



Fw: Morwell Mine Fire Submission

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Subject Morwell Mine Fire Submission

Title: mr

First Name: Ron

Surname: Ipsen

Email address: [REDACTED]

Mobile: [REDACTED]

Content of submission (you can choose multiple): Response to fire by
Public Health Officials

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Rlpsen-Minefire-Inquiry-submission.docx

HAZEL WOOD MINE FIRE INQUIRY

Submission cover sheet

Post your submission with this cover sheet to:

Submissions Hazelwood Mine Fire Inquiry
PO Box 3460
GIPPSLAND MC Vic 3841

Email your submission with this cover sheet to info@hazelwoodinquiry.vic.gov.au.

| | | |
|---|---|----------------|
| Title: mr | First Name: Ron | Surname: Ipsen |
| Organisation represented(<i>if applicable</i>): | | |
| Email address: | [REDACTED] | |
| Postal address: | [REDACTED] Moe Vic 3825 | |
| Telephone: [REDACTED] | Mobile: [REDACTED] | |
| <input type="checkbox"/> Origin and circumstances of fire <input type="checkbox"/> Measures by Hazelwood Coal Mine to prevent fire <input type="checkbox"/> Application and administration of regulatory regimes <input type="checkbox"/> Other (please state) | Response to fire by: <input type="checkbox"/> Hazelwood Coal Mine <input type="checkbox"/> Emergency Services <input type="checkbox"/> Environmental Agencies <input checked="" type="checkbox"/> X-Public Health Officials <input type="checkbox"/> Other Government Agencies | |

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Signature

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16/04/2014

Herin are submitted the reports of 3 separate surveys privately conducted during the minefire period.

1) VOTV Snapshot 2nd March 2014

- (341 respondents)

2) Online wellness survey 5th to 17th March 2014

- (81 respondents)

3) Affidavits gathered at a meeting 23rd March 2014

- (56 respondents)

V.O.T.V.

Snapshot Survey

2nd March

Kernot Hall Morwell

V2.a 11/5/2014

Ron Ipsen

Introduction

Introduction

On February the ninth 2014 a bushfire sparked a fire in the Morwell Open Cut. It burned for 45 days before being declared safe. During this time a plume of toxic smoke covered the cities within the Latrobe Valley with Morwell less than 500 meters from the fire particularly affected. The fire is still officially burning.

During this time The Cities within the Latrobe Valley were subject to unprecedented levels of smoke and toxic ash, the volume and duration of which was dependent on the direction of the changeable winds.

People began to get sick, reporting via friend and relative networks, via social media and via normal social conversations to each other and comparing symptoms and severity.

People turned to the Mainstream media to see what was going on and what was happening to them but The Department of Health Spokesperson there was issuing statements like "There have only been 3 people present to the local hospital with any symptoms so there cannot be any problem."

After 3 weeks the residents of the Valley held a protest meeting, the media described it as a cry for help and indeed it was.

At that meeting Thousands of questionnaires were handed out and many were filled in on the spot, collected then, and some were mailed in later.

Methodology

The residents at the meeting were handed a questionnaire and encouraged to record their experiences.

The questions were few and open ended

1 page questionnaire handed out at the Rally on 2nd of March 2014

Latrobe Valley Residents

Your information below will help us provide data that will be used to improve the situation in Morwell.

Your personal details will not be disclosed. Feel free to leave out your personal details if you like and just complete the health issues and financial impacts on you.

Thank you for your help.

Name:

Address:

List your families health issues since the mine fire commenced on the 9th of February:

List the financial impact of the mine fires on you and your family or your business:

Additional comments or concerns:

This information will be collated and used to inform relevant departments regarding your needs.

Of the sheets handed out 341 were gathered together and correlated for this study.

The information on the sheets was hand typed into a database by a team of operators and then the resultant data was analysed by symptom reported and appropriate system.

There was little need to analyse by location and symptoms because previous studies had already shown the correlation there.

The individualized symptoms within a system are shown as percentage of respondents reporting that symptom.

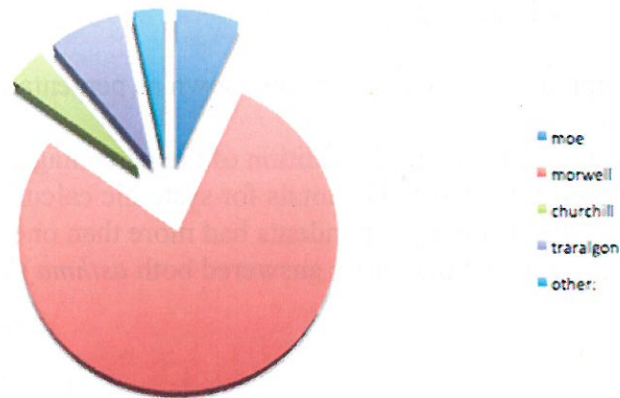
Systemic totals were gathered by a simple addition of the percentages of individual reported symptoms within that system. The totals for systemic calculations can exceed 100% of respondents as many respondents had more than one symptom within a group, for example a respondent may have answered both *asthma flare up/start* and *difficulty breathing*

Results

V.O.T.V. snapshot done 2nd March

V2.a 11/5/2014

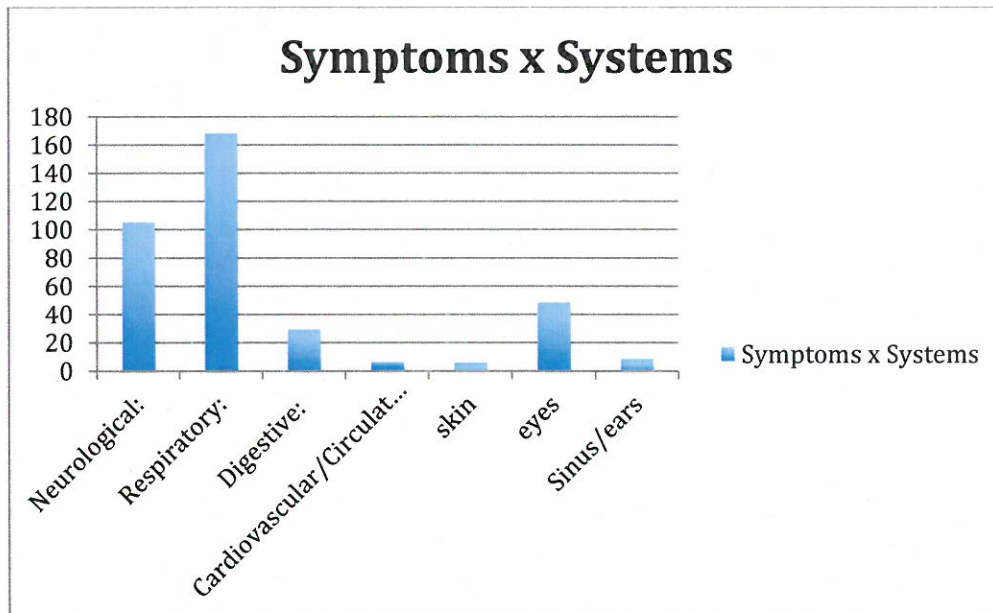
Respondents x location (res)



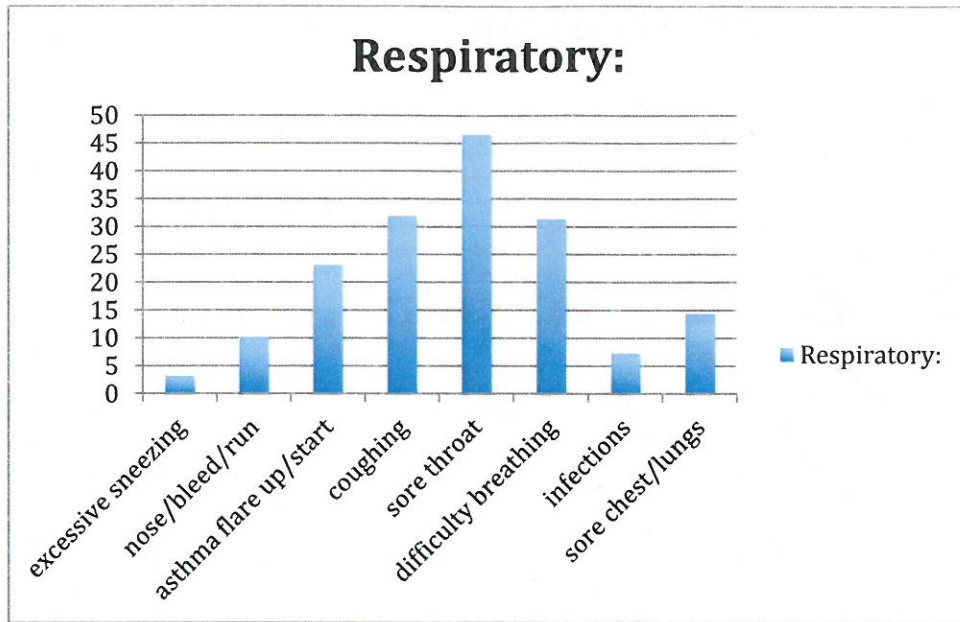
Respondents to survey are from a wide area across the Latrobe Valley and some beyond.

Symptoms shown are the same across the whole surveyed population. All were affected in the same way, though number of affected respondents varied with location.

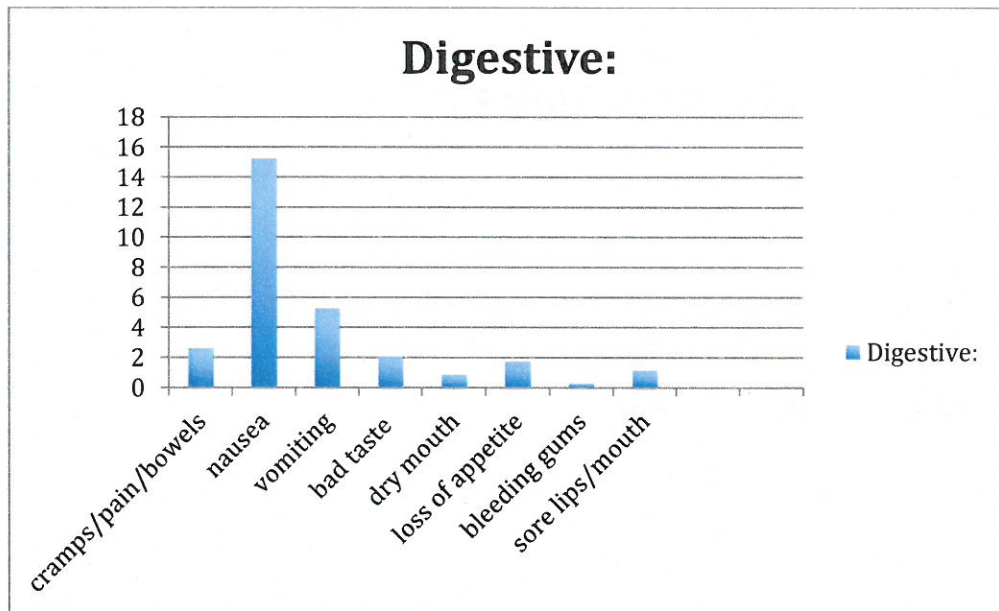
Symptoms x Systems



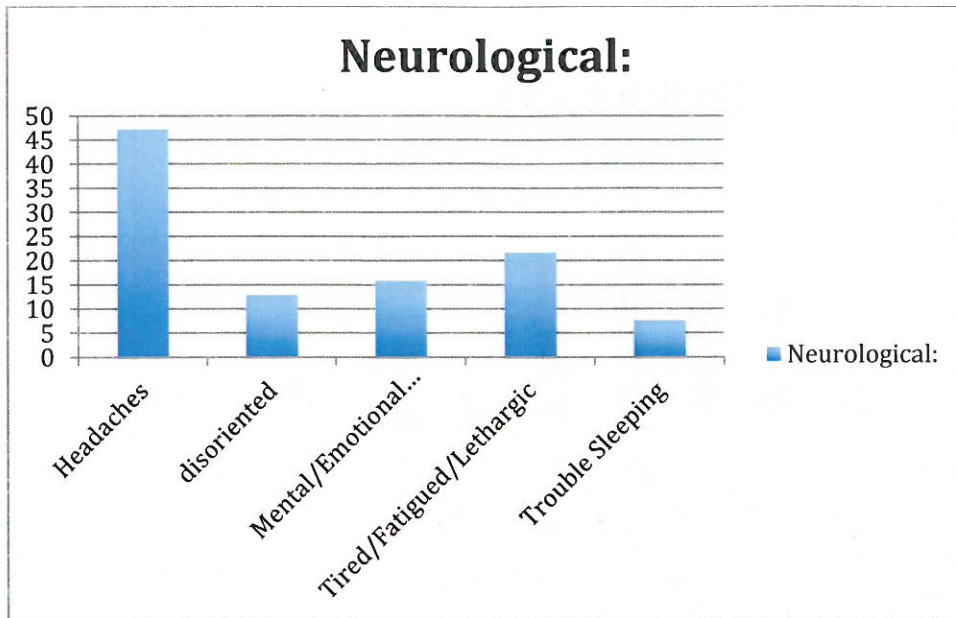
*Note totals for systemic calculations can exceed 100% of respondents as many respondents had more than one symptom within a group, for example a respondent may have answered both *asthma flare up/start* and *difficulty breathing*.



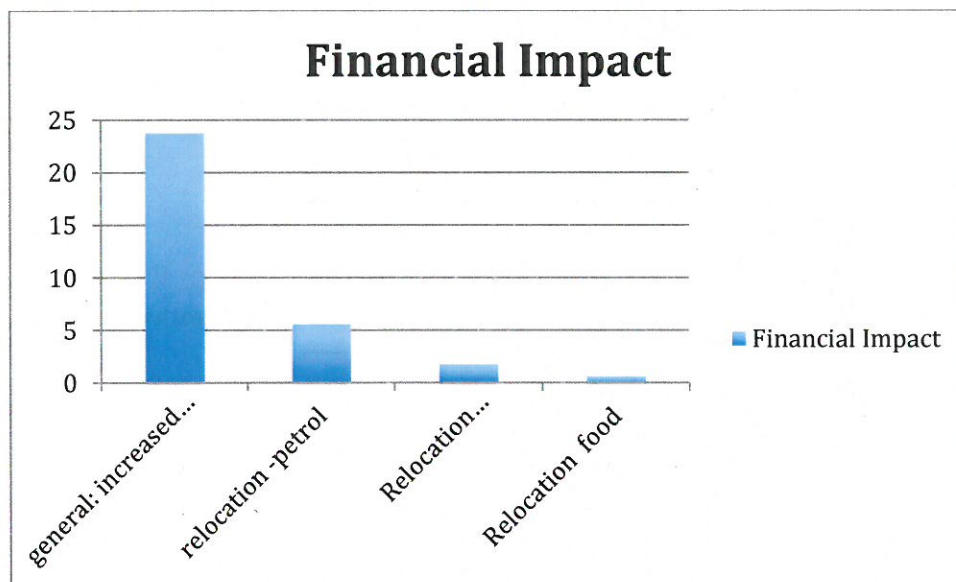
Figures are expressed as percentage of respondents.



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Figures are expressed as percentage of respondents.

Discussion

This results of this survey are consistent with those previously conducted in the spread of symptomology.

Having a base number (N) of 341 gives a respondent level of significant reliability.

The figures give a snapshot of the population with the average person having one or more respiratory difficulties, some neurological/emotional difficulties, bouts of nausea and a 50% chance that their eyes are stinging and sore.

The population was effectively disabled by the smoke, both physically and cognitively.

The population was disorientated with a pain, distress and mobility issues.

This is a low socio economic group with few financial resources which are being tapped to the extreme by this event.

Purchase of air filtering systems, extra travel, inability to attend work increased utility billing are just some of the financial issues cited in the raw data. A one off payment of \$500 simply cannot provide the resources for weeks of refuge.

It would seem unreasonable under these circumstances to require them to organize alternative accommodation or refuge from the smoke themselves.

Further

The notes for this document were originally prepared for presentation to The Department of Health in support for a long term health study at the community consultation.

It was perceived that the proposed health study was only of 10 years and composed in such a manner as to produce results that were consistent with statements released by the department that there would be no long term health effects.

Notes:-

All these symptoms are typical of exposure to the hazardous, toxic and carcinogenic substances listed by the EPA in the smoke and ash. For some of the materials there is no safe levels, many have long term health effects that will take years to develop, many are developmental in pregnant women and growing children

We can expect an increase in infertility, birth defects, developmental difficulties and learning disorders. We can also expect an increase in pulmonary vascular disease, cancers such as lung and nose. Blood and lymphatic cancers, nervous system damage, heavy metal poisoning. There will be impacts on the liver and kidneys. The list goes on and is there for anyone with google to see if they compare what is in the smoke and ash, with the effects of exposure to these.

The measures of hazards on the EPA site were deceptive as they compared against levels used in soil contaminants (HIL's) and not suitable for dust that is already inside the house, ceiling and soft furniture.

We need more than a 10 year study to count how many of us die, using a sample so small, over such a short period that it absolves the Government and the industry from responsibilities.

A **health** study, not a **death** study.

We need them to assess how many of us have been sick, what we have been sick with and how widespread the effects have been. We then need our health monitored over a long time and see what treatments are useful in treating the long term effects and document these.

It is imperative that :-

The control group for the study is not from the Latrobe Valley as all in the Valley have been in some way affected.

The study is funded sufficiently and over a sufficiently long term to achieve offsets in health outcomes for the affected population. (Eg \$5m over 20 years)

2) Online wellness survey 5th to 17th March 2014

– (81 respondents)

Ron Ipsen

Introduction

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During this time The Cities within the Latrobe Valley were subject to unprecedented levels of smoke and toxic ash, the volume and duration of which was dependent on the direction of the changeable winds.

People began to get sick, reporting via friend and relative networks, via social media and via normal social conversations to each other and comparing symptoms and severity.

People turned to the Mainstream media to see what was going on and what was happening to them but The Department of Health Spokesperson there was issuing statements like “There have only been 3 people present to the local hospital with any symptoms so there cannot be any problem.”

The media kept up a constant stream of information that expressed the opinion that the problem was confined to the south side of Morwell only.

I lived 10 kilometers away from the fire and would wake up in the morning unable to see the milking shed only 300 meters away for the smoke.

I was sick, my friends were sick and my animals were sick - I simply did not believe what we were being told.

I wanted, and waited for, the Health Department to do some sort of research to find out how large the area of the health effects from the fire was, and what was happening to the people affected.

The Government continued to focus on the extremely small area of what they termed Morwell South, ignoring advice and cries of despair from locals that the problem was much bigger.

On March the third I decided to do an online survey asking for anyone who lived in the region to comment on their health and state where they were from.

Purpose:-

I believed that there was a disparity between what we were experiencing and what we were told we were experiencing.

Hypothesis:-

That there is a health related problem from the Morwell Mine fire. The effects of which cover a much larger area than just Morwell South.

Methodology;-

Having few resources and less funds limited the methodology somewhat to things could be done at extremely low cost (read free).

The Internet has been both a professional vocation and personal interest for the last 20 years so it once again proved to be the most accessible tool for the task.

A site was sourced where a survey could be carried out and the results recorded online.

The Polldaddy site was utilized (<http://mrsscuzzi.poll daddy.com/s/wellness-survey-minefire>) and succinct survey was written asking only 4 questions.

Question 01 **MULTIPLE CHOICE**
Do you live or work in the Latrobe Valley or Gippsland

- Yes
- No

Question 02 **MULTIPLE CHOICE**
Have you had any health issues resulting from the Hazelwood Open Cut Fire?

- Yes
- No

Question 03 **MULTIPLE CHOICE ***
What sort of symptoms have you had?

- Headaches or disorientation
- Chest pains and breathing abnormalities
- Stomach or Digestive problems
- Disorientation or Cognitive problems
- Skin Irritations or rashes
- Eye irritations and/or infections
- Other

Anything else?

Question 04 **ADDRESS**
What is your locality?

City

These 4 questions covered what I needed to know and allowed sufficient room for individual answers, validation was by an automatically recorded IP address and timestamp.

A series of awareness graphics were put up and for a few days wind direction and towns affected were forecast and published on Facebook using information from the Bureau of Meteorology, Google Earth images and Photoshop.

After a few days the mainstream media picked up the idea and began to publish similar information so I stopped publishing them.

Ron Ipsen
4 March · Edited

Hmm, how to put this in a graphic... Boolara/Yinnar cops the smoke tomorrow sharing it around a little with Narracan area for an hour or 2. Lets hope it hasn't flared up too much in the heat over Tuesday because Wednesday morning its Churchill's turn, in the afternoon the wind will pick up and swing quickly around and smoke out Morwell/Traralgon/Tyres area once again. -- Just sayin.

Smoke Plume Directions

| Station | Wind Dir | Wind Spd | Temp | Humid | Pres | Clouds |
|-----------|----------|----------|------|-------|------|--------|
| Boolara | 135 | 15 | 22 | 65 | 1013 | 10 |
| Yinnar | 135 | 15 | 22 | 65 | 1013 | 10 |
| Narracan | 135 | 15 | 22 | 65 | 1013 | 10 |
| Churchill | 135 | 15 | 22 | 65 | 1013 | 10 |
| Morwell | 135 | 15 | 22 | 65 | 1013 | 10 |
| Traralgon | 135 | 15 | 22 | 65 | 1013 | 10 |
| Tyres | 135 | 15 | 22 | 65 | 1013 | 10 |

An Informal invitation to participate was extended on my own timeline and the timeline of the Disaster in the Valley group.



Ron Ipsen shared a link.

5 March

Trying to figure what the best way to do this is..

Wellness Survey Latrobe Valley #Minefire

mrsscuzzi.poll daddy.com

Perhaps we should have a Latrobe Valley social media health survey? I don't believe for a moment the official line that "only 3 people have reported to the LV Hospital, therefore no-one is having health issues".

Disaster in the Valley Facebook group rationalized its pages and its main page became Voices Of The Valley Facebook group so the invitation was republished on that timeline.



Ron Ipsen

11 March · Edited

A lot of my mates seem to be crook from the smoke still, just sort of unwell, overly sweating, loss of appetite etc. had a bit of it myself too. Doctors in Moe seemed to be overwhelmed but nothing seems to be showing on the govt stats 'cos they aren't going to hospital. Takin' a bit of a survey if anyone feels so inclined.

<http://mrsscuzzi.poll daddy.com/s/wellness-survey-minefire>

Wellness Survey Latrobe Valley #Minefire

Perhaps we should have a Latrobe Valley social media health survey? I don't believe for a moment the official line that "only 3 people have reported to the LV Hospital, therefore no-one is having health issues".

MRSSCUZZI.POLL DADDY.COM

Like · Comment · Share

The Survey ran live from the morning of the 5th of March 2014 with the last response being on the 17th of March 2014. (The Poll daddy timestamp for the responses is in US time, the location of the server and thus a day out.)

All up 91 responses were received covering an area from Warragul to Glengarry and across to Yinnar and Traralgon.

In hindsight Poll daddy may not have been the best site to use as it limited the retrieval methods of the data and the only way to filter and correlate the results easily, or indeed download them, was to pay \$200.00 for a "Pro" account. I of course did not have these funds so I manually took screen shots of the individual responses and correlated them manually into a Microsoft Excel spreadsheet.

91 responses were received and all data was manually transferred to an Excel Spreadsheet for collation. There were some duplicates where a respondent had pressed enter twice or had resubmitted.

There were 3 respondents that had no symptoms, and one respondent that appeared vexatious but these were included.

2 Locations that posted only one respondent and they were left out of the calculations also as insignificant data.

After filtering this left 84 valid and verified respondent data sets.

Question 03 **MULTIPLE CHOICE ***

What sort of symptoms have you had?

- Headaches or disorientation
- Chest pains and breathing abnormalities
- Stomach or Digestive problems
- Disorientation or Cognitive problems
- Skin Irritations or rashes
- Eye irritations and/or infections
- Other

Question 3 in the survey did prove problematic in that answers 1 and 4 both mention disorientation and thus it was felt some duplication existed there. These two groups were rationalised into one answer group of “Headache, Disorientation or Cognitive problems”

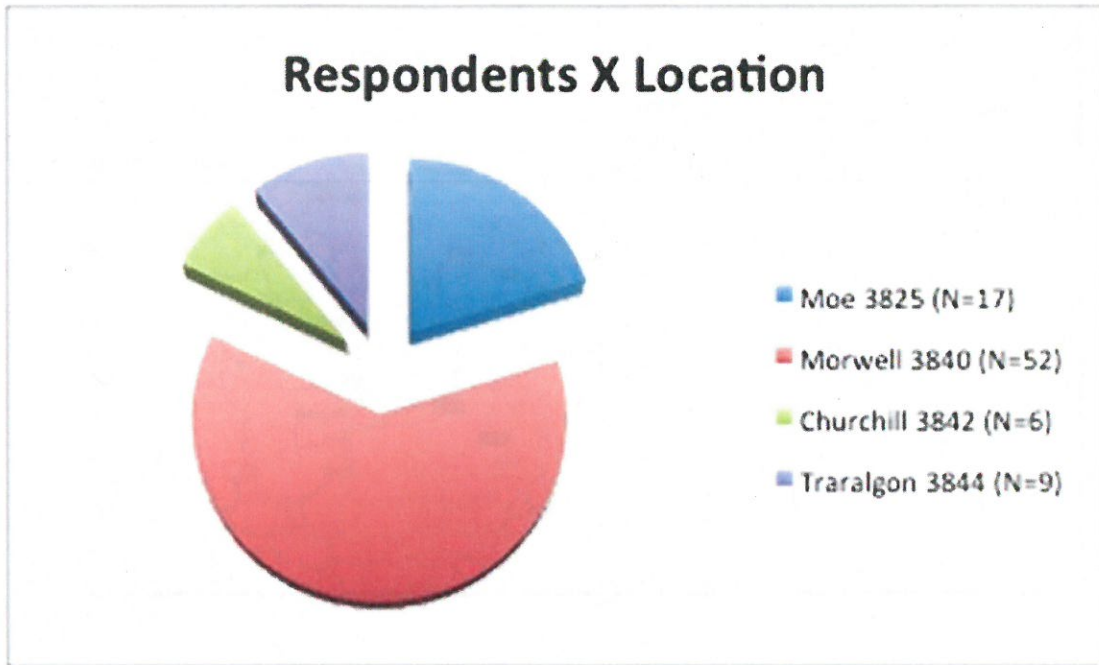
In the “Other” text box a large number of throat and nose answers became apparent so these were included in the “chest” results, which then became “Respiratory System & Heart group”

Question 4 , the “Location” question also offered some challenges as many suburbs and unofficial local names were used dividing the data up into small and unsuitable segments. Respondent locality data was then revisited and broken down to postcodes and re-correlated. This gave larger data groups to work with but disadvantaged the Churchill area (3842) as many Hazelwood South and Hazelwood North residents could have been included in there and not in Morwell (3840)

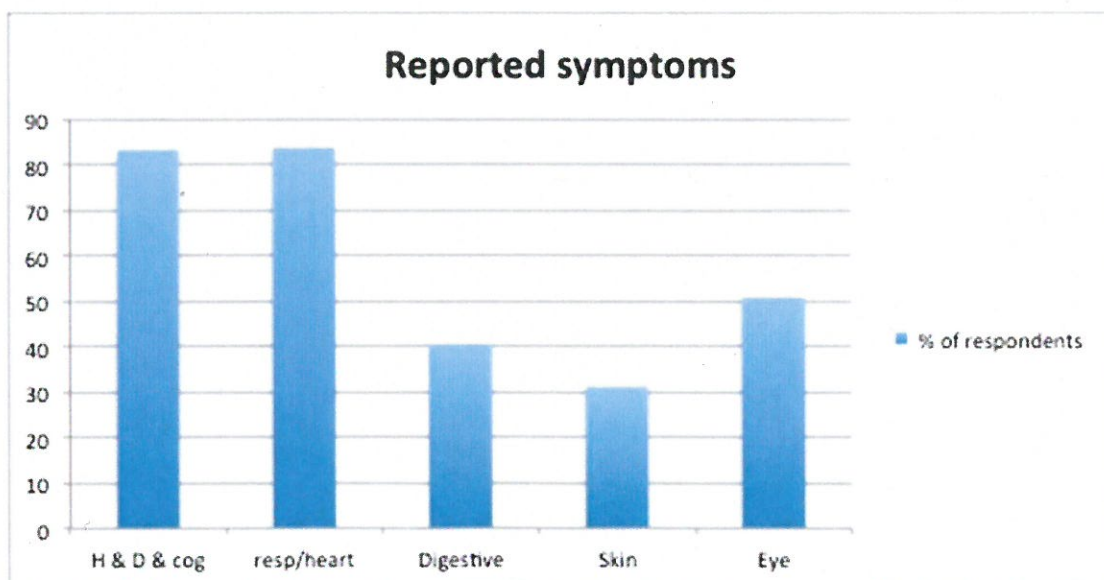


Results.

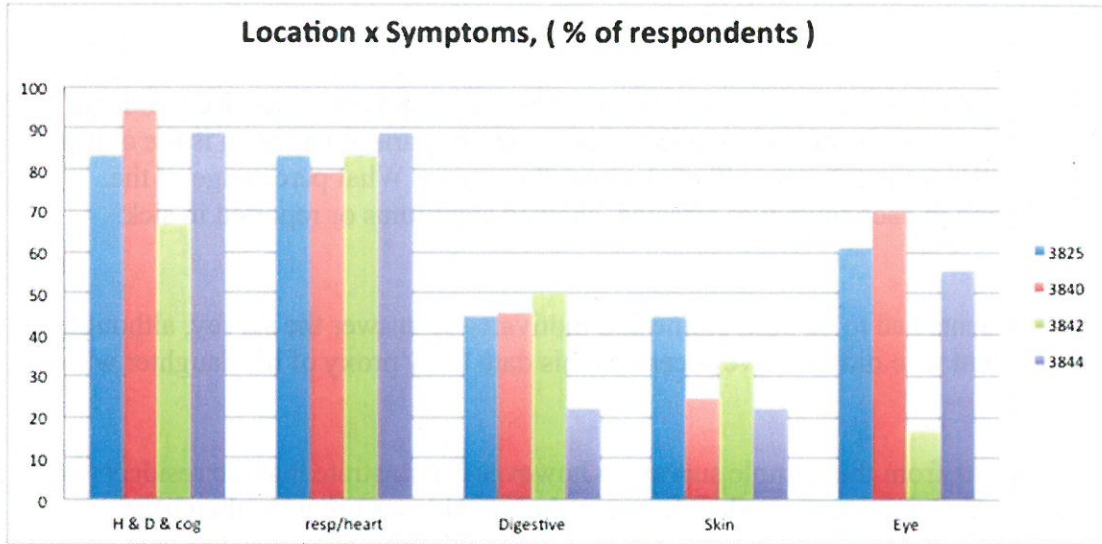
After filtering the respondent groups there were 4 main groups remaining.



The "symptom type" data shows that people were getting sick and what sort of symptoms they were experiencing.



Breaking the data down further by locality showed conclusively that people from all areas were reporting symptoms, and that those symptoms followed very similar trends regardless of location. This would indicate that they were all affected by the same or similar condition irrespective of location.



3% of respondents reported no health symptoms.

Discussion

The hypothesis that there is a health related problem from the Morwell Mine fire, the effects of which cover a much larger area than just Morwell South is supported by the data.

The limitations of this survey are that of motivation and resources. Respondents' motivation must be taken into account and what is glaringly missing is the objective data of "How many" were affected across the region. What percentage of the population in each town was affected, showed symptoms or reported in sick.

Respondents had to be both online and motivated to answer the survey, although one respondent who did not have access put his data in by proxy of his daughter who did.

The results from this sample survey do however demonstrate that the residents of the Latrobe Valley knew that what they were being told was not what they were experiencing. The survey was provided in part to the perceived need to give residents the opportunity to have their concerns heard and documented. The detailed comments included in the raw data at the end of this report and the quantified responses provide evidence of physical and mental suffering and the consistency of the responses regardless of postcode, are suggestive of a causal link between the symptoms and exposure to the smoke from the Hazelwood fire.

Postcode groups were a useful classification tool in this experiment, as the number of participants (N) was relatively low and the experimental survey was taken only over a short time by a non-inclusive methodology.

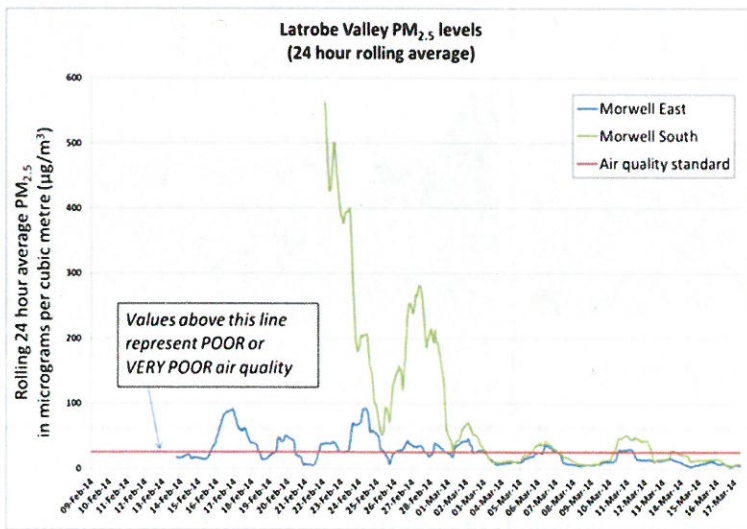
There is only a minor variation between the locations and the symptoms reported and that may be due the smaller numbers in the Churchill (3842) sample due to the size of the area officially covered by that postcode. Drafting respondents from Hazelwood South and North into the Churchill group brings the figures more into line with the statistical mean of the other groups.

The plume of smoke covered the Latrobe Valley for more than a month, the great cloud travelled to and fro at the whim of the wind settling down as a dense blanket at night and shifting along being fed and topped up all along.

At various stages each town in the valley was covered for a time, some towns were covered more than others.

The direction of the wind was a determining factor in the readings gathered at the stationary EPA monitoring stations.

Wind direction can be charted and shows a correlation with the peaks and troughs in the EPA readings. The smoke output of the mine was not changing that quickly, the plume varied little in composition, only in direction.

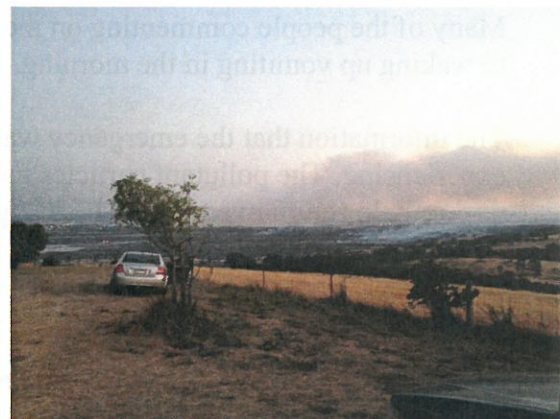


EPA Data.

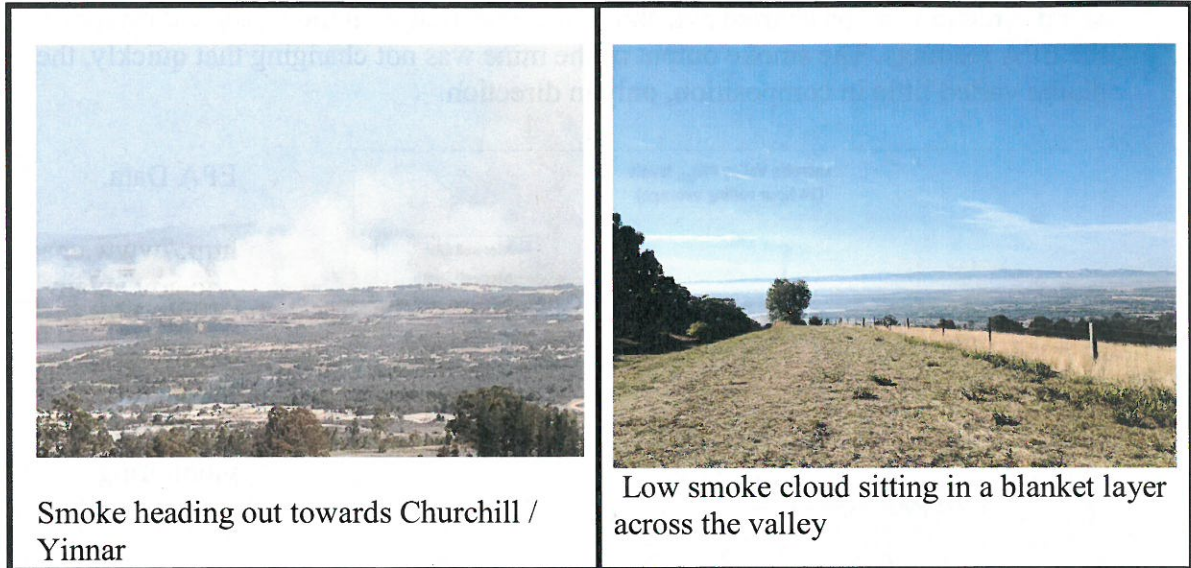
<http://www.epa.vic.gov.au/air-quality-latrobe-valley-mine-fire/sampling-results/air-monitoring-results>



9/2/2014 smoke pounding Morwell at the start of the fire.



11/2/2014 smoke plume heading towards Moe/ Coalville



Smoke heading out towards Churchill / Yinnar

Low smoke cloud sitting in a blanket layer across the valley

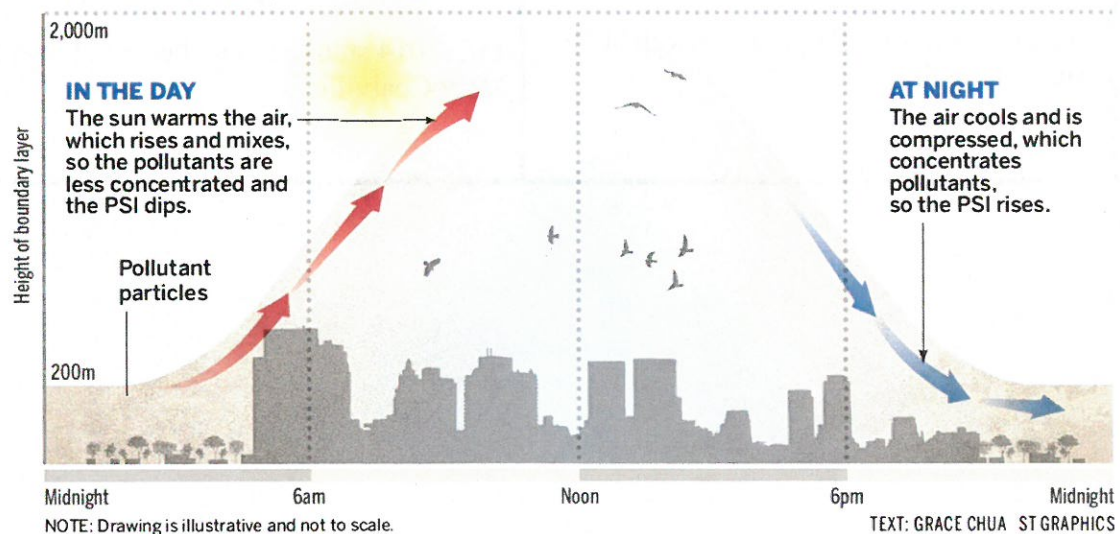
This study shows a range of health problems reported from as far as 35km from the fire itself.

As well as the impact of wind direction, residents were commenting with dismay on how they continued to wake up to find the now familiar smell again present in the morning air and did not understand why.

Many of the people commenting on the Voices of the Valley Facebook page referred to waking up vomiting in the morning.

The information that the emergency was over did not fit with what they were experiencing. The pollutant particles had not ‘gone’ so much as dissipated during the day, only to return overnight, which suggests that the presence of visible smoke is not a reliable indicator.

Why air quality drops at night



The assumption touted by the State Government authorities that there would be no health problem for anyone other than a few susceptible residents on the south side of commercial road in Morwell is inaccurate and one might say misleading.

A call for an immediate health survey by the government to assess the scope of the health problem at the time was ignored.

The continued response was that there were no precedents or literature available to suggest that there were health problems associated with the smoke were patently false as any quick search of Google will find. There is substantial literature on the health impacts of pollution, predominantly from traffic congestion, much of which analyses the impact of particulates on health. This situation is similar in that it was known from the start that smoke from coal fires contained this dangerous matter.

Then of course there is literature regarding 'The Great Smog' and other incidences of coal fires around the globe that are pertinent.

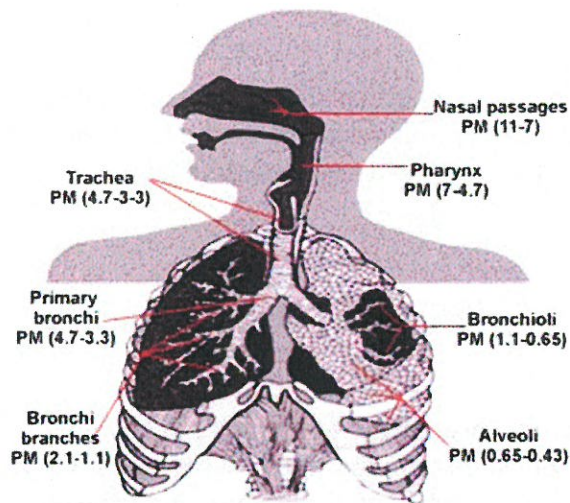
The symptoms reported by the respondents are the same symptoms described for centuries ...

Way back in 1662, John Evelyn, a brilliant Englishman known for his detailed diaries, wrote a lament about the effects of coal-burning on the city of London. His work was called *Fumifugium, or the Inconvenience of the Aer and Smoak of London Dissipated*. In it, he described an infernal scene of pollution, air filled with "Columns and Clouds of Smoake" emitted by small industries and residences that burned coal for fuel:

That hellish and dismal cloud of sea coal [means] that the inhabitants breathe nothing but an impure and thick mist, accompanied by a fuliginous and filthy vapour, which render them obnoxious to a thousand inconveniences, corrupting the lungs and disordering the entire habit of their bodies...

Those who repair to London, no sooner enter into it, but they find a universal alteration in their Bodies, which are either dried up or enflam'd, the humours being exasperated and made apt to putrefie, their sensories and perspiration so exceedingly stopp'd, with the losse of Appetite, and a kind of general stupefaction, succeeded with such Cathars and Distillations, as do never, or very rarely quit them....

<http://www.theatlanticcities.com/politics/2013/02/lessons-we-havent-learned-londons-killer-fog-1952/4660>



**Disposition of Particulate Matter (PM)
in the Respiratory system
(Richard Wilson, Harvard Press, 1996)**

Metal taste on tongue has been a common complaint and noted particularly by those who had left the Valley even for short periods and who were able to identify its presence because they had not been tasting it whilst away. Data from the EPA site clearly shows the extremely high level of arsenic in the air which was causing this experience of having the taste of metal on the tongue. In two days of exposure, residents were breathing in almost a year's worth of arsenic alone.

Other compounds

Tables of the results received to date are given below.

Example results of elemental analysis of the smoke (two samples taken)

| Contaminant | Worst day (ng/m ³) | Annual guideline (ng/m ³) |
|-------------|--------------------------------|---------------------------------------|
| Arsenic | 1.13 | 3 |

The levels of exposure were much higher than the WHO recommended safe level.

Despite this, residents were not evacuated, neither was a state of emergency declared.

The following are summaries from credible peer reviewed articles of which the abstracts at least are readily available to anyone with an inclination to discover the facts.

There was some hair splitting over the definitions of 'short' and 'long' term scenarios but as Clean Air Europe states: 'No threshold has been identified for these ultrafine particles below which no damage to health is observed.'

http://www.cleanair-europe.org/fileadmin/user_upload/redaktion/downloads/VCOE/VCOE_FS_Feinstaub_engl.pdf

LONGTERM HEALTH STUDIES ON PARTICULATES AND HEALTH.

<http://healthandcleanair.org/references/issue7refs.pdf>

...conclude that for a 10 microgram/m³ change in PM₁₀ all cause mortality increased by 4 percent; cardiopulmonary mortality increased by 10% and lung cancer mortality increased by 8%.

Authors conclude: "The findings of this study provide the strongest evidence to date that long term exposure to fine particulate air pollution common to many metropolitan areas is an important risk for cardiopulmonary mortality."

<http://www.ncbi.nlm.nih.gov/pubmed/23676266>

RESULTS:

For short-term exposure, we found that for every 10- μ g/m increase in PM 2.5 exposure there was a 2.8% increase in PM-related mortality

From:

<http://beijing.usembassy-china.org.cn/20130201-pm25-steps.html>

The National Ambient Air Quality Standards for Particle Pollution
PARTICLE POLLUTION
AND
HEALTH

<http://www.epa.gov/air/particlepollution/2012/decfshealth.pdf>

Fine Particles:

An extensive body of scientific evidence indicates that breathing in PM_{2.5} over the course of hours to days (short-term exposure) and months to years (long-term exposure) can cause serious public health effects that include premature death and adverse cardiovascular effects. The evidence also links PM_{2.5} exposure to harmful respiratory effects.

NOTE: Exposure to fine particles has also been linked to a number of other health effects. These include: Respiratory effects in children, such as reduced lung development and the **development** of chronic respiratory diseases, such as asthma.

<http://www.australasianscience.com.au/article/issue-march-2014/hazelwood-coal-fire-health-impacts.html>

“In case of fires, usually particulate matter is the biggest concern, and specifically the PM_{2.5} fraction (particles smaller than 2.5 microns). Their concentration in the air could be high, and above the WHO health guideline levels even if air pollution is not obvious. However, if smoke is seen, it normally means that the concentrations are very high. I understand some authorities yesterday were trying to calm the public by saying that so far the duration of the exposure (since the beginning of the fire) would classify it as ‘short term’, and therefore is not expected to cause problems. This is not true. The duration of the London smog incident in 1952 was about two weeks and caused so much mortality. The London fire duration is comparable to the Hazelwood fire. There are many examples of health impacts due to much shorter exposure to combustion products than this fire.”

Professor Lidia Morawska is a Professor in the School of Chemistry, Physics and Mechanical Engineering, Faculty of Science & Engineering at the Queensland University of Technology and the Director of the International Laboratory for Air Quality and Health (ILAQH) at QUT, which is a WHO Collaborating Centre on Air Quality and Health

http://www.cleanair-europe.org/fileadmin/user_upload/redaktion/downloads/VCOE/VCOE_FS_Feinstaub_engl.pdf

The most recent WHO study shows that excessive exposure to PM_{2.5} can cause arteriosclerosis, premature births, and respiratory diseases in children. Particulate matter exposure may also be connected to neurological development and cognitive skills as well as diabetes. A Californian study draws a connection between autism and exposure to nitrogen oxide, PM_{2.5}, and PM₁₀ during pregnancy and the first year of life. There is also evidence suggesting that it may contribute to the development of dementia and Alzheimer’s disease.

<http://www.theatlanticcities.com/politics/2013/02/lessons-we-havent-learned-londons-killer-fog-1952/4660/>

.....We are now in a position to make informed choices as a society about what risks we will accept and how much we're willing to pay to change them. Some have argued that a dirty world is the unavoidable cost of economic growth. People who have a vested interest in not changing the causes of pollution will too often use this claptrap as an excuse for doing nothing and learning nothing.

...people are dying preventable deaths and suffering life-changing illnesses, simply because they must breathe the air of the cities where they live.

<http://www.epa.gov/pm/health.html>

<http://www.epa.gov/pm/pdfs/pm-color.pdf>

Conclusions:

This health survey, despite its limitations of motivation and access, provides baseline data that indicates a range of symptoms consistent with known effects of particulates on human health. The respondents provide a reasonably representative cross section regarding age, location and gender. The findings are consistent also with other qualitative data of over 1000 recipients and provide a significant indication that there is a real need both for a long term health survey and for recognition of the severity of the crisis.

APPENDIX 1:**Answers to 'Other' & 'Comments' question on Survey.**

| Other | Comments |
|--|---|
| | night sweats. |
| constricted throat | |
| | Tired dizzy sore throat |
| | Vomiting sore throats eye infection asthma like breathing problem where I had to use puffer I don't smoke but can't catch my breath |
| Vomiting | |
| Tired , sore throat | |
| extreme tiredness | Sweating |
| | Severe asthma!, I managed to go away for a few days over the long weekend and I hardly had to take any medication. Within a 20 min drive of the fire on return my chest felt like it had a brick and continued to get worse. Oh and I'm not in Morwell, but close by. |
| no symptoms | |
| muscle pain | |
| kidneys seem to be working very hard and body seems to be on dehydrated side of normal | |
| none | I didn't even claim the new TV allowance because I'm better than that. |
| Minoxide level of 7 | |
| | |
| Sore throat | |
| | |
| Nausea | |
| | Been to the doctor twice and he said i'm fine lol |
| Chronic Sinus irritation | Loss of sleep. Stress and unhappy. |
| General feeling of being unwell | |

| | |
|---|---|
| <p>Sore throat like swallowing razors, dry eyes, bronchitis, chest infection, been see dr in traralgon every second now 4th day since fires started</p> | <p>Everything I call besides grant money don't seem to exist called scout camp got answering machine and not had s call bk at all</p> |
| | <p>Had a very strong dose of antibiotics to kill the infection</p> |
| <p>Inflamed lungs, one lung not functioning properly, diarrhea, sore throat, sores/blisters on tongue & roof of mouth, other</p> | <p>My pre-existing neurological illness has been greatly exacerbated. All Q3 symptoms and more, but unable to tick all the boxes as survey won't accept them, giving message "you have selected too many choices".I went to doctor at Pakenham the day after I was forced to leave Morwell due to above symptoms.A week later I was able to see my usual doctor in Moe after almost passing out on the footpath near Morwell station having just walked from Council offices and experiencing severe headache disorientation very frightening intense breathlessness not relieved by ventolin inhaler. I'd been in Morwell less than four hours. My doctor was very worried and had a bed been available he would have put me in hospital</p> |
| <p>loss of taste, irritated throat, high blood pressure and anxiety, sleeplesness, wheezy and breathless</p> | |
| | <p>Can't live at home - have slept one night at home since feb17. 2 hours a day at home brings on tight chest, itchy skin and sore eyes.</p> |
| <p>Cough, lethargic,nauseous</p> | |
| | <p>My kidneys hurt. Really dark urine. Hair loss, coughing up green lumps of stuff. Mood swings. Tiredness depression</p> |
| <p>nose burning, weakness in body, nesuea</p> | <p>Difficulty sleeping, stress about who will pay to clean my house up and who will pay the value and money ive lost on house ?,since in last year I've spent over 20k fixing it and prior to that spent 16k o it trying to fix it. I would be lucky if I even got 60k for it since the mine fire. I don't want to live there but I have no choice :(</p> |

| | |
|--|--|
| | I was off work for almost two weeks as a result and the financial impact has been stressful, as well it has cost me a lot money and I am not on centre link need to work no financial assistance as I don't live in Morwell I just work in Morwell as a result of needing to work and being in smoke I got sick. experienced vomiting also |
| Sores up nose | |
| high CO reading of 12.4 | |
| | We evacuated 2 weeks ago when we couldn't go outside. My dog and bird died |
| Bad cough | My son and myself had a bad cough |
| | My son has had gastro vomiting and diarrhea for 12 days off and on |
| Burning of the throat and mouth . A stinging feeling and then cant talk . | Been to ED hospital on the monday the 3rd and 5th after big days of smoke and ash now each time it flares up or gets bad i cant talk as it hard to gasp and swallow . When i get a smell of it i am dry reaching ? |
| chest problems | Tiredness |
| | The kids have also suffered these symptoms. |
| all of the above as well as Asthma, Tiredness, Aggitation and Nausea | |
| loss of appetite , stress and anxiety | Alarming concern about being relocated |
| | The trots, nausea |
| stress, loss of appetite | Living in toxic smoke. The continued uncertainty of whether I will by forcibly relocated. |
| Asthma | |
| | Sores up nose, Blood noses, Sneezing , Diarrhea, Vomiting, This is on behalf of my husband who doesn't have facebook |
| Sore throat, feverish sweats and an increased need to drink more water (from 2ltrs to 4ltrs a day) | |

| | |
|---|---|
| Depression about the lack of response to the entire thing | It's affecting our families entire life and we live in Traralgon! |
| Allergies super sensitive, | |
| | My son had diarrhea and vomiting and went to hospital and doctors, it was palmed off as gastro however I only got some small amounts of vomiting. We have been very careful about not being exposed to the smoke! |
| I had Bronchitis it started just after the smoke started | |

3) Affidavits gathered at a meeting 23rd March
2014

– (56 respondents)

Ron Ipsen

The affidavit Set of questions.

About,

23rd march 2014

Introduction

Introduction

On February the ninth 2014 a bushfire sparked a fire in the Morwell Open Cut. It burned for 45 days before being declared safe. During this time a plume of toxic smoke covered the cities within the Latrobe Valley with Morwell less than 500 meters from the fire particularly affected. The fire is still officially burning.

During this time The Cities within the Latrobe Valley were subject to unprecedented levels of smoke and toxic ash, the volume and duration of which was dependent on the direction of the changeable winds.

People began to get sick, reporting via friend and relative networks, via social media and via normal social conversations to each other and comparing symptoms and severity.

People turned to the Mainstream media to see what was going on and what was happening to them but The Department of Health Spokesperson there was issuing statements like "There have only been 3 people present to the local hospital with any symptoms so there cannot be any problem."

After 3 weeks the residents of the Valley held a protest meeting, the media described it as a cry for help and indeed it was.

At that meeting simple open ended questionnaires were handed out and collected. The results are in the first of these reports.

On the 23rd of March another meeting was called and participants asked to fill out affidavits to document their experiences with the minefire situation.

The questionnaire is enclosed in appendix 3-a

Methodology

The residents at the meeting were handed a questionnaire and encouraged to record their experiences.

The questions were varied, mostly a yes no, with a text box for further expansion of the answer.

Business operators were given an additional questionnaire to cover financial and business issues but only if their business had been affected.

The sheets then went to a Justice of the Peace for stamping and swearing to their validity.

Of these signed and sworn affidavits, 56 were gathered together and correlated for this study.

The information on the sheets was hand typed into a database by a team of operators and then the resultant data was analysed by *symptom reported* and *appropriate system*.

There was little need to analyse by location and symptoms because previous studies had already shown the correlation there.

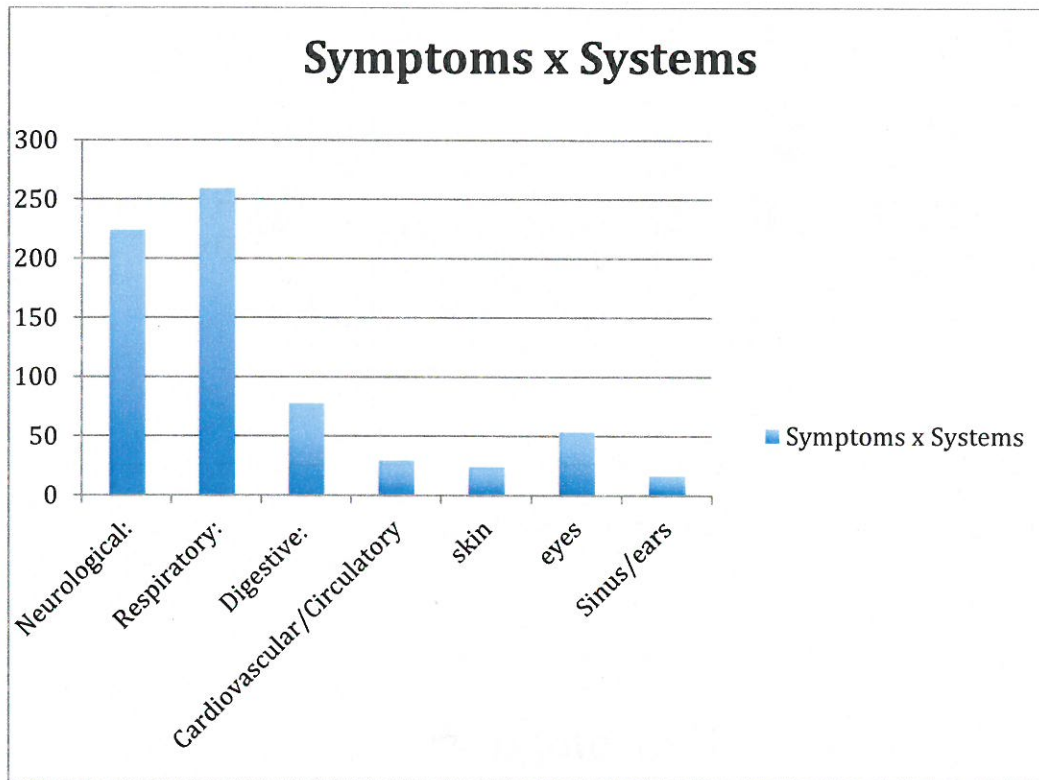
The individualized symptoms within a system are shown as percentage of respondents reporting that symptom.

Systemic totals were gathered by a simple addition of the percentages of individual reported symptoms within that system. The totals for systemic calculations can exceed 100% of respondents as many respondents had more than one symptom within a group, for example a respondent may have answered both *asthma flare up/start* and *difficulty breathing*

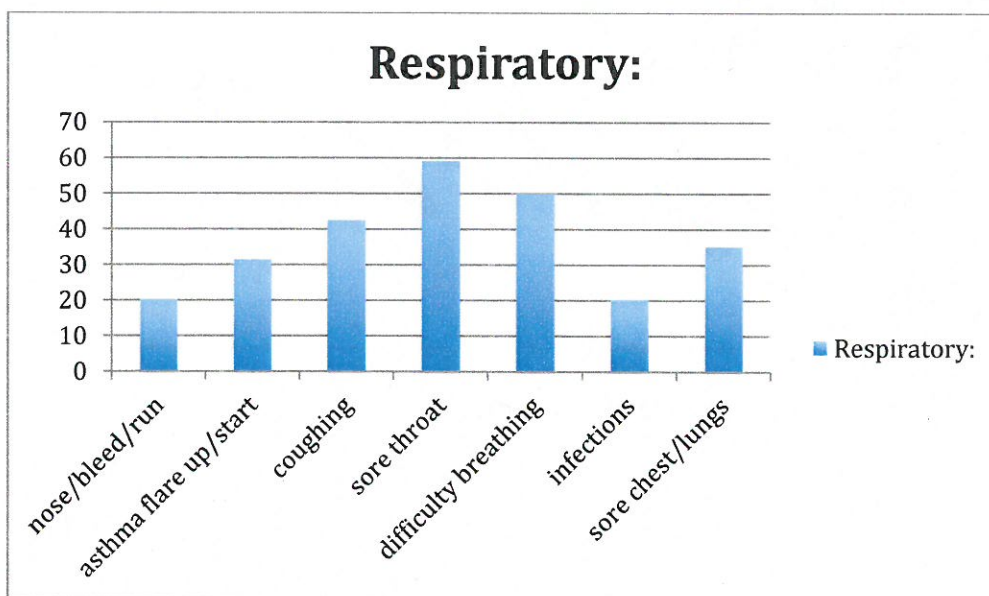
There has been little time given to the researcher to work on the fiscal calculations but they are clearly available in the raw data.

Results

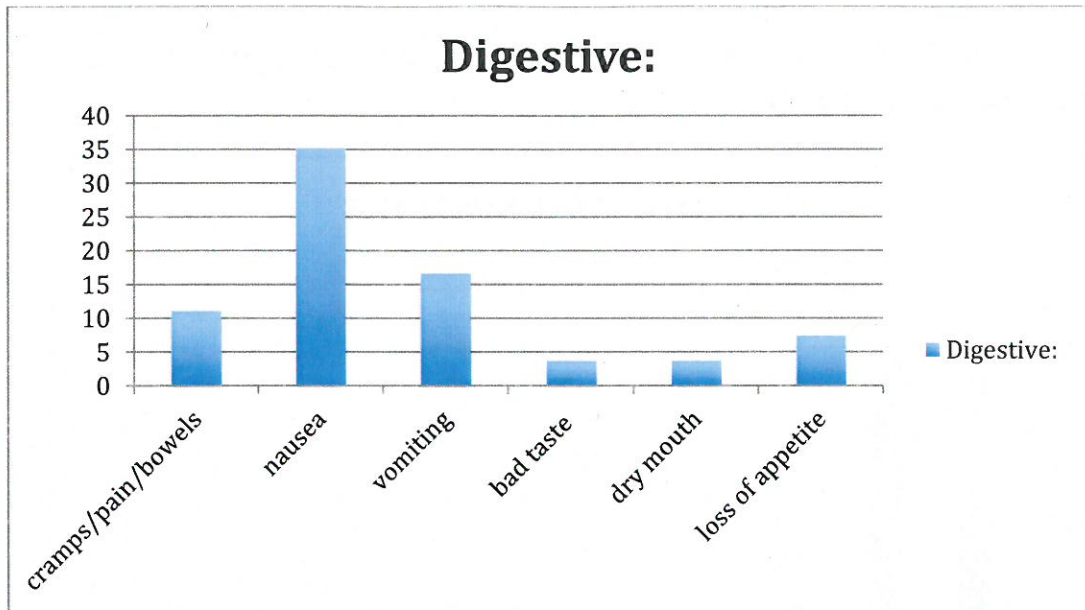
A general increase in symptoms with a few new ones appearing in the neurological category.



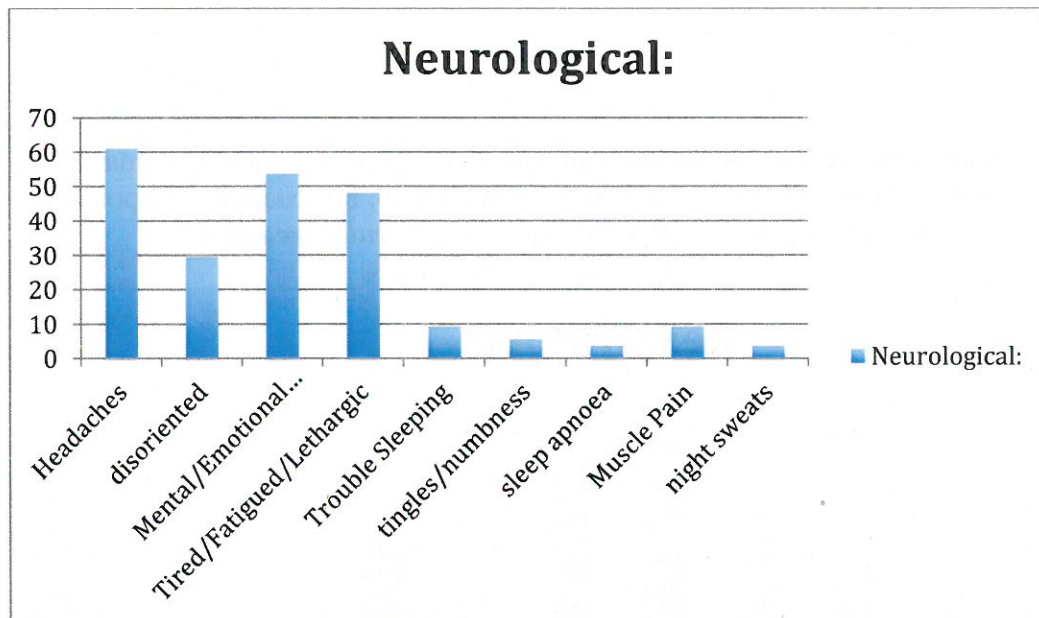
*Note totals for systemic calculations can exceed 100% of respondents as many respondents had more than one symptom within a group, for example a respondent may have answered both *asthma flare up/start* and *difficulty breathing*.



Figures are expressed as percentage of respondents.



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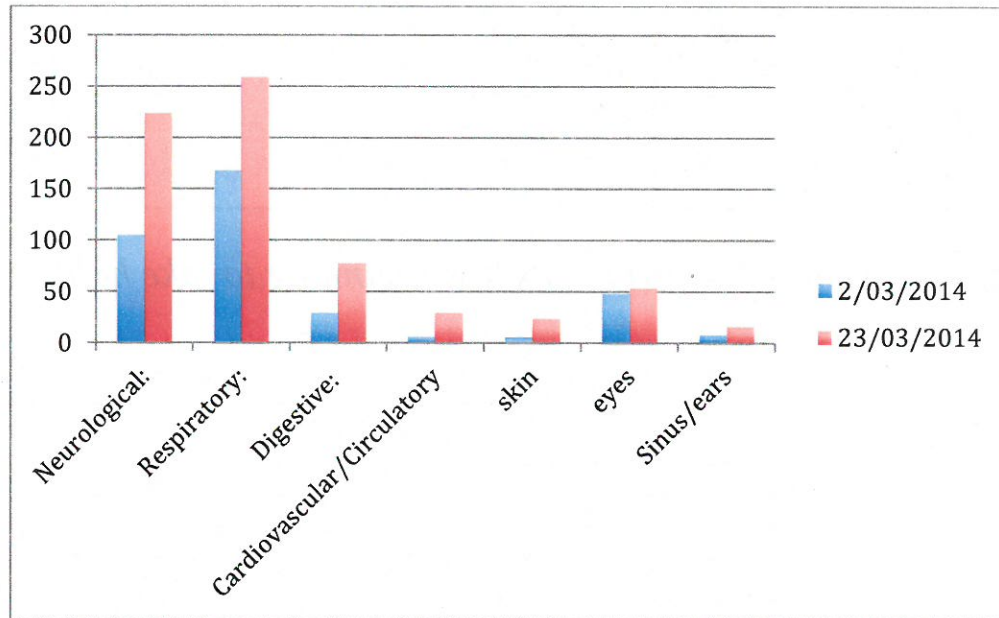


Figures are expressed as percentage of respondents.

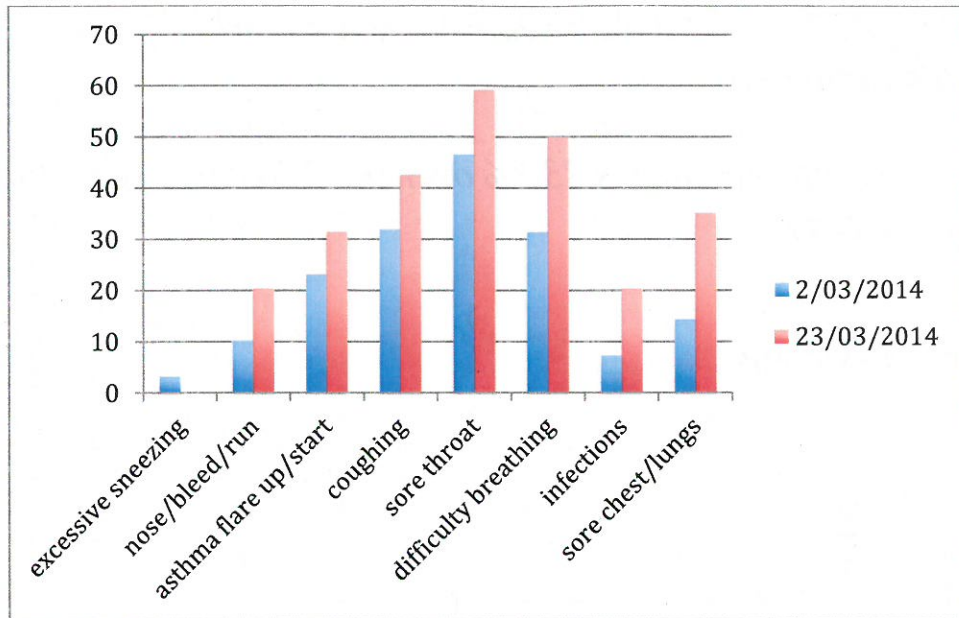
Comparing the 2 sets of data directly we get a marked increase in reported symptoms.

In fact the overall increase is 230% over the 3 weeks. (week 4 to week 7 of the fire)

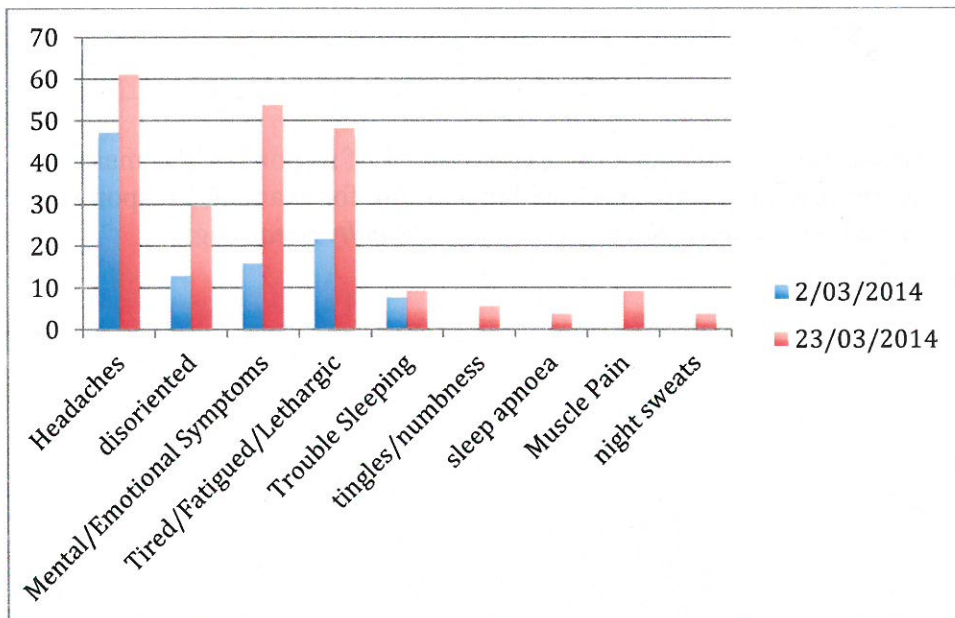
Symptoms x systems



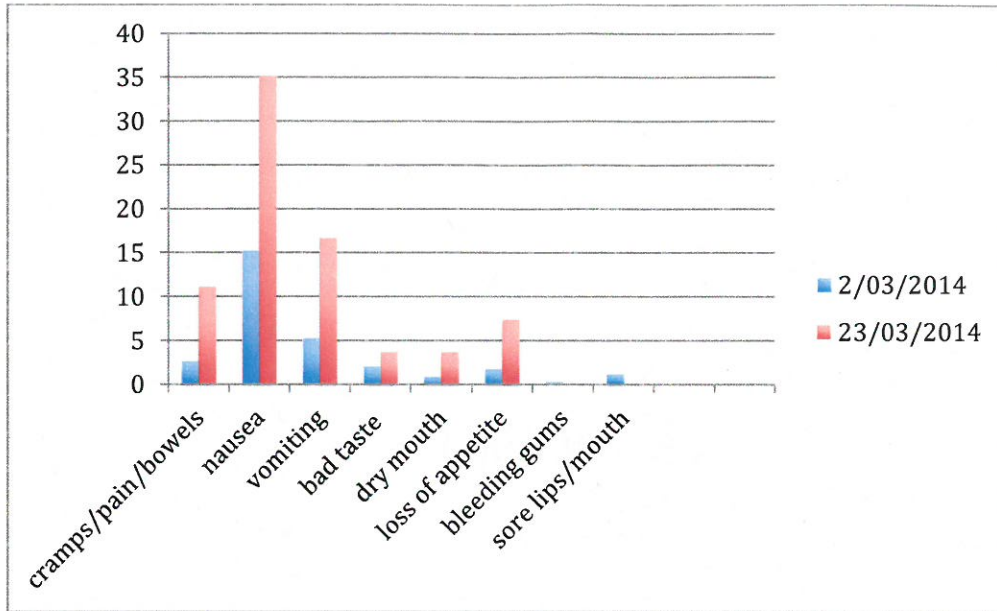
*Note totals for systemic calculations can exceed 100% of respondents as many respondents had more than one symptom within a group, for example a respondent may have answered both *asthma flare up/start* and *difficulty breathing*.



The infections and chest problems are beginning to take hold.



New symptoms are beginning to be reported that mimic alarmingly the heavy metal poisoning. This would make sense at the metals take time to build in the systems and begin to have an effect on the nervous systems operation.



Initial symptoms of smoke are starting to decrease in reportage as the smoke declines but the toxins build up in the systems of the population.

Appendix 3-a

Affidavit Questionnaires

23 March 2014

1. Have you been affected by the fire with health problems?

Yes

No

What Effects have affected you

2. Have you been to see your doctor with these concerns?

Yes

No

Not Yet

What was the outcome from your doctor.

3. Has your house been affected by the fire?

Yes

No

Don't Know

Please list the problems with your house.

4. Have you had to increase you power usage during the fire for Washing, drying etc.?

Yes

No

Include details.

5. Has your emotional health been affected?

- Yes
- No

Please give details below.

6. Have you or your family had to relocate?

- Yes
- No

List below any financial outlay for your relocation.

7. Have you or any family members been unable to attend school work or other activities? (sports, Leisure etc.)

- Yes
- No

Please give details below.

8. Has there been a financial change since the fire

- Yes
- No

Unknown

Please let us know what losses you have incurred.

9. Do you have pets or animals that have been affected by the fire/smoke?

- Yes
 No

Please give details.

10. Do you have any of the following?

- Tank Water
 Swimming Pool
 Vegie Garden
 Farm
 Outdoor furniture and equipment

If you have ticked any of the following please leave details below.

11. Do you feel that the local and state governments have generally satisfied your needs in regards to the handling of the mine fire.

- Yes
 No

- 17-30
 31-45

46-59

60+

B. Are you a business owner?

Yes

No

1. Has your business been affected

Yes

No

(If your business has been affected please fill out our pink business form)

Business Owners Details.

1. Do you own a business in the Valley?

Yes

No

If you have answered yes to this question please continue.

2. What area of the valley is your business?

3. Have you had extra expenses to pay out because of the Fire and its effects?

Yes

No

Please leave details below, if there is not enough room please use spare forms. And if you have any evidence to back this up.

4. Has your business lost revenue due to the fire and its effects?

5. Do you feel you have been looked after by the local and state governments in relation to compensation?

- Yes
- No

6. Has your Insurance company been helpful in this crisis?

- Yes
- No

BUSINESS
NAME: _____

BUSINESS
ADDRESS: _____

CONTACT
NAME: _____

CONTACT
NUMBER: _____