and Biodiversity Conservation Act 1999.
5. An immediate response to the poor living conditions and air quality of residents of Acland and Jondaryan should be undertaken and new monitoring processes instigated as a matter of urgency. The Stage 3 EIS approval process should be delayed until environmental management and emission reporting of Stage 1 and 2 operations are deemed satisfactory.
6. We respectfully ask that the Senate inquiry consider a hearing in Queensland- preferably Oakey, with visits to the communities highlighted in this submission- so the situation can be assessed first hand. Oakey has hosted Senate Inquiries previously and has good facilities. The OCAA is happy to assist in this process if required.

Thank you for the opportunity to make a submission to this parliamentary inquiry.

Your sincerely

OCAA

Oakey Coal Action Alliance Executive.

Nicki Laws BVSc MACVS PhD (contact person)

Oakey Coal Action Alliance

Peter Faulkner

President Oakey Coal Action Alliance

Reg Pascoe AM BVSc MVSc DVSc FRCVS FACVSc

Secretary Oakey Coal Action Alliance

Kylie Goldthorpe BVSc

Asst Secretary.

Table 1. Air Monitoring via gravimetric funnels from different sites around Jondaryan, March 2011-December 2012

Date	Site	Property of	Dust Deposition Mg/m ²	Coal %
March 2011	JD 1	Beaumont	None	
March 2011	JD 2	Landers	69	20%
March 2011	JD 3	Hammond	None	
March 2011	JD 4	Across Railway Line	133**	20%
April 2011	JD 1	Beaumont	162**	40%
April 2011	JD 2	Landers	21	60%
April 2011	JD 3	Hammond	92*	1%
April 2011	JD 4	Across Railway Line	52	20%
May 2011	JD 1	Beaumont	191**	1%

May 2011	JD 2	Landers	23	10%
May 2011	JD 3	Hammond	39	1%
May 2011	JD 4	Across Railway Line	204**	30%

Date	Site	Property of	Dust Deposition Mg/m ² /day	Coal %
June 2011	JD 1	Beaumont	5.7	1%
June 2011	JD 2	Landers	11.4	1%
June 2011	JD 3	Hammond	11.4	1%
June 2011	JD 4	Across Railway Line	431****	5%
July 2011	JD 1	Beaumont	6.5	10%
July 2011	JD 2	Landers	18.2	50%
July 2011	JD 3	Hammond	12.3	10%
July 2011	JD 4	Across Railway Line	44.2	25%
September 2011	JD 1	Beaumont	22.5	1%
September 2011	JD 2	Landers	33.6	1%
September 2011	JD 3	Hammond	36.1	1%
September 2011	JD 4	Across Railway Line	356****	1%
September 2011	JD 5	Garage	92.9*	1%
October 2011	JD 1	Beaumont	43.5	1%
October 2011	JD 2	Landers	1,170*****	1%
October 2011	JD 3	Hammond	167**	1%
October 2011	JD 4	Across Railway Line	705*****	1%
October 2011	JD 5	Garage	562*****	1%
November 2011	JD 1	Beaumont	45.3	1%

November 2011	JD 2	Landers	43	1%
November 2011	JD 3	Hammond	39.1	1%
November 2011	JD 4	Across Railway Line	160**	1%
November 2011	JD 5	Garage	58.7	1%
December 2011	JD 1	Beaumont	Void	Void
December 2011	JD 2	Landers	24.2	1%
December 2011	JD 3	Hammond	41.3	1%
December 2011	JD 4	Across Railway Line	175**	1%
December 2011	JD 5	Garage	175**	1%
January 2012	JD 1	Beaumont	19	1%
January 2012	JD 2	Landers	27	1%
January 2012	JD 3	Hammond	62	1%
January 2012	JD 4	Across Railway Line	106*	1%
January 2012	JD 5	Garage	151**	1%
April 2012	JD 1	Beaumont	43.3	15%
April 2012	JD 2	Landers	33.3	20%
April 2012	JD 3	Hammond	347***	5%
April 2012	JD 4	Across Railway Line	160**	1%
April 2012	JD 5	Garage	150**	1%
May 2012	JD 1	Beaumont	16.7	40%
May 2012	JD 2	Landers	40	30%
May 2012	JD 3	Hammond	26.7	30%
May 2012	JD 4	Across Railway Line	1610.*****	10%
May 2012	JD 5	Garage	90.*	25%
June 2012	JD 1	Beaumont	6.7	30%
June 2012	JD 2	Landers	33.3	25%
June 2012	JD 3	Hammond	23.3	30%

June 2012	JD 4	Across Railway Line	153.0**	15%
June 2012	JD 5	Garage	90.0*	20%
Sept 2012	JD 1	Beaumont	33.3	20%
Sept 2012	JD 2	Landers	16.7	20%
Sept 2012	JD 3	Hammond	240	10%
Sept 2012	JD 4	Across Railway Line	43.3	20%
Sept 2012	JD 5	Garage	20.0	10%
October 2012	JD 1	Beaumont	33.3	10%
October 2012	JD 2	Landers	26.7	10%
October 2012	JD 3	Hammond	16.7	10%
October 2012	JD 4	Across Railway Line	26.7	10%
October 2012	JD 5	Garage	23.3	15%
Nov 2012	JD 1	Beaumont	33.3	15%
Nov 2012	JD 2	Landers	70.0	10%
Nov 2012	JD 3	Hammond	103.0	10%
Nov 2012	JD 4	Across Railway Line	127.0	5%
Nov 2012	JD 5	Garage	33.3	10%
Dec 2012	JD 1	Beaumont	63.3	10%
Dec 2012	JD 2	Landers	43.3	10%
Dec 2012	JD 3	Hammond	203.0	10%
Dec 2012	JD 4	Across Railway Line	60.0	10%
Dec 2012	JD 5	Garage	60.0	10%

Table 2 NPI Emissions Figures for Oakey (Post code 4401) comparing mine output of 2mtpa (2004/5) with 4.8mtpa (2010/11). There is an exponential increase in pollutants.

Pollutant	Source	4.8mtpa	2mtpa	Multiplier increase
Lead & compounds	Coal Mining	370	32	11.6 x
Mercury & compounds	Coal Mining	0.94	0.30	3 x
Oxides of Nitrogen	Coal Mining	950,000	370,000	2.6 x
Particulate Matter 10.0 um	Coal Mining	5,000,000	850,000	5.9 x
Particulate Matter 2.5 um 15	Coal Mining	66,000	Not measured	N/A

Polycyclic aromatic hydrocarbons	Coal Mining	29	2.1	13.8 x
Total Volatile Organic Compounds	Coal Mining	80000	35000	2.3 x

Table 3 compares Oakey's NPI emissions for the major pollutants, with Pittsworth (Postcode 4356).

Year 2010/11	Source of Pollutants	Oakey Kg-1	Pittsworth Kg-1	Increase in Pollution Oakey vs Pittsworth
Arsenic & compounds	Coal Mining	86		330x
	Meat and Meat Product Manufacturing	1.1	0.27	
	Electricity Generation	0.98		
Carbon monoxide	Coal Mining	400,000		11x
	Meat and Meat Product Manufacturing Electricity	15,000	39,000	

	Generation Gas Supply	6,500 5,100		
Lead & compounds	Coal Mining Electricity Generation Meat and Meat Product Manufacturing	370 1.2 1.1	0.31	1193 x
Mercury & compounds	Coal Mining Meat and Meat Product Manufacturing Electricity Generation	0.94 0.22 0.10	0.075	17x
Oxides of Nitrogen	Coal Mining Electricity Generation Meat and Meat Product Manufacturing Gas Supply	950,000 100,000 32,000 20,000	120,000	9.2x
Particulate Matter 10.0 um	Coal Mining Meat and Meat Product Manufacturing Electricity Generation Gas Supply	5,000,000 21,000 1,500	8600	593 x

		120		
Particulate Matter 2.5 um	Coal Mining Meat and Meat Product Manufacturing Electricity Generation Gas Supply	66,000 8,600 1,500 120	8,000	9.5x
Polycyclic aromatic hydrocarbons	Coal Mining Electricity Generation Meat and Meat Product Manufacturing	29 3.7 0.11	0.33	100 x
Total Volatile Organic Compounds	Coal Mining Gas Supply Meat and Meat Product Manufacturing Electricity Generation	80000 3400 3200 200	8300	10.1 x

Fig 1 Dust funnel Acland. These have been known to contain anything from frogs, insects, dried grass or old rags



Fig 2 The view from a residence 1km from the Acland mine. Orange blast clouds- known to contain dangerous oxides of nitrogen are not uncommon. These can drift and settle in valleys distant from the mine.



Fig 3 Dusty Car Jondaryan



Fig 4 Dusty House Jondaryan



Fig 5 Stockpiles Jondaryan less than 1km from some homes

