

SINGLETON **S**HIRE **H**EALTHY **E**NVIRONMENT **G**ROUP

“The impact on Health of Air Quality in Australia”



A community-based group looking to address environmental issues affecting Singleton Shire residents

PO BOX 626
Singleton NSW 2330

Author: Dr Neville Hodkinson PhD

SSHEG is Not Anti Mining or Anti Power Stations, we seek identification of What is making our Children and Community Sick so they can be mitigated by OH&S Compliance Orders.

SSHEG Focus On Health

Senate Committee Submission March 2013

Submission Summary covering letter

“The Impact on Health of Air Quality in Australia”

This Senate Submission generally relies upon SSHEG documents prepared since 2008 that capture the extent of the Pollution Issues unearthed by the Singleton Shire Community. Eight Topic areas are outlined below together with the SSHEG Member contribution and the List of Reference Documents which form part of this submission. *Separate to this Senate Submission, individual SSHEG members are expected to also further detail Air Quality Community Health issues.*

Five Years after the Community attended a Public Meeting at Singleton in 2008 concerned at the Sickness in the Community associated with the quickening pace of Open Cut Mining, the perception remains that our Health concerns are not being addressed or understood.

There are no effective Pollution Standards with regards Residents Health.

Year by Year Pollution levels rise.

There remains no acceptable Solution or Pollution Mitigation plans.

Focus remains on Dust Pollution, not Plume Gases, Vapours & Noise.

Best Practice Environment Control is a Word not an Action.

The “Hunter Valley Cocktail of Pollutant Exposure Concentrations of Near Neighbours” being closest to Combustion related Industrial Processes, is what sets this apart from the Beijing, London extreme “Urban Smog” Events; and classifies these Pollution Cocktails as similar to Wyoming Valley and Cincinnati Air Quality Experiences.

“While mineworkers enjoyed Occupational Health protection, Near Neighbours, Farmers, Villages, and the town Communities nearby have no such protection from Open Cut Mines with Pollutant emissions well outside their Mining Leases”

Near Neighbours, families, children, Farmers working outdoors and unprotected by air conditioning enclosures like Miners are all “Occupationally Exposed Persons to Coal Mining Airborne Dust”, and Mine OH&S compliance should apply..

The “Pseudo Ventillation Standard of underground Coal Mines” would be suited to apply to all of the “Near Neighbour and farm workplace situations”.

*“The exposure Standard for Atmosphere Contaminants in the Occupational Environment * is:-*

(a)Time Weighted Average (TWA) 50 micro g/m³.

(b) Short Term Exposure Limit (STEL)

*15 minutes TWA exposure
and not more than 4 times a day
and at least 60 minutes apart.”*

**These limits have a Data set reference relating to Underground Mine Ventillation Standards where adequate ventillation flow to areas where people travel or work are a minimum velocity of 0.3 m/sec”.*

A strong argument therefore exists to base PM measurements on 15 Minute Averages to gain the advantage of existing Miner Exposure Standards, and Mine OH&S Regulations.

The use of PM Monitors since 2006 in the Hunter Valley has seen:-

”Realtime PM10 Monitors that report only as 24 Hour Average PM10 Monitors”.

The insistence by “Environmental Authorities” to maintain this restriction has allowed the farcical situation of “Data Averaging” to flourish throughout Operating Industries in NSW, while Residents are exposed to Extremes of Industry generated Dust, Fumes and Vapours for short periods of the Day with Industry impunity.

SSHEG consider that “Averaging” is the “Key Issue” used by those who should know better to disguise “Dangerous to Health Environmental Pollution” from being recognized and thus eliminated.

Whats in the Air Pollution Cocktail ?

Notable among these Pollutants are Sulfur Dioxide(Sox) and Nitrogen Dioxide (NOx) Gases for Asthmatics, Chromium VI, Arsenic, Lead and Mercury from Power Station Fly Ash entering Rainwater Tank Drinking Water, while Combustion formed Dioxin and Ozone and Aerosol formation from Sunlight action on the polluted Air, along with many others were not mentioned, but remain a concern today.

The Coal Mining juggernaut rolls on unchecked, creating unbearable “Dust, Fumes, Plumes, Fly Ash, Combustion Gases, Diesel Exhaust Pollution, Vapours, Incessant Mine Noise and Trains rattling through Homes beside Houses, Ground Vibrations, Glaring lights, Sleep disturbances, Psychological Pressure, Irrigation Creek Water unfit for cropping, squeezing out Near Neighbours and Villages, while encircled Villages and “plundered Communities and Prime Agricultural Land”.

The long road to recognition that Passive Cigarette Smoking is a Death Health Hazard is now being surpassed by a far greater Population Health Risk by the Failure of Governments to Act on Air Pollution Hazards.

“SSHEG contend that all Major Projects, especially Mining and Power Station Operations, both Existing and Proposed should be subject to Cumulative Health Studies and Health Risk Assessments in order to restore the balance between Employment and Financial Revenue on one hand, and Community Health on the other hand”.

It should also be remembered in Cumulative Assessments to address the Health Issues, that 50% of the Singleton Community concern relates to Asthma, particularly in Children.

The Residents who have been forced to endure living beside Power Stations built without the Community Buffer Zones of the past, have their Health compromised, while Environmental Pollution Controls and Regulations seem solely focuses on protecting only the communities in Major Towns such as Singleton and Muswellbrook.

Finally, it is clear that new Health Research Methods need to be developed to provide perhaps a Real Time Technological basis which will overcome the current Medical Impasse where small Community samples exclude them from Health Studies.

Submitted by the Singleton Shire Healthy Environment Group 5th March

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Submission Summary

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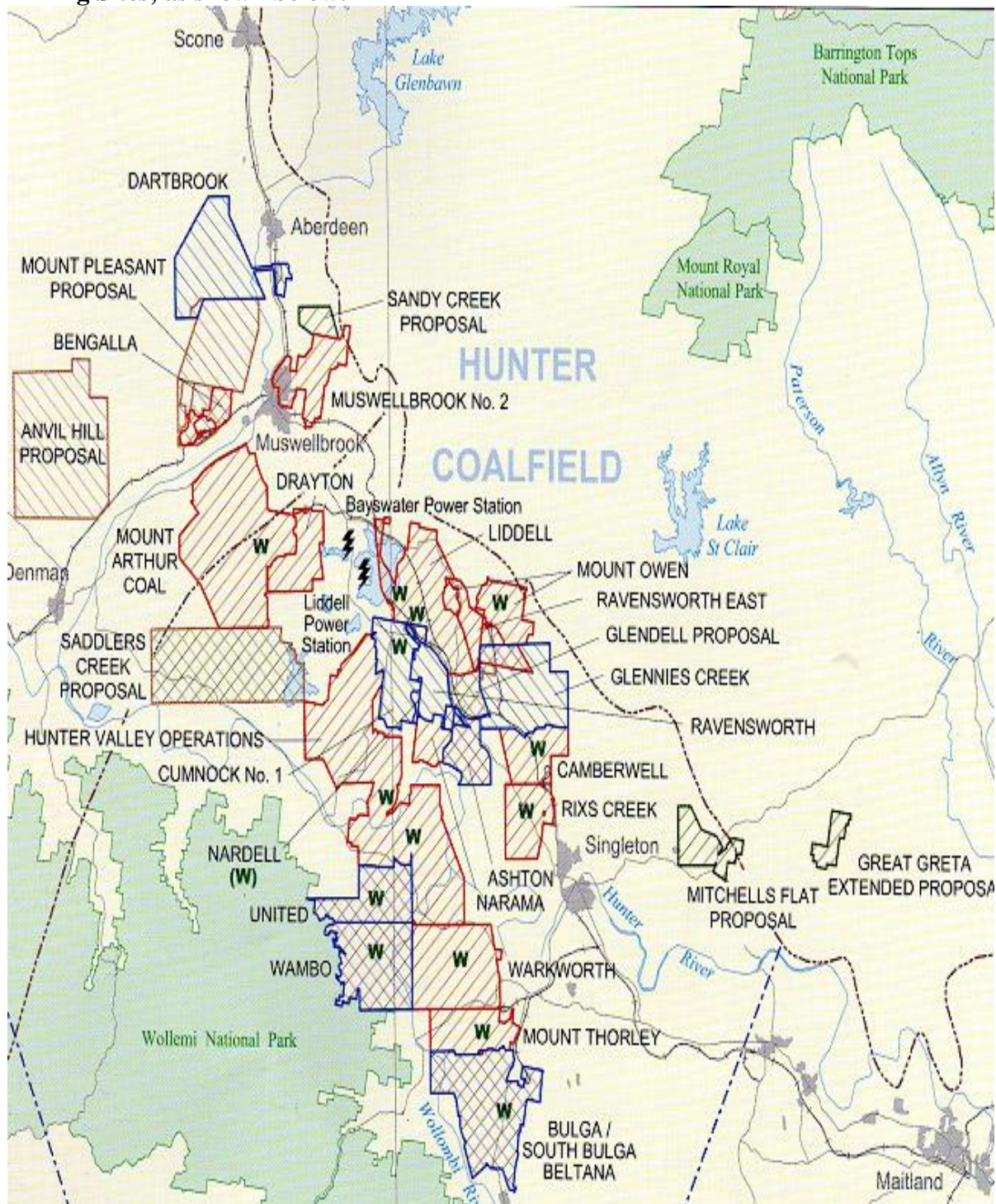
Singleton Shire Healthy Environment Group (SSHEG) arose in 2008 out of Singleton’s Doctor Au’s Hunter Valley Air Quality concerns were unheeded by Authorities, and posed the question “What is making our Children and Community Sick?” Especially, Respiratory Illnesses and Asthma.

Subsequently, from Community Surveys SSHEG advised NSW Health of 45 Health issues in (*Attachment S1*) that are prominent in Singleton Shire Towns, Rural Villages, Hamlets and Farming Communities.

This Senate Submission generally relies upon SSHEG documents prepared since 2008 that capture the extent of the Pollution Issues unearthed by the Singleton Shire Community. Eight Topic areas are outlined below together with the SSHEG Member contribution and the List of Reference Documents which form part of this submission. *Separate to this Senate Submission, individual SSHEG members are expected to also further detail Air Quality Community Health issues.*

The SSHEG Community Health Survey and Pollution Investigations 2008-9 identified Coal Mining and Coal Fired Power Stations and related Industries as the Major Pollution Emitters, and this led to our Submission to NSW Government on 7th November 2009 (*Attachment S2 where 37 Pollutants were identified*) calling for “An Independent Health Study in the Hunter Valley”.

The extent of the Government's disregard for Hunter Valley Residents can be appreciated by the extent to which Farming Communities, Localities, Villages, and Towns are engulfed now by 3 Coal Fired Power Stations and upwards to 35 Mining Sites; as shown below:-



Map 1: Location of coal mines and power stations in the Singleton-Muswellbrook area.



Plate 1: An aerial view of Hunter valley coal mines (Greens NSW, 2005)

Three positive Government and Industry responses to the 2009 SSHEG Submission were:-

- (1) NSW Chief Health Officer and Expert Panel study from 2010 with Major Towns Study expected earliest March 2013.**
- (2) Three NSW Department. of Planning Compliance Officers at Singleton in 2010. We note periods of Air Quality improvement since.**
- (3) Upper Hunter Air Quality Monitoring Network ** now operates at 14 Sites since January 2012. Pollution SMS Messaging NBG.**
- (4) Government response are outlined in *Attachment S20*.**

It should be noted ** that Individual Open Cut Coal Mines across the Hunter Valley from 2006 onwards provided 24Hr continuous Particulate Matter PM10 Realtime Monitors at around 76 locations (Attachment S15). These Monitors are mostly under utilised for reducing Dust and Pollution Emissions.

Each Industry with Environment licenses monitor operations and emissions and submit an Annual Environment Management Report, detailing monitoring readings, Community Complaints, Environmental Incidents and Reports, and Licence compliance details.

Miner's Dust; How acceptable is Figure 15 ?

Katestone Environmental Pty Ltd KE 1006953 OEH June 2011

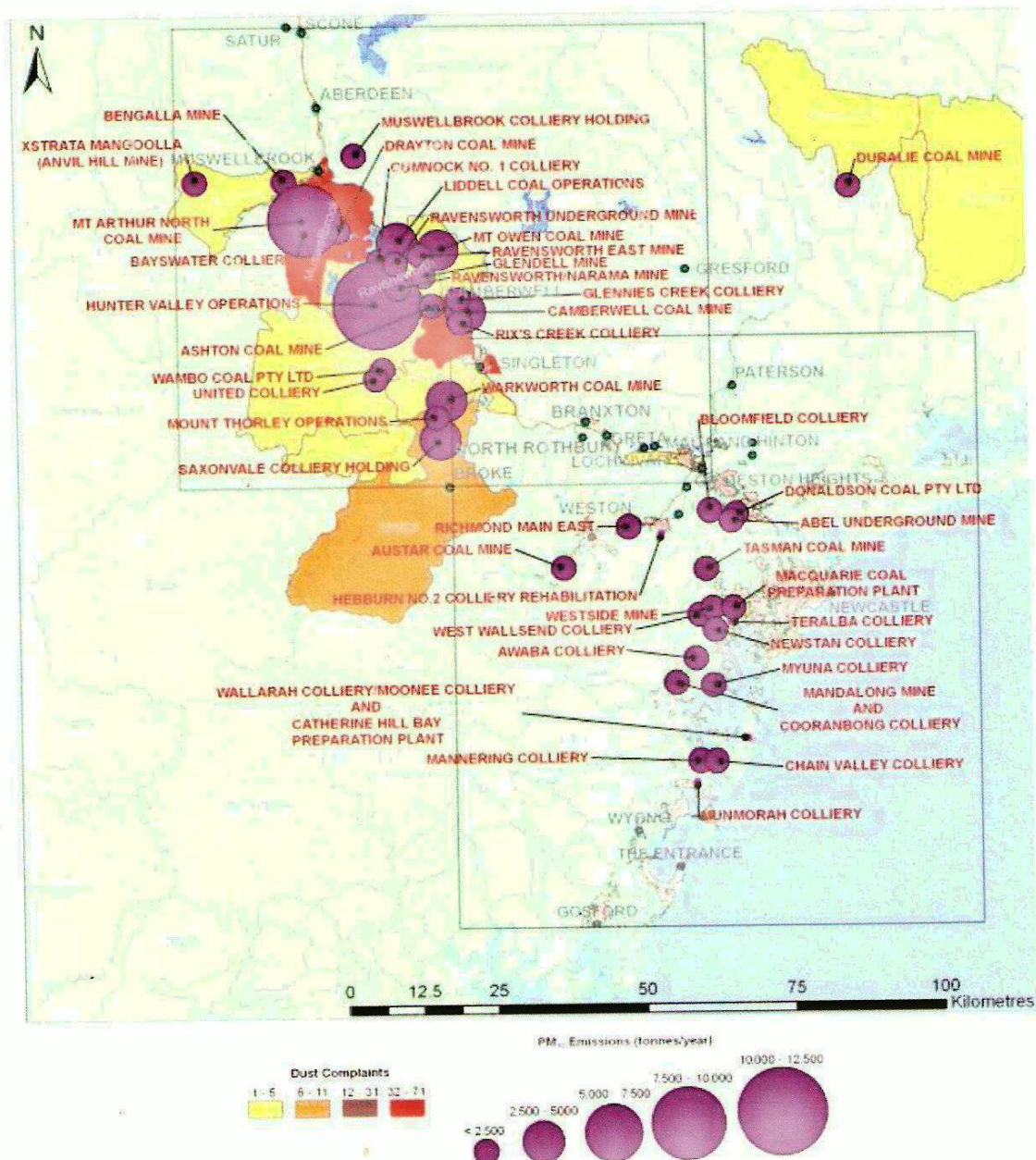


Figure 15 Complaints about dust in the Newcastle and Hunter Coalfields by suburb and relative coal mining emission rates of PM₁₀, 2007-2009

Three SSHEG “Historians” have from these early days highlighting to Government Departments, EPA and Health Authorities the Coal Industries Impact in the Hunter Valley (*Attachment S3*); where the Prime Agricultural area of the 1960’s was transformed with Coal Fired Power Stations near Muswellbrook supplying cheap Electricity for two Aluminium Smelters (Kurri Kurri and Tomago); and now the somewhat out of control Open Cut Coal Mining “Moonscape” between Singleton and Muswellbrook as just the beginning.

In the process the Coal Mining juggernaut rolls on unchecked, creating unbearable “Dust, Fumes, Plumes, Fly Ash, Combustion Gases, Diesel Exhaust Pollution, Incessant Mine Noise and Trains rattling through beside Houses, Ground Vibrations, Glaring lights, Sleep disturbances, Psychological Pressure, Irrigation Creek Water unfit for cropping, squeezing out Near Neighbours and Villages, encircled Villages and “plundered Communities and Prime Agricultural Land”.

What then has SSHEG identified what is Needed ?

- (1) Independent to Government Accumulative Health Risk Assessments on all Non Agricultural Industrial Developments based on the heightened Health changes to “Near Neighbours” and Resident’s in weekly assessments, from one hour (1Hr running Average) Accumulative Environment Pollution Emission Exposures.
- (2) SSHEG calling in 2009 for Independent Health Study to identify Accumulative Air Quality Pollutants Impact on Hunter Valley Residents, with a view to Mitigation or Cessation at the Pollution Emission Sources.
- (3) OH&S Act Protection of “Near Neighbours” as “Occupationally Exposed” incorporated in Mining and Power Station Industries.
- (4) Power Stations to cease acting as “High temperature Incinerators” for Solid and Liquid Toxic Waste substances.
- (5) Realtime Gaseous and Particulate 24hr Monitoring, Staged Alarming and Pollution Reduction Control of all Industrial Process Pollution Emissions to Atmosphere, especially Combustion related Processes.
- (6) Establish Particulate Matter (PM) Measurement (ug/m³) for Pollution Reduction Control to be based upon One Hour Running Averages, for PM₁₀ and PM_{2.5}, with PM₄ for Near Neighbours and Residents, PM₁, and PM_{0.1} for Medical Research Health Assessment purposes.
- (7) 6 Monthly Routine Testing and Accreditation of Rainwater Tanks used for Drinking and Residents Cooking, due to the heavy overnight Aerosol fallout on Rural Homes that fall within the “Designated Near Neighbours Industry Buffer Zone; and undertaken at Industry cost.
- (8) Establish Locality based Medical Record Profiles noting Community Pollution Events exposures in preceding days based on 1Hr Rolling Average PM Pollution criteria.
- (9) Fifteen Interim Health related Actions are outlined in letter to Chief health Officer dated 4th Nov 2010 in *Attachment S10* Page1-4.

SSHEG Senate Topics for Hunter Valley Health Issues

This Senate Submission generally relies upon SSHEG documents, Reports and Presentations prepared since 2008 that capture the extent of the Pollution Issues unearthed in the Singleton Shire Community. Eight Topics are outlined in this written submission with SSHEG Members identified should the Senate Committee prefer to have presentations (preferable in the Hunter) on key aspects outlined. *Some individual SSHEG members have also made additional submissions.*

The SSHEG Community Health Survey and Pollution Investigations 2008-9 identified Coal Mining and Coal Fired Power Stations and related Industries as the Major Pollution Emitters, and this led to the SSHEG Submission to NSW Government on 11th November 2009 (*Attachment S2*)

Senate Submission Topic Details :-

TOPIC 1 *Member Dr John Drinan PhD*
Narrated

SSHEG Submission to NSW Government 11 Nov 2009 is an urgent call for an Independent Scientific Study for Singleton Shire Residents; to:-

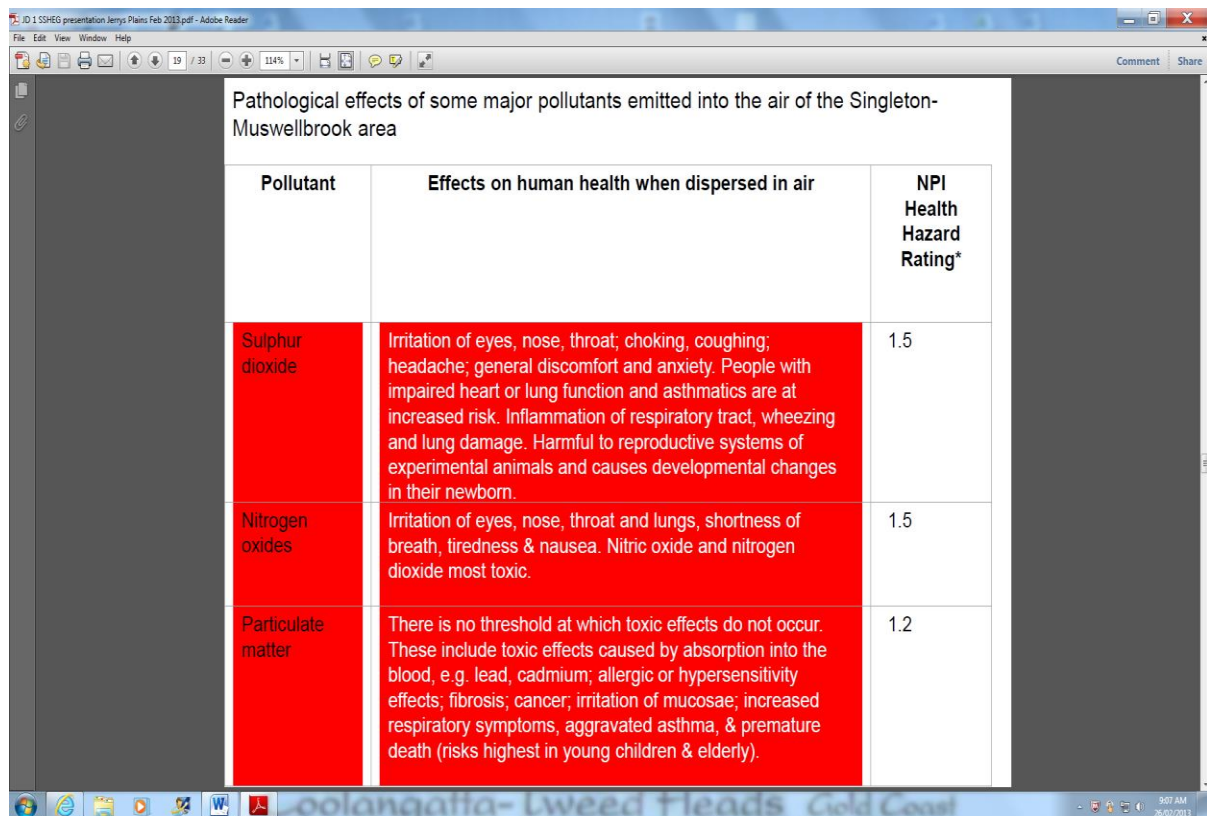
- 1. ascertain the health status of the residents of Singleton Shire relative to State averages and other relevant comparators;***
- 2. identify and quantify health risks associated with air and rural rainwater quality;***
- 3. provide real-time, independent monitoring of industrial emissions in the air of Singleton Shire, with composite analysis, and easy public access to the information it generates, and a transparent mechanism for redressing any risks that are identified;***
- 4. investigate the relationship between industrial emissions in the Singleton Shire and the health of the residents;***
- 5. monitor and report pollutant loads in water tanks, especially in rural areas of the Shire that are dependent on rainwater for all purposes.***

The SSHEG Submission to the NSW Health Minister confirmed the presence of large volumes of complex Gases and Particulates discharged into the Hunter Valley Atmosphere by daily Industrial activity, with the SSHEG Submission identifying 37 Pollutants (*Attachment S2 Appendix 3 Table*) considered by current regulatory authorities likely to be of a Health concern while many others may have gone unnoticed.

Notable among these Pollutants are Sulfur Dioxide and Nitrogen Dioxide for Asthmatics, Chromium VI, Arsenic, Lead and Mercury from Power Station Fly Ash for Rainwater Tank Drinking Water, while Combustion formed Dioxin and Ozone and Aerosol formation from Sunlight action on the polluted Air along with many others were not mentioned, but remain a concern today.

Residents' perceptions of the impact of air quality on their health in the Singleton Shire reinforces what the Singleton GP, Dr Au has been reporting. Higginbotham et al 2006 Survey findings Attachment S19 before the quickening pace of Open Cut Coal Mining by 2008-9. This was reinforced by the SSHEG Community Health Survey (*Attachment S4*) which focused on Residents Health, Diseases Testimonials and identifies Resident's Home location throughout the Singleton Rural Shire.

Pathological effects of the Major Pollutants identified in the Hunter Valley are based on National Pollution Inventory; as a slide from SSHEG presentation:-



Pollutant	Effects on human health when dispersed in air	NPI Health Hazard Rating*
Sulphur dioxide	Irritation of eyes, nose, throat; choking, coughing; headache; general discomfort and anxiety. People with impaired heart or lung function and asthmatics are at increased risk. Inflammation of respiratory tract, wheezing and lung damage. Harmful to reproductive systems of experimental animals and causes developmental changes in their newborn.	1.5
Nitrogen oxides	Irritation of eyes, nose, throat and lungs, shortness of breath, tiredness & nausea. Nitric oxide and nitrogen dioxide most toxic.	1.5
Particulate matter	There is no threshold at which toxic effects do not occur. These include toxic effects caused by absorption into the blood, e.g. lead, cadmium; allergic or hypersensitivity effects; fibrosis; cancer; irritation of mucosae; increased respiratory symptoms, aggravated asthma, & premature death (risks highest in young children & elderly).	1.2

The February 2013 Overhead Presentation of SSHEG concerns at Jerrys Plains where around 100 attended explains the Top Sources of Pollution in the Hunter Valley from Power Stations and Coal Mining. (Refer Attachment S18)

The Major Pollutants being Sulfur Dioxide, Nitrogen Oxides, Particulate Matter PM10 including PM2.5, with list of Toxic substances, Chromium (VI), Mercury, Lead, Arsenic, Benzene, Florides, Zinc, Cyanide etc.

During 2012 The Upper Hunter Air Quality Monitoring Network (UHAQMN) reported PM10 Statistics at 14 locations based on 24Hr Averages, recording only 6 days of exceedance above 50ug/m3, with the highest daily average on 6th September 2012 at 63.6 ug/m3. *“It is inconvenient to admit that behind these daily averages there are hundreds of hourly exceedances”.*

SSHEG considers that in the Singleton Shire it is the outlying Villages and the Near Neighbours beside Open Cut Mines and Power Stations that have the most health Risk from Pollutants at their Emission Sources. The High concentrations of Hunter Valley Combustion Gases, Vapours and Particulate Pollutants, certainly above 50ug/m3 as PM10's at even one Hour's concentrations is considered damaging to a person's Health as attested to by many Residents in these Localities.

The UHAQMN confirms that extremely High PM10 Pollution Levels exist for many Hours of individual days above 50ug/m3, as well as consecutive days; i.e on 6th Sept. 2012 Singleton Township recorded 15 plus 5 missing readings over 50 up to 97.1 for 1Hr Avg values, while the out of Town Singleton Shire areas, - Maison Dieu 12 up to 87.3, Mt Thorley Industrial Estate 19 up to 100.0, and Camberwell 18 up to 136.7 ug/m3 for 1 Hr Avg. Singleton on that day experienced around 20 out of 24 Hours above 50ug/m3 as most probably the Highest readings are missing when the Monitoring equipment was choked with “Pollution Dust”.

More importantly, the Shire Residents who are beside Mining and Power Station Operations are closest to the Pollution Sources of Emission, and are exposed to a more concentrated Cocktail of Pollutants than those in the Town Centers.

The “Hunter Valley Cocktail of Pollutant Exposure Concentrations of Near Neighbours” closest to Combustion related Industrial Processes, is what sets this apart from the Beijing, London extreme “Urban Smog” Events; and classifies these Pollution Cocktails as similar to Wyoming Valley and Cincinnati Air Quality Experiences.

The use of PM Monitors since 2006 in the Hunter Valley has seen “Realtime PM10 Monitors that report only as 24 Hour Average PM10 Monitors”. The insistence by “Environmental Authorities” to maintain this restriction has allowed the farcical situation of “Data Averaging” to flourish throughout Operating Industries in NSW, while Residents are exposed to Extremes of Industry generated Dust, Fumes and Vapours for short periods of the Day with impunity.

TOPIC 2 *Member Dr Tuan Au - Singleton GP Narrated*
A separate Senate Submission will be made by Dr Au.

The Singleton Shire Community observed the connection between Air Quality, Dust from mining and debilitating sicknesses requiring Hospital and Doctors Visits. Community concerns were ignored. (ABC News reports)

Dr Tuan Au was instrumental in alerting NSW Health Authorities, but without support, testing of 900 local school children soon confirmed that one in six had a lower lung function compared to the national average for asthma of one in nine. (Attachment S5)

The response by the NSW Health Minister in 2010 to the SSHEG Submission was to dismiss the findings, noting that “ A Study of Asthma exacerbations requires the ability (of) measurement .. (of)... individuals exposures to pollutants on a daily basis”; and further, “Accurate Air Quality data is required, together with a methodologically rigorous Epidemiological Study” as reported by the 4 Corners ABC Channel TV Programme which was aired on 12th April 2010. (Attachment S6)

ABC NEWS

Coal town's doctors raise child health alarm

Four Corners Andrew Fowler
Updated Tue Apr 13, 2010 9:24am AEST

A GP living in the Upper Hunter Valley of New South Wales says if health problems caused by pollution from open cut mining are ignored "it's the same as murder".

People who live in Singleton and Muswellbrook and the towns in between have told Four Corners that the pollution coming out of nearby mines and power stations is making them sick with cancer and asthma.

Local GP Tuan Au tested 900 local school children and found one in six students had a lower lung function. The national average for asthma is one in nine.

His report was dismissed by New South Wales Health Minister Carmel Tebbutt.

Dr Au says that is not good enough and he has called for more to be done.

"What I'm going to do, is do it again until the Government will listen to it, and I will let the history be the judge," he said.

"If we ignore the problems and we do nothing about it's the same as murder."

Ms Tebbutt says Dr Au's work fails to "advance knowledge about the link between emissions in the Upper Hunter and asthma in children".

But another local doctor, Singleton GP Dr Craig Barry, has told Four Corners he is leaving the town because of fears for his children's health.

He says his family is moving because of "family lifestyle reasons" and "for my children's sake".

Dr Barry's children, who suffer from asthma, found their health improved dramatically while they were away from home on holidays.

Dr Barry's departure has added significance because he works in the same practice as Dr Au.

Dr Barry said, along with his wife, he had taken the decision after the family returned from a recent holiday to the coast.

"I find that when we go to the coast or out of the Hunter ... their symptoms seem to reduce down, not using their medication as much," he told Four Corners.

But he said a couple of days after returning home they had to get back on puffers and nasal sprays.

Dr Au said he was sad at Dr Barry's departure, but he understood that he was leaving because his children had asthma and eczema.

There are also fears about increased cancer rates in the town.




PHOTO: A coal stock pile at an open cut mine in the Hunter Valley. (Dean Lewins: AAP)

EXTERNAL LINK: Four Corners

INK: Four Corners

MAP: Singleton 2330

TOPIC 3 *Member Lyn Macbain – SSHEG Historian*

Narrated

SSHEG Community Surveys confirmed the variation and the extent of Sicknesses that were reported across the Shire; and particularly how multiple serious life threatening diseases were reporting in Rural Families and multiple Families in certain Localities. (*Attachment S4*)

Many personal case stories were collated as outlined on Attachment S3 indicating Health impacts on Asthma and Respiratory complaints, “Camberwell Cough”, Birth anomalies, unusual incident of rare diseases, Autism, Cancer etc.

Chief Health Officer of NSW requested further details to understand the extent of Community Concerns (*Attachment S1*). Our presence in Community Consultative Committees on Power Stations and Mining Operations provide first hand knowledge of the pitfalls in Approval Consent Conditions and Compliance Powers of Government agencies, and the inevitable deterioration leading to Pollution events.

Personal Testimonials of Sicknesses and family Health stories have been made available while others are personally known to SSGEG. (*Attachment S8*)

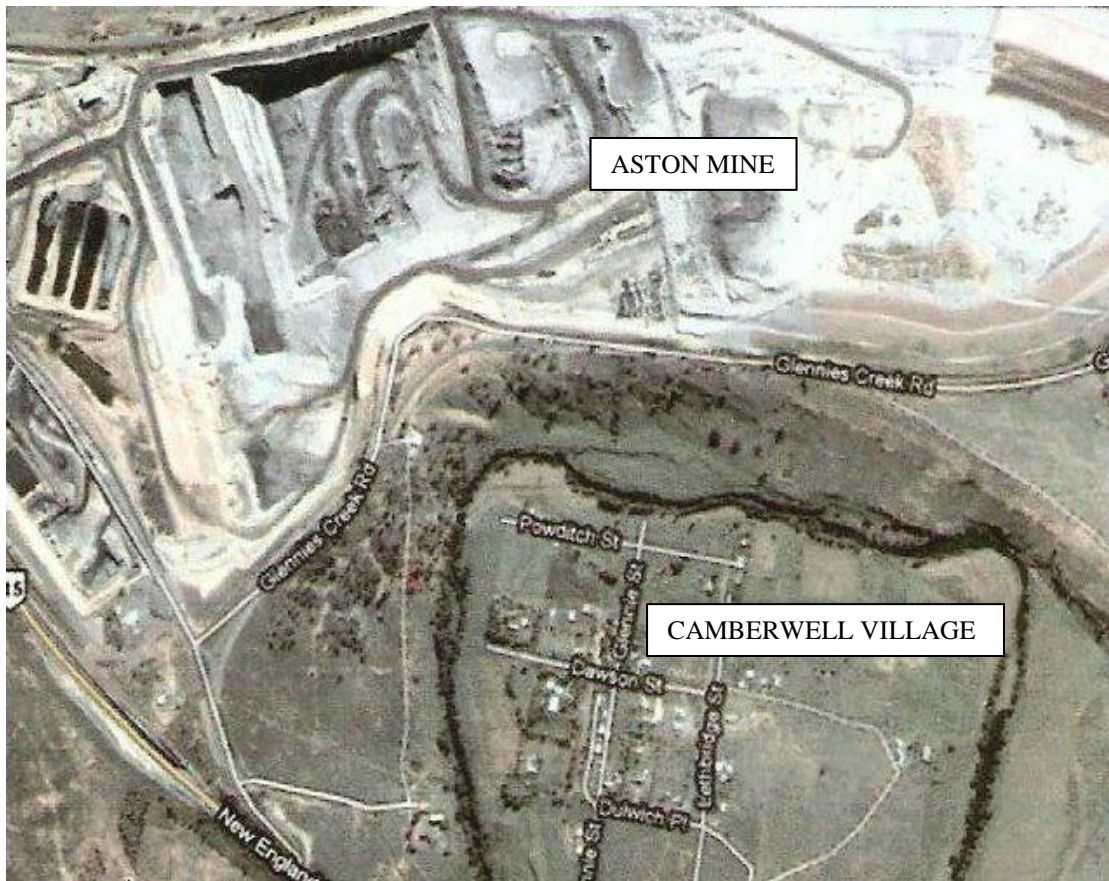
Over 20 years as a Community voice in Community Consultative Committees and an elected Councilor(*Attachment S3*), it appears the “Authorities consult with the Community on some occasions and are only going through the motions but the outcome seems predetermined from the outset”.

What the Community expects is a balance which protects the Health of Residents and especially Near Neighbours from Industrial Operations on one hand, while providing the Employment and Financial Revenue on the other hand.

TOPIC 4 *Member Deidre Olofsson – Camberwell Family*
Narrated

The lack of timely action by the NSW Government to the disgraceful Living condition in the Camberwell Village from Open Cut Coal Mining literally surrounding Residents, resulted in the SSHEG Document 2010 being prepared for the Chief Health Officer on 4th November 2010. (*Attachment S10*)

Not only is the Camberwell Village surrounded on all sides by Mining Dust bowls, Deep Voids and Dusty Stockpiles from five large mines; the “Authorities and Mining Companies” managed to get approval for the Aston Open Cut Coal Mine and Underground Mine Surface Stockpiles and Coal Washery which literally “engulfes” the Camberwell Village as shown below;-



Literally thousands of Health Complaints from Camberwell Residents have been ignored by the “Authorities’ and especially the EPA over the years some of which are logged in the Complaints Lists in *Attachment S10* A4 Page 78-82.

The most serious Immediate Health Threat to Residents recorded is from Mine Blast Plumes which under some meteorological conditions instead of dissipating into the Atmosphere they stay as a Hot Gas bubble and drift especially to ground level near creeks and rivers. Refer Attachment S10 Section 1.0 page 9 and A2 page 73.



Photo 1 *Camberwell Gassing Incident 2010 type viewing West*
*Mine Blast over the Ridge is sucked down to Glennies Creek
and drifts over Camberwell Residents in Bridge Street*

The “Near Neighbour” Residents are actually “Occupationally Exposed Persons” who are currently “ignored” by the “Authorities”, Government Acts, Regulations and Mine safety practices, and are left to their own resources in the event of a Health Incident such as that referred to as “The Camberwell Bridge St Gassing ”

Overall, Camberwell Residents have been subjected to Accumulative levels from Multiple Mine Sites of Blast Fumes, Dust Storms, incessant Noise and Ground Vibrations, operating Hours disregarded and the Families Medical Ecpenses and psychological uncertainty as to who to turn to for **HELP!!**

Much of which is outlined throughout Attachment S10.

TOPIC 5 *Member Di Gee – Dairy Farming Family* *Narrated*

Three children born in the shadow of Open Cut Mines that operate ever closer to our Farming Hamlet. Why is it that the two older children born before we settled on the dairy Farm at Jerrys Plains do not have Asthma as our youngest three have? We relate Mining Pollution as the culprit.

For our third daughter, the medical complication of Asthma related breathing struggles and imminent malaise has not responded well to Medications; with periods of some months unable to attend school.

When an Orange Mine Blasting Plume drifted over the farm, our third daughter “immediately started to experience headaches, a runny nose and watery eyes”; confirming our fears that it’s the Pollution that is affecting our children. (Attachment S9)

is also making it sick.

Asthma fears

We went to the Upper Hunter Valley on a stunning late autumn day with pristine blue skies. The only clouds came from dust billowing up from the mines.

After a few hours in the region, we started experiencing a metallic taste and a thin layer of grime inside our mouths. After a few hours spent filming very close to the open cast mines, there was also a slight irritation in our eyes.

Pollution is suspected of causing the problem. Last year, more than 100 tonnes of toxic metals, including arsenic, lead and cobalt, belched into the air from mines and power stations in the Upper Hunter Valley.

For the people who live here permanently, it is causing a major public health problem - or a public health crisis, to some.

In May, the government of New South Wales released a report on child health showing that nearly 40% of nine to 15-year olds in the Hunter Valley and New England region had suffered at some stage from asthma. That is 12% above the state average.

The study did not make a direct link between mining activity and the above average levels of asthma, but locals have drawn their own conclusions. They have been complaining for years about the health impact of the open cast mines in particular.

'Feel for her'

Take the experience of Courtney Gee, a schoolgirl who lives on a farm close to an open cast mine.

She suffers from asthma and has to take a concoction of drugs, including Ventolin and Seretide, which help her breathe. When the attacks come on, she says, it feels like breathing through a straw.

We were at the house when she returned from school and watched as she rushed, coughing and spluttering, to the medicine cabinet in the kitchen.

Her condition eases when she goes away on holiday, but became so bad last year that she missed three months of school.

Recently, a big orange cloud rose up from the local mine and drifted over the farm. She immediately started to experience headaches, a runny nose and watery eyes.


Her mum, Di Gee, started to well up as she described her daughter's condition.

"Sometimes you wonder if she will wake up," she said. "They do say that there can be deaths through asthma."


"And I really feel for her, because what she goes through I don't think she should have to go through. But it's just something we have all had to deal with."

Monitoring

Peter Kennedy has been a miner all of his life, and works for one of the



“It's just something we have all had to deal with”
Di Gee



Residents say they are badly affected by dust clouds from the mines

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8 'Nuns' caught drinking illegally

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Most popular now, in detail

TOPIC 6 *Member Wendy Bowman – Mine Watch Historian*

Narrated

The clash of cultures of Miners versus pastoralists has seen Mine Watch active for 30 years as the Colonial traditions of the pioneer Bowman family holdings coincided with much of the Coal deposits sought over by Mining Companies and a State Government seeking coal taxes.

The relentless Mining march across Prime Agricultural Farming Land in the Camberwell area; driven first from one property – “Aston”; residing at Granbalang homestead, and now at “Rosedale Homestead” which is currently under siege by Aston Mining.

Throughout this period, by bitter experiences much has been campaigned on the Health impact of Mining on the Community, Mines Permanently Polluting Waterways, Incessant Mining Noise, Dairy Farming with Milking Cows having to eat Pastures contaminated by Mining dust and Power Station Fly Ash, and Cows and Horses struggling to breath the cocktail of Pollutants from Mines just across our boundary fence on Prime Agricultural land.

The story is best understood in *Attachment S10 – A15 page 115*, a previous Senate Submission on Agriculture in 1997. *It is not surprising that animals, such as Cattle and in particular Horses are susceptible to similar respiratory Diseases from breathing Polluted Air.*

Rainwater Tanks remain a Health Risk for Rural Areas particularly during droughts when dust storms are common and rainstorms are short in duration, without the long continuous rain to fill tanks to overflowing. Drinking water containers take on a brownish tinge after a while.(Attachment S10 –A13 pages 111-113 and 42- 48.

More recent samples of “Mud” which collected all the way along our guttering on its way to our Drinking Water Tanks , over the year 2012 since last cleaned, again confirms our fears regarding pollution Fallout ending up in our Drinking and Cooking Water. Refer 2013 Mud Analysis Attachment S11, high in Zinc, Lead, PAH, etc.

With no Lead or Zinc on the roof it suggests this mud Chemical Analysis verifies the presence of Power Station Fly Ash in one form or another.

“I was told not to drink the Tank Water. Do I have to purchase Water? Should I pay? – Tank Water has been the water supply for all persons out of Towns and cities in Australia for over 200 years”.

During the Camberwell Bridge St Aston Mine Blasting Gassing Incident in 2009 I was contacted by phone to assist the distressed woman and her animals; as Residents were by that time convinced neither the Mines nor the “Authorities” or the EPA would give advice or have Safety procedures to deal with such Emergencies in the Community. (*Attachment S10 Section 1.0 pages 9-11 & Section 4.0 pages 21&22 plus A1, A2 Pages 72 –77*). Apparently while you can’t breathe at the time of the Gassing and hopefully you can escape indoors, your Lungs -lining is damaged and begins to blister with a delayed fluid flooding of the lungs in the next 24 to 48 hours. (Refer Attachment S7).

To add insult to injury, after 30 years of exposure to Mining Pollution that I have warned others about during farming and living in the Camberwell area, recent Respiratory Medical Testing regarding my “Camberwell Cough”, has confirmed the extent of Lung Dusting present.

Living at “Rosedale” at Camberwell surrounded by Coal Mining, the Atmosphere even inside my Home has left me with “The Camberwell Cough”, nose drips continuously, sneezing has exacerbated, Respiratory – Sinus/antrum problems exacerbated since Open Cut Mining and Power Generation Pollution has pervaded throughout the Hunter Valley.

On one occasion when” Aston Coal spread Organic Growth Medium –OGM on high Spoil Heap over two days with a NW wind blowing it down the Valley to my Home; I was unwell for a good 10 days.”

“The Camberwell Cough” has reached the stage” that during sleep, Sinus drains into the Throat, and then takes an hour to clear(cough up)”. (*Does not this sound like “Black Lung Disease” the evening and morning racking cough of the Coal Miners who were “Dusted” years ago. When will the “Authorities” recognize that “Near Neighbours” are “Occupationally Exposed Persons” to Mining Operations?*)

“At a recent Medical checkup when I commented on my persistent “Camberwell Cough Professor David Bryant at St Vincents Medical Centre conducted Lung Function Tests which showed a 20% Loss, while MRI shows Dust on the Lungs. (*Is this what the “Authorities” say is a Farmers Occupational Hazard, or is it a Mining “Occupationally Exposed Mining Near Neighbour?*)

Two other long standing Residents on Farming land nearby are known to me, both have serious Health conditions including Family members affected as “Near Neighbours” to Open Cut Mining Operations.

TOPIC 7 *Member Carol Russell – SSHEG Historian*

Narrated

In 1992 it had become evident that PM2.5 Monitoring of Air Quality was a more direct measure related to Human Respiratory Diseases but fell on deaf ears in relation to the Redbank Power Station and other Mining Projects since.

SSHEG contend that PM2.5 Particulates move in the air wind currents so they are at their highest concentration in the plumes at the Pollution Source and varying concentrations along the “jetstreams drifting” Flow Patterns driven by prevailing Meteorological conditions. SSHEG do not accept the “Authorities” assumption that PM2.5 concentrations being very Fine Particles that they disperse evenly throughout the Hunter Valley, apparently based on City Urban testing and understanding. A number of reference papers elaborate on this debate. Refer Attachment S10 Section 1.0 pages 58 – 59, A22 pages 157 – 184.

By year 2000 to 2002 Community awareness began to contact Government Departments and Ministers seeking Health Studies and Health Risk Assessments for Power Station Projects by Macquarie Generation, such as alternate Fuels, the Liddel Cofuels programme, and Hexavalent Chromium story emerging from the Erin Brockerwich Pollution based Movie.

The use of Hunter Valley Power Stations as High Temperature Incinerators for disposal of otherwise Polluted liquids and solids; unfit for recycling or containing Toxic substances, are unregulated and Stack Plumes Pollutants are Not Monitored, even on an irregular basis. The concept seems to be; add these burnt Toxic substances to the Toxic Fly Ash Particulates and Plume Gases and hope they can't be found!

“SSHEG contend that all Major Projects, especially Mining and Power Station Operations, both Existing and Proposed should be subject to Accumulative Health Studies and Health Risk Assessments in order to restore the balance between Employment and Financial Revenue on one hand, and Community Health on the other hand”.

Further, being involved in the Hunter River Salinity Trading Scheme since its inception, the Pollution of Farming Wells, Dams, Streams, Creeks and Rivers from Mining Operations is a major Community Concern.

“Authorities” now blame “Dirty Saline Spring Water” oozing out of the creek and River banks for the Polluted State of the Hunter River. Closer is the truth that upstream of the Coal Mining, the Hunter River is fine, but downstream of Mining such as at Singleton, Water Quality is degraded and not fit for body contact. (Attachment S16).

Just as Mining disturbed land has to be Rehabilitated, so should Mining Rehabilitate the Water Systems they have disturbed, perhaps by reinstating Aquifer pathways through the disturbed Land. Attachment S10 extract below is typical of the Water pollution Stories across the Coal Mining region, and now called “The NSW Rivers of Shame” by the community. (Attachment S16)

Attachment S10 A15 page 115 extract

..... A number of years previously Coal and Allied had been permitted to mine under Bowman's Creek about 8 kilometres upstream.

2

I was informed by a land holder upstream that the base of the creek had broken and the water was pouring direct into the underground mine.

It apparently was flowing through the tunnels picking up the heavy metals, then continuing down an aquifer, rising again as a spring approximately 2 kilometres down stream. This water then continued to flow down through the Ravensworth area and on through Ashton property and then into the Hunter River.

Water testing showed the water flowing into the mine was 300 ppm salinity and came out of the mine into the springs and aquifers at 1200 ppm (cut off salinity is 700 ppm for lucerne).

This water added contamination to the already contaminated river water due to the then SPCC (later EPA), which permitted two mines upstream to discharge 2 Megalitres a day each into the river.

Our river pump was approximately 300 metres down from the convergence of the creek and river, consequently we took the full brunt of the contamination of the river water.

By way of example **, Conflicts over a proposed Coal Mine at Bickham in the Upper Hunter Valley relate to water scarcity, supply and connectivity, with the uncertain Science of hydrological modeling, bolstered by the context of drought and increasing public acceptance of Climate Change Science.

****Watercourses and Discourses: Coalmining
in the Upper Hunter Valley, New South...**

Linda Connor; Nick Higginbotham; Sonia Freeman; Glenn Albrecht
Oceania; Mar 2008; 78, 1; Academic Research Library pg. 76

As a member of the Upper Hunter Air Quality Monitoring Network UHAQMN Planning Committee, the Community's view is contained in the SSHEG Response to DECCW comments in March 2011. (Attachment S17)

Further Government maneuvering to dodge the Health damaging Camberwell Village Issues, resulted in the SSHEG response to the Katestone Report entitled “ International Best Practice to prevent and/or minimize Particulate Emissions from Coal Mining”. (Attachment S19)

TOPIC 8 *Member Dr Neville Hodkinson PhD*

Fundamentally: The NSW Government was asked by SSHEG on 11th November 2009 to investigate:-

***“What in the Hunter Valley Environment is making our Residents;
and especially our children sick”?***

After meetings with the NSW Chief Health Officer and her Expert Advisory Committee, SSHEG were of the opinion in Oct 2011 that a concurrent Investigation using Particulate Real Time Monitors (PM10, PM2.5 & PM1) and the collection of Airborne Particulates on special Filter Media from these monitor sampling streams was needed to determine what substances were in the Air.

Our Atmosphere is a mixture of Air constituent Gases - O₂ - N₂ – Ar – water vapour - trace gases; Pollutants - Gases – Vapours - liquid droplets – Particulates - aerosols, Pollens, Spores, Fungi, and other Biological materials and Organisms.

The Time of Day Measurement variations of each component part of the Air is the mixture the Community breaths, and it is not unreasonable to expect the above constituent Measurements would form the level of detail knowledge needed to establish a definitive Air Composition Analysis, from which the Health Risk considerations may be evaluated.

The National Pollution Inventory identifies the Hunter Valley Major Pollutant Sources are Plume Gases and Diesel Exhaust Waste Gases from the Products of Combustion in Power Stations and Coal Mining Operations, with Particulate Matter the third dominant Pollutant.

When it comes to hour by hour Measurement of the Asthma Health Impact of Pollens, Spores, Fungi, Biological materials and Organisms in Australia, this has basically been ignored.

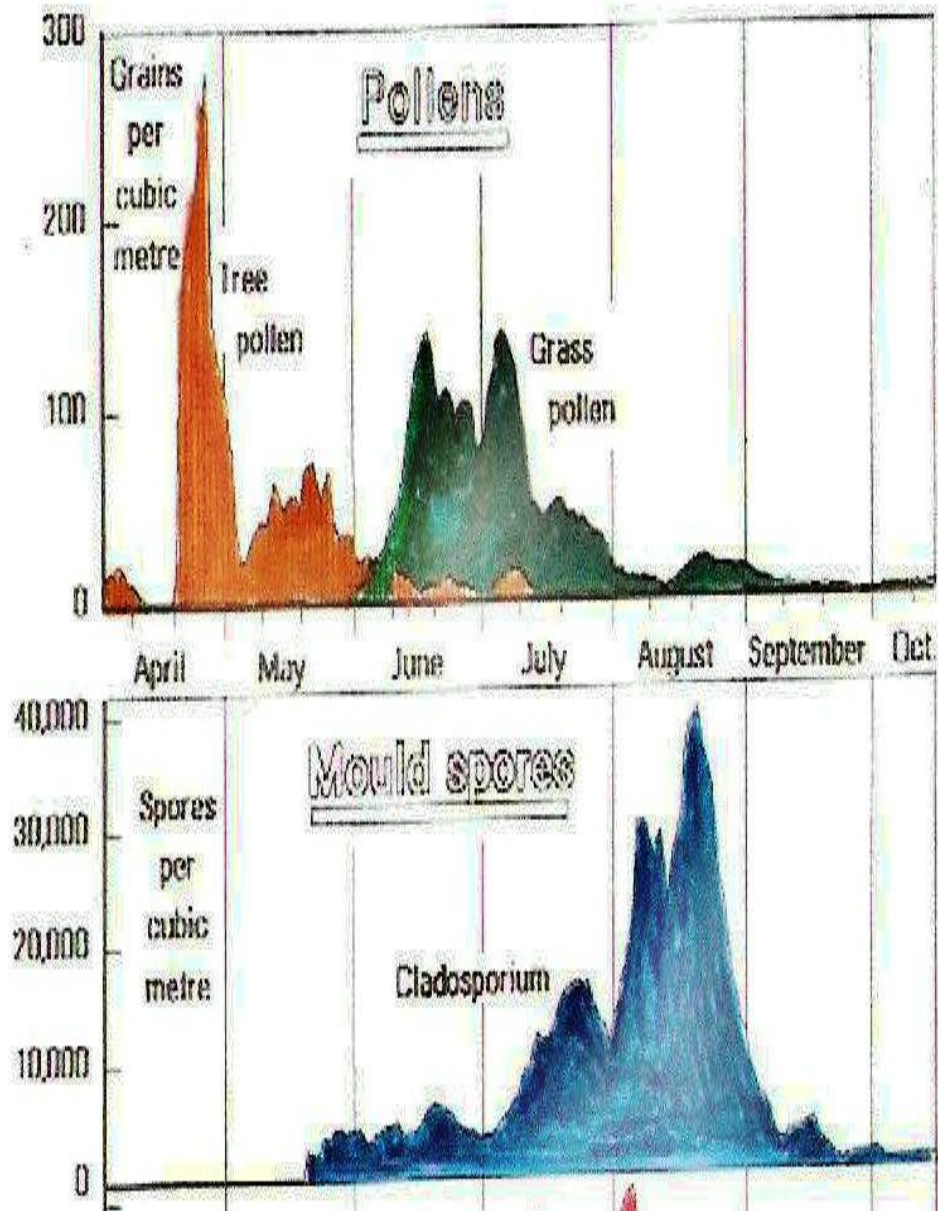
Perhaps only the Westmead Millennium Institute is equipped to comment. Certainly, they “have a growing database of Pollen and Mould counts including on NSW Central Coast where the aerobiological data is being used in conjunction with the Division of General Practice – based Asthma Study” (2003); including correlation with prevailing Meteorological conditions. New Zealand for example provide a Pollen Calendar, while Spain’s Allergy alert systems are far more elaborate.

All need to be continually remember that 50% of the Singleton Shire Community concern relates to Asthma, particularly in Children.

A Pollen calendar would identify the seasonal release, and this could be reinforced by Real Time measurement to dynamically capture the actual release time and concentration, which alter, for example, after rain periods.

Pollens, Spores Moulds, Fungi, etc., as typically wind pollinated types all become airborne, and when inhaled can cause allergic reactions to persons sensitive to certain types. Some Fresh Pollens burst on contact with water and spew out tiny one micron granules that are easily Inhaled.

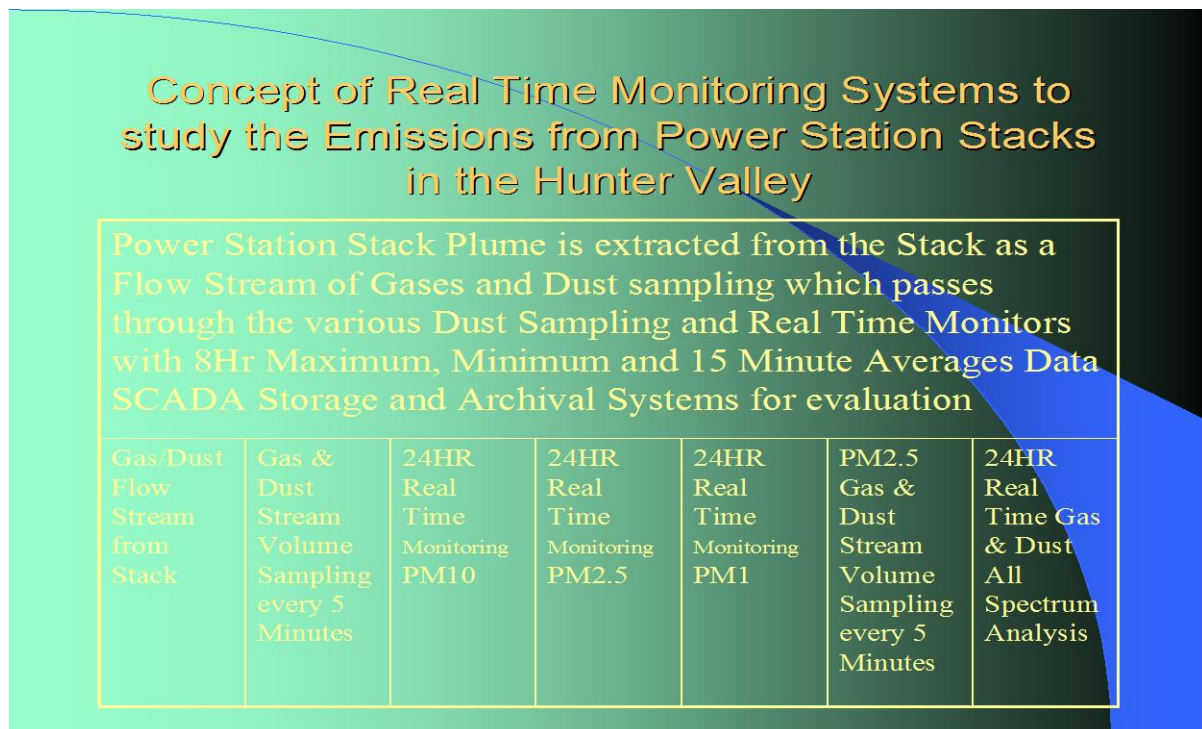
Simplified Pollen Calendar is Illustrated.



Seasonal Rhinitis and Asthma Dr H Morrow Brown 2011

Similarly, Power Station Stack Plumes at Liddel, Bayswater and Redbank are the largest single Pollution Emission Sources in the Hunter Valley, emitting Toxic Gases – SO₂, NO_x, and Particulates – Toxic Fly Ash – Arsenic – Mercury – Lead – Zinc – Cadmium -Dioxin ; however these Plumes have no Hour by Hour or 24 Hr Real Time Monitoring or Operator Alarming particularly at night.

A Monitoring Network should set up a regime at Bayswater, Liddell and Redbank Power Stations including Sample and Analysis of Plume Gases and Particulate Matter that discharges from the various Boiler and Pollution Control stacks to atmosphere, day and night in continuous Real Time, as illustrated below.



The Residents who have been forced by Government edicts to endure living beside Power Stations built without the Community Buffer Zones of the past, have their Health compromised, while Environmental Pollution Controls and Regulations seem solely focuses on protecting only the Communities in Major Towns such as Singleton and Muswellbrook.

The cumulative Impact makes matters worse; in addition to the three Power Stations operating within the Hunter Valley, an additional three Power Stations are on the coast to the East and two are located to the west, along with the Sydney Smog entering the Valley to the South, all influencing the Air Quality and Pollution Story within the Hunter Valley. Refer Attachment S10 Section 5.0 pages 23 – 37, Map2, Terrain 2 and Map 7.

“Only three Pollutants are continuously Monitored by Macquarie Energy in the Hunter Valley Power Stations using in line Instrumentation; Nitrogen Dioxide, Sulphur Dioxide, and Opacity”. The Power Station Environmental Protection Licence exposes the lack of accountability, where one annual sample determines the compliance. The rest of the time who knows what Pollution can be emitted !

The Listed Pollutants nominated against Sampling Points 1,2,3,4 rely upon “one sample Annually”, as illustrated below.

The Pollutants; Copper, Dioxin & Furans, Hazardous substances (Type I and Type II Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, or V), and Volatile Organic Compounds all relate to “one sample annually from a sampling point that, at the time the sample is taken, is monitoring emissions from one of the four boilers on the premises and, at the time the sample is taken boiler is co-fired with coal and the maximum quantity(s) of alternate fuels authorised by this licence“.

Air

POINTS 1,2,3,4

Pollutant	Units of measure	Frequency	Sampling Method
Chlorine	milligrams per cubic metre	Yearly	TM-7 & TM-8
Copper	milligrams per cubic metre	Special Frequency 1	TM-12, TM-13 & TM-14
Dioxins & Furans	nanograms per cubic metre	Special Frequency 1	TM-18
Dry gas density	kilograms per cubic metre	Yearly	TM-23
Hazardous substances	milligrams per cubic metre	Special Frequency 1	TM-12, TM-13 & TM-14
Hydrogen chloride	milligrams per cubic metre	Yearly	TM-7 & TM-8
Moisture content	percent	Yearly	TM-22
Molecular weight of stack gases	grams per gram mole	Yearly	TM-23
Nitrogen Oxides	milligrams per cubic metre	Continuous	CEM-2
Solid Particles	milligrams per cubic metre	Yearly	TM-15
Sulfuric acid mist and sulfur trioxide (as SO ₃)	milligrams per cubic metre	Yearly	TM-3
Sulphur dioxide	milligrams per cubic metre	Continuous	CEM-2
Temperature	degrees Celsius	Yearly	TM-2
Total Fluoride	milligrams per cubic metre	Yearly	TM-9
Velocity	metres per second	Yearly	TM-2
Volatile organic compounds	milligrams per cubic metre	Special Frequency 1	TM-34
Volumetric flowrate	cubic metres per second	Yearly	TM-2

POINT 7

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen dioxide	milligrams per cubic metre	Continuous	In line instrumentation
Opacity	percent Opacity	Continuous	In line instrumentation
Sulphur dioxide	milligrams per cubic metre	Continuous	In line instrumentation

NOTE:

- ☐ Hazardous Substances mean: Type I and Type II substances (Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, or V).
- ☐ Special Frequency 1 means: one sample annually from a sampling point that, at the time the sample is taken, is monitoring emissions from one of the four boilers on the premises and, at the time the sample is taken boiler is co-fired with coal and the maximum quantity(s) of alternative fuels authorised by this licence.

Power Station Environment Protection Licence

The Community expects greater Pollution Emission Transparency !

- A. The SSHEG Presentation to the Singleton Public Meeting in November 2010 posed the key Pollution Questions for the “ EPA and Health Departments”:- (*Attachment S12*)**

What do we expect of the Expert Advisory Panel ?

Hunter Valley Polluted to Capacity ?

What has been Overlooked by the Authorities ?

Whats Special about Combustion ?

Can the Expert Panel Fix This ?

Health Synergy – Cigarettes versus Air Pollution.

- B. By March 2011 SSHEG summarized the various Community Issues in a Media Release entitled :-**

**“SSHEG promotes Government Environmental Health Changes”
March 2011 (*Attachment S13 B,C & D*)**

- 1. Primary Community Health Issues promoted by SSHEG.**
- 2. Reinstatement of the Healthy Hunter Valley Environment Balance.**
- 3. SSHEG suggested Pollution Remedial Mitigation.**
- 4. Government Mining Regulations Compliance and Enforcement Amendments.**
- 5. Specific Mining Compliance Enforcement Standards and Penalty Regime requiring Change.**

- C. By August 2011 SSHEG Targets Exposure Intensity, Toxicity& Health Risk.**

- 1. What does the Community expect to be studied ?**
- 2. What “Areas” of the Hunter Valley relate Disease to Pollution ?**
- 3. How best to measure Gaseous and Particulate Toxicity Disease Triggers ?**

- D. August 2011 SSHEG investigates Mining Dust Storms in the Hunter Valley.**

- 1. “Near Neighbour” Dust Intensity measured at 500ug/m3 for 40 minutes.**

SSHEG in September and December 2012 sought clarification of the details of the Speciation Testing underway in Singleton and Muswellbrook, specifically with respect to the Asthma Agents - Pollens, Spores, Moulds, etc; as they represent 50% of the Community Health concerns. (Attachment 14 - Letter 8th March 2011 & 8th dec 2012 and Dr Chant reply 19th Feb 2013).

After three years of Investigation, EAC Review and Debate, the weight of Best Medical Opinion is as follows:

(extracts from Attachment S14)

- 1. “With regard the feasibility of conducting a study to assess the relationship between Mining and Health; The Chief Health Officer’s Expert Advisory Committee (NSW - EAC) which includes Internationally renowned Epidemiologists concluded that, even when the Air Pollutants under investigation are known to cause illness, a Health Study in NSW was unlikely to show a statistically significant Health effect because the impacted Population is too small”.**
- 2. “Instead, given that the Health effects of Mine-associated Air pollution are well understood, a better approach is to improve our knowledge of the Sources and distribution of Air Pollution in Mining Regions. This knowledge will support the development of effective management strategies to protect the Health of the Community”.**

The Community is no longer willing to accept that nothing can be done to get to the bottom of the Pollution impacts on Human Health when all the pointers are that;

“Pollutants are known from Coal related Industries”;

“Health effects apparently are well understood”;

***and yet the “ Medical Establishment” would have us believe –
no Health Studies will show the connection.***

Its ironic that in the State of New South Wales the effect of population growth and unregulated industrialisation caused disquiet among many, but the change occurred in Newcastle by a group troubled by the soiling of goods in shops and the need to keep windows shut to exclude smoke, mainly from black coal burning in industry. That was 1947.

Going back in time, there was limited support from the Colonial Parliament to try to curb polluters, although in 1866 “Act to abate the Nuisance arising from

the Smoke of Furnaces”, then the NSW Public Health Act 1902, together with the 1906 and 1919 Local Government Act all had provisions for the regulation of gas, dust and smoke.

Newcastle’s air pollution worsened markedly after the opening of BHP Steelworks in 1915, as “smoke hangs over the city and suburbs like a pall”.

Newcastle’s concern over the physical and psychological health of residents, physical damage to buildings led to the Greater Newcastle Council to establish a Smoke Advisory Panel in 1947. The Council collected insoluble solids and in the first year of monitoring in 1951, the smoke Advisory Panel recorded a fallout of 87.5 tons per square mile per month; and by 1971 with overseas scientific help this reduced to 14.4 tons per square mile per month, with smoke density reduced by half.

These Newcastle initiatives and the London Smog of December 1952 where thousands of people died from the heavy air pollution, finally inspired the NSW Government to form the Sydney Smoke Abatement Committee in 1955, and then the NSW Clean Air Act of 1961 administered by the NSW Department of Health.

Power Station Plume Studies after the commissioning of the Bayswater Power Station in 1985 focused on the Hunter Valley Air Pollution impact, particularly Lead, Mercury and Fly Ash from the Black Coal firing of around 7.5 million tonnes each year. Emission Stacks are 248 metres high and 12 metres diameter at the top, located 16 Km from Muswellbrook and 17 Km from Singleton.

Numerous ANSTO Aerosol Data Sets are available with particular Hunter Valley studies in Mayfield (1998-2009), Muswellbrook (2001-2011), and Singleton and Grenville ACARP (2007).

Armed with this Legacy and Environmental knowledge why then has NSW Health been unable to have its voice heard in decision making ?

For Sixty years the NSW Communities have entrusted the NSW Department of Health with the responsibility to protect their Health.

But we are aware the current 2012 adage is:- *”We only protect 90% of the People 90% of the Time”*. It appears that the “NSW Clean Air Act” is no longer administered by the NSW Department of Health to protect the Community.

SSHEG consider that “Averaging” is the “Key Issue” used by those who should know better, disguising “Dangerous to Health Environmental Pollution” from being recognized and thus eliminated.

The long road for recognition that Passive Cigarette Smoking is a Health Hazard is now being overtaken by a far greater Population Health Risk by the Failure of Governments to Act on Air Pollution Hazards.

Historically, Human Health effects in Industrialised Topographical Valley locations have been reported as early as 1948 in the Science and Technology Journal;

“In Donora, Pennsylvania, a stable layer of air that persisted from October 26 to October 31, in 1948 affected about 6,000 out of the population of 14,000. Symptoms included coughs, eye irritation, nausea and diarrhea.

Of the 20 persons who died during the period (elderly and those with history of Lung and Cardiac diseases) 17 died on 29th October.”

Donora experienced Pollutants accumulating for 3 Days leading up to 29th October 1948 when the majority of deaths occurred:-

Five Days accumulating Pollutants in the Valley in stagnant air

40 % of the Population were Health affected; as 6000 in 14000

After 3 days 17 deaths occur or 1.2 deaths per 1000

800 animals died with 15 % of dogs dying.



Eisenstaedt/Time & Life Pictures/Getty Images

The mill town of Donora, Pa., seen Jan. 1, 1948. On Oct. 27 of that year, a smoky, lethal smog killed 20 people. The air was polluted by local steel plants, railroad yards and zinc works.

Is the Hunter Valley heading for the same situation ?

Topic 9 “Authorities” and Mining in Damage Control 2010 – 2013.

- (1) NSW Health Officer and Expert Panel study from 2010 with only Major Towns Study expected earliest June 2013.**
- (2) Three NSW Department. of Planning Compliance Officers at Singleton in 2010. We note periods of Air Quality improvement since.**
- (3) Upper Hunter Air Quality Monitoring Network ** now operates at 14 Sites since January 2012. Pollution Telephone SMS Public Messaging NBG.**
- (4) Government response are outlined in *Attachment S20*.**
- (5) Katestone International Best Practice
Guidelines for Mining Feb 2011.**
- (6) Audits reports**
- (7) Noise Measurement Audit Bulga 2012**

****UHAQMN operated through 2012 displaying 1Hr Average Values with Phone SMS Alert Messaging when above 50ug/m3, however when the winter months appeared and the Air Pollution levels rose, and apparently under political pressure this was altered, as was the Web displays to 24Hr running averages with alert messaging at midnight.**

Once the UHAQMN identified and confirmed Dr Au's Community connection between Air Pollution Dust Levels and Sickness by the excessive PM10 I Hour Average readings, it had done its job but was too embarrassing for the "Authorities" to deal with.

We ask the question “If the Health effects of Mine-associated Air Pollution are well understood, where are the Health Guidelines and Limits of exposure for individual Pollutants that are safe for Residents to go about their daily affairs, on their Torrens Title Land without restrictions?”

Such Limits of Exposure can then be scrutinized and tested to confirm they will not make our Children or our Residents to require Medication, Hospital visits, or become ill.

LIST OF SENATE SUBMISSION ATTACHMENTS ** Text added after this page.

- S1** SSHEG Community Health concerns dated 4th May 2010.**
- S2 Singleton Shire Healthy Environment Group identifies 37 Pollutants*
Submission to NSW Government 11th Nov 2009.**
- S3** SSHEG Historians Submissions and Representations 1992 – 2011.**
- S4 SSHEG Community Health Survey 2008-2009.**
- S5 Dr Au School Children Testing findings.**
- S6 NSW Health Minister ABC 4 Corners Interview March 2010.**
- S7 Mine Blast Plume Gassing Lung Damage
Risk of delayed Fluid Flooding Fatalities.**
- S8** Personal Testimonials of Sickness and Family Health Stories 2009.**
- S9 Dairy Farmer Family Health Testimonial.**
- S10** Second SSHEG Submission to NSW Health Nov 2010 (Attmt A15 **)
detailing Pollutants Toxicity, Drifting Patterns, and Combustion.**
- S11 Annual Roof Guttering cleaning “Rosedale Homestead” Camberwell
Mud Samples Chemical Analysis 2012.**
- S12 SSHEG Nov 2010 Presentation to Singleton Public Meeting.**
- S13 SSHEG promotes Government Environmental Health Changes”
March 2011**
- S14 SSHEG Correspondance seeking clarification on Asthma Speciation
Letter 8th dec 2012 and Dr Chant reply 19th Feb 2013.**
- S15 Compendum of Upper Hunter Ambient Air Quality Monitoring Data.**
- S16 NSW Rivers of Shame & Hunter River water quality unfit for contact.**
- S17 SSHEG Response to DECCW re UHAQMN March 2011**
- S18 SSHEG Submission Outline Presentation
of Community Health Concerns.**
- S19 SSHEG Response to Katestone International Best Practice Feb 2011**
- S20** NSW Government Response to SSHEG Community Submission**
- S21 WHO Newly found Health effects of Air Pollution Jan 2013**
- S22 Effect of Pollution on Asthma, Spain 2007**



SINGLETON SHIRE

Chief Health Officer for NSW
Dr. Kerry Chant

4th May 2010

Dear Dr. Chant

As requested by you at the meeting of the 30th of March we forward the following to inform you and the Health Department of our specific concerns, knowledge and requests.

There is a community feeling that there is a direct relationship between the health, well being and quality of life of our Community and the various sources of pollutants, particulate matter, gases and aerosols from industry. The issue is further compounded by the synergistic reaction of pollutants and our own specific natural environment, topography and weather. We acknowledge the natural pollutants such as bushfires, wood smoke and pollens can exasperate certain medical conditions.

There has been a focus on dust particulates but we feel what has been overlooked by authorities is the need for a holistic approach to our issues which focuses upon Air Quality, Water Quality, Food Quality and Health Services Support. Without a holistic approach to the impacts on our environment, resident's health will continue to be severely exasperated by the lack of appropriate measures to mitigate the daily impacts this community faces from various sources.

You have indicated that you would not limit your investigation to the five diseases you mentioned at the meeting. We offer the following list of community concerns raised with us; it is not in any specific order of priority.

- Asthma
- Breathing difficulties.
- Sinus
- Hay fever like symptoms

- Sneezing
- Itchy and Burning eyes
- Ear aches and ear problems
- Unexplained coughing or “Camberwell Cough”
- Irritable tickles of the throat
- People complain of mysterious illnesses, of headache and tiredness, of lethargy, aches and pains and headiness and fuzziness at times or just unwell or just lousy.
- Cancers and in particular higher incidents of Pancreatic, Bowel, Liver and Kidney.
- Non Hodgkin’s Lymphoma
- Leukaemia
- Incidents of childhood cancers and those of younger men and women.
- Brain tumours and other types of tumours.
- Thyroid
- Chronic Fatigue
- Fibra Myalgia, Poly Myalgia and Poly Myalgia Rheumatica
- Lupus
- Incidents of Autism and birth defects
- Behavioural problems and learning difficulties.
- Children who have symptoms of disorders but cannot be specifically diagnosed.
- Benign Brain Tumours
- Fatigue
- Depression
- Vascular Problems
- Small Birth Weight and Congenital Birth Defects as per Midwife Data Collection
- Motor Neurone disease
- Other unusual syndromes such as Klippel-Trenaunay Syndrome and Gardner Diamonds Syndrome.

Sufferers of the above diseases and disorders are known to us. Individual testimony can be obtained if requested. Some personal testimony is attached at the end of this document for your perusal.

At the meeting, you also asked us what our expectations, the following is a comprehensive list that would give assurances to community and go some way to satisfying their demands for action

We would want;

- An assurance that the Expert Panel reads and responds to our five listed demands as indicated in the submission on pages 4 and 5.
- The Expert Panel expanded to incorporate other departments and expertise needed to address the issues raised in our Submission.
- The Singleton Shire Healthy Environment Group, be given the opportunity to meet with Expert Panel prior to the commencement of their investigations.

- The Expert Panel to comment on the health impacts of rapid and concentrated exposure. e.g. Incident exposure.
- The Expert Panel to comment on the health impacts on short [2year], medium [5years] and long term [15year plus] exposure living in our community.
- The Expert Panel to comment on and clarify the exposure pathways for the residents and examine the risks of the various pathways and particularly the risk of bio accumulation in the body from exposure through soils, water and atmosphere.
- The Expert Panel to investigate the impact of frequent severe temperature inversions which traps the air pollutants.
- The Expert Panel to comment on the work and conclusions of Professor Nelson et al; 2008 as referenced in our submission.
- The Experts Panel's response to how health issues can be adequately dealt with and incorporated in Health Risks Assessments in the Approval and Planning process.
- The opportunity to review the findings in draft form before they are released by the Expert Panel.
- The Expert Panel's opinion on current mining practices associated with Bio Solid and OGM spreading, blasting and dust suppression as they apply to health impacts. The expert panel may be able to provide mitigation Protocols to limit the blasting practices of mines that allow Flame, Gases and Particulate Matter to spew into the atmosphere as a dangerous plume, relying upon dissipation in the air to mitigate the risk.
- The Expert Panel's opinion on current power station practices and emissions as they apply to health impacts.
- To offer as part of the solution a change in mining practices to increase the rate of rehabilitation and the reduction of exposed land. What would the Expert Panel's opinion of this be in the relation to improving health outcomes.

In relation to the Monitors and in the light that the DECCW Monitoring Network has previously received comments and suggestions from the community, we feel that information along with the following comments should come before the Expert Panel for deliberation.

On behalf of the Community, the Singleton Shire Healthy Environment Group insists that this Health Study be based upon PM2.5 Monitoring together with monitoring for other air toxins. We have the opinion that at the very minimum the monitoring of Mercury, Lead,

Chromium, VOCs, PAHs and Dioxins should be implemented after which the program should be expanded to include other environmental pollutants confirmed as being present including those reported in the National Pollution Index.

The Monitoring Network should set up a regime at Bayswater, Liddell and Rebank Power Stations and sample and analyse Gases and Particulate Matter that discharges from the various stacks to atmosphere, day and night in continuous Real Time. The monitoring must be long enough to capture all events and not be selective. It should be 24 hour monitoring and not averaged.

To assist with the investigation we have identified some patterns of “Fumes” as concentrated exposures in the following locations where repeated environmental incidents occur as prevailing winds or drifting Plumes exist, namely and not limited to; Camberwell Village, Glendonbrook, Goorangoola, Jerrys Plains, Maison Dieu, Singleton and Westbrook. “Near Neighbours” close to mines and power stations stack emissions require a specific Health Zone classification especially with regards to Children. Further we have knowledge of concentrated exposure West of Aberdeen at Rose Gale Plateau and on the rise west of Bunnan in the Upper Hunter Shire.

With regard to Singleton Shire Healthy Environment Study, Air Quality Monitoring and Analysis we highlight that;

- Our collective approaches to Authorities by way of personal approached, written complaints, written submissions etc over the last 20 or so years detail many of the evolving concerns.
- A previous Community response was given initially as feedback to public meetings regarding Dust Monitors. (refer DECCW files)
- A further written response to Terms of Reference regarding proposed Dust Monitors was provided.
- Our comments relating to the type of investigation envisaged are contained throughout our Submission Document Dated 11th November 2010.
- Our comments relating to the type of monitoring and analysis equipment is limited to the duration of testing being sufficient to locate the zones or localities where residents do experience health impacts.
- Our comments relating to the location for investigations of community concerns are listed based on concentrated exposure, short, medium and long term environmental exposure Health factors; many of which have been reported to the Authorities over recent years.
- Our comments relating to power stations focus on determining the composition of gases and particulate matter that discharges from the various stacks to atmosphere, day and night, in continuous real time.
- Our comments relating to mines focus firstly on blasting practices that allow flame, gases and particulate matter to spew into the atmosphere as a dangerous plume in an uncontrolled manner, relying upon dissipation in the air to mitigate the risk.
- Our comments relating to mine operations focus secondly on waste disposal, rehabilitation, and dust.

We draw your attention to various ACARP Reports; The Hidden Cost of Electricity Report, John Court's Report done for DUAP on the Macquarie Generation Co Fuel Program and others outlined in The Singleton Shire Healthy Environment Group submission and highlight the numerous overseas investigations one of which is detailed in our Submission on pages 15 and 16 regarding 60 different Hazardous Pollutants being identified in a Coal Fired Plant in USA.

In conclusion, Dr Chant, we are mindful the requests and demands that have been outlined will come as a shock to some but feel they are justified. Our Community is carrying an unfair burden for the rest of the State and Nation. That burden is contrary to our Human Rights. The Health Study must be independent and rigorous. It is ultimately the Government's responsibility for our environmental health impacts and it only the government who can fix them. We respectfully request that you do all in your power to progress this matter and keep us advised on the process and outcomes and of course we will continue to progress our aims and objectives. We do appreciate your attention to this matter and will readily assist you in anyway we can.

Respectfully yours,

The Singleton Shire Healthy Environment Group on behalf of the Singleton Shire Community

The Committee
Dr. Tuan Au
Wendy Bowman
Dr. John Drinan
Nicole Dunn
Di Gee
Dr. Neville Hodgkinson
Lyn MacBain
Deidre Olofsson
Carol Russell

****Personal Testimony**

I would like to have included in the study, rare benign tumours as they do not get counted in any registry. They have to be treated as if one has cancer, that is surgery and radiation as in my case , all very distressing , I was fit and healthy I played five sports a week before I was diagnosed and I have lived in Singleton for over 50 years . I personally know of three people who have been treated with rare benign brain tumours in Singleton and to me if they are so rare the numbers don't add up for a town our size.

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As a resident of singleton with concerns regarding air pollution in the Muswellbrook/Singleton areas, I felt it necessary to tell my own story hopefully to persuade you and your colleagues to look closely at what's happening to our health in this region. In March 1997 I moved from Sydney to Singleton Shire. Over this time I have noticed a great deterioration in air quality. In parallel to this I have experienced a worsening of my health and quality of life. As a sufferer of chronic sinus and the mother of two young boys ages eight and ten who are asthma sufferers this worries me greatly. There are no studies to show it but I am certain my health is better when away from home. Within a day or so of leaving I gradually improve often not needing the medicines which I rely heavily upon. The headaches and sinus symptoms I experience are becoming more frequent and I really feel we will be unable to continue to live in Singleton if coal mining is doubled as predicted in the next five years. My husband is sixth generation Singletonian and loves his home as do we. Our business, family and friends are all here. I know of other families who have left the area because of chronic ill health mainly due to respiratory problems. One family who comes to mind have seen big improvements in their health since leaving Singleton. I realise that there are invariably multiple factors which contribute to the picture presented coal dust, blasting chemicals, diesel fumes, power station emissions, agricultural sprays to name a few. As such I feel it is imperative for a detailed ongoing analysis of our air components to let us know if our kids are being subjected to a toxic cocktail. Many people talk of the high cancer rates here but the question is at present another unknown. I sincerely hope you are able to help the people of Singleton find the answers we deserve.

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My husband's family have been here in Singleton and the Hunter Valley since the mid 1820s I have made this place my home since we were married. I did not have breathing problems before coming here nor did I have any problems living in Cessnock for twelve months. It has worsened over the past twenty odd years and is more intense over the last ten and further again the last five years or so.

It is made worse by pollutants, temperature inversions and wind. Singleton has unique topography which creates temperature inversions about 70% of the year. According to a Health Department's brochure I am to stay indoors and perhaps run the air conditioner; I cannot live my life like that nor can I afford to run an air conditioner. I find it ironic that the coal and power industries who I believe in the main are contributing greatly to my condition would benefit by my running an air conditioner.

There is no part of my home and life where particulates and dust do not invade and everyone in Singleton has the similar problems. I believe that the expansion of industry is

affecting our health and this will not improve until Government regulates for better controls on the cumulative effects of all industries. I believe we have one of the highest proportion of diesel fuelled vehicles, machinery and train movements concentrated here adding to the mix.

More recently I am experiencing early morning coughing and more sporadic coughing during the day. I am using a preventative measures to help my asthma. I have more than enough days with burning eyes more near the tear ducts and believe that over the last month this is worsening with many others commenting on their eyes "burning". I believe the coughing is exasperating a bladder problem. I have twice had turns where a chemical like smell has rendered me almost unconscious and to this day no answer has been found about the source. At times there is a metallic taste to the air and many days the air has a distinct odour. Many times there is an odour of coal tar. As soon as the weather cools my health and well being deteriorates. I do not run to the Doctors every time I feel unwell as I feel I would be there a majority of days during the year and simply can not afford it. I have a daughter diagnosed with heart Arrhythmia and she suffers Vasovagal episodes. Air quality does have an affect her and like me if she leaves the area within a short time she feels better but worsens on her return. No one would believe me if I'd tell them I feel better in Sydney.

I have five grand children who live in this town; the three older all suffered problems when younger

The amount of problems seems to have been extraordinarily bad luck for my daughter and son in law because there were no answers for them. The youngest who is eight has sensory problems and symptoms of many disorders. We are told he has a unique set of problems to which no one can give a specific diagnosis. To me there are many children around his age who have problems.

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My husband and I have five [5] children born between 1993 to 1999, of which three [3] of my children [names of kids] have asthma related problems. Our worst is my 12 yr old [name] whose health constantly changes every day from ok to really bad which extends to doctors visit or hospitalization. She often asks if she will get any better

My children have been hospitalised for weeks and my youngest was sick for 3 months going to the doctors twice a week because the antibiotics were doing nothing for him .I had to rush him to hospital 4 times within those 3months because he would have a reaction to what ever was in the air he was breathing; it scared the living day lights out of me as it would you when you 4 year old happily puts himself to bed only to be wake up to be rushed to hospital because he could not breath and his body was so limp before doctors said he had Asthma .

My daughter goes to the specialist every 2 months changing her medication and still this doesn' t seem to be helping her. She had trips to the John Hunter for numerous tests and yet to be told they cannot do much to help but maybe we can move; this is not an option for us unless some one buys our business. Then we live on generational owned land; why should we move because of these problems that we feel were not there years ago. We decided to bring our children up in a health environment that we feel doesn' t exist any

more. What is going to be done?

We have a 45 minute drive to town where all my children go to school.

We have lived in the same house on the same property for the last 15 years and to us the only thing that has change is the bigger mining and power industries getting closer and spreading out more in the valley.

The other week I was told not to drink my tank water because of the pollutants in our air falling on our roof .We don' t have access to town water.

Are these changes why some of my children are so sick? Sitting up nights ringing hospitals travelling in and having my 12 year old say to me why can' t I live like everyone else. Why should my children have these problems and they were not born with these respiratory problems. At times when their asthma stirs up they also end up with infections or pneumonia I feel that this all has to do with the industries getting bigger.

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I would like to raise the inhabitable coal dust on residents living close to mining, which are not covered by OH&S act and the cost on the taxpayer Monitoring done by mining should be zoned to dust collection and results recorded daily, by an independent authority.

Monitoring should be located according to weather conditions and location of waterways.

Trains carriages should be covered and engines checked for emissions, monitors located along rail lines in populated areas

Health risk assessments done for each mining exploration proposal in the future

Health risk assessments on applications pending approval and ultimately population health comes before mining.

Fatigue and depression related illness.

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SSHEG Historians submissions and Community representations

Timeline of some of the Actions

- 1992 CR starts personal request to Trevor Henderson form EPA at Redbank site and letter to the EPA(October 2000) formally requesting that they require PM2.5 monitoring of the development.
- 1995 LM starts personal contact raised health concerns with Health Department.
- 1997 Macquarie Generation Burns Alternate Fuels. Issues raised with planning and health.
- 1998 June after a public out cry and meeting about the burning of alternate fuels a Macquarie Generation Community Consultative Committee was set up. Carol Russell, Lyn MacBain & Tony Laffin nominated and accepted as community representatives.
- 2000 July Submission on Theiss landfill asked for a health Risk assessment and pointed out Government duty of care.
- 2000 July Submission by community group 'Dump the Dump' raised issues on existing health impacts.
- 2000 July Nicole Gough submission on landfill (31/7/00) also raised issues of health of the Hunter Valley and asked for a study.
- 2000 August delegation visit to Dr Refshauge Minister for Planning. Health concerns addressed in that meeting.
- 2000 August 14, Addressed Singleton Council Raised health Issues.
- 2000 August Submission to Singleton Council
- 2001 April Attended the National Dioxin Program Workshop in Sydney. Raised the issue of Liddel co-fuel programme and the effects on the health of the Hunter community.
- 2001 May Submission to the NEPM Review on PM2.5 Particle Standards in which the absence of health study and failure of government duty of care was addressed. Submission against the Sodium Chlorate Plant (can't find date; 2002/3 or a bit earlier) also raised issues of lack of health study and the additional cumulative impacts. Environmental justice and duty of care also raised in that submission.
- 2001 May 27th, Submission DUAP Sterling Manufacturing –Health Issues raised
- 2001 December, Meeting with Refshauge, promised Health Study. Letters on behalf of a number of community residents who met informally at a private home to Dept. Health through Kerry Hickey
- 2002 March 11th, letter to Kerry Hickey from group requesting a health study for Singleton.
- 2002 October 1st to Kerry Hickey in reply to Bob Debus' response comforting us with Action for Air policy
- 2002 May 22nd Letter to Sam Haddad formal request for Health Study as a state development issue
- 2002 Addressed Mines Related Councils and got support for community desire for a health study.
- 2002 February, objection to the burning of the Oyster stakes at Liddell, letters to DUAP and the EPA (Jan 2002 26th to the Regional Director).
- 2002 15th February Letter asking Eddie Obeid as Minister of Fisheries to contribute to the cost of a Health Study for the Hunter since it was his Oyster stakes that were polluting our atmosphere.

- 2002 April 26th Letter to Sam Haddad asking for an EIS and Health Risk Assessment for the Macquarie Generation co-fuel programme.
Court Report on the Mac Gen co-fuel programme (?date round about 2000 or perhaps as late as 2002) recommended “a health risk assessment for metals in the environment and in particular cumulative impacts of hexavalent chromium should be undertaken to confirm that community exposure is acceptable.”
- 2002 May, Addressed Singleton Council, re Mac Gen burning alternate fuels.
- 2002 September Sacked from Mac Gen Community Committee. No responses to why only excuse that a Buffer Zone committee was to be formed NOTHING has ever been built on the Buffer Zone. It was a way to get rid of the questioning community.
- Late 2002, Glenn Albrecht makes radio appearances on Upper Hunter ABC radio talking about the impact of mining on Upper Hunter residents and environment,
- 2003 February, Hunter Valley residents contact Glenn Albrecht to speak of their distress in the face of continued expansion of mining in their area.
- 2003 April, Glenn Albrecht works on the idea of “place-algia” in which one’s home becomes a source of distress rather than comfort, building on the concept of ‘nostalgia’, the sickness caused by yearning for one’s home while absent from it.
- 2003 February, Objection to the Warkworth Mining extension. Asked for health Risk assessment and discussed issues of environmental justice, government duty of care and the synergistic effects of dust and multiple pollutants
- 2003 20th Feb, Letter to DG requesting inclusion of Health Risk assessment in the DGRs for Specialty Coal at Glendonbrook
- 2003 February, Submission on Planning Process. Health issue assessment raised.
- 2003 February, Submission against Redbank II power station again requested a health risk assessment and pointed out the government’s duty of care.
- 2003 March, Address Trades Hall Council, Muswellbrook.
- 2003 May, Glenn Albrecht, Nick Higginbotham from University of Newcastle start study in the Upper Hunter.
- 2003 August, Application for grant for a Environmental Justice Centre for the Upper Hunter.
- 2003 September a number of Singleton residents Participated in the EPA CAPER Air Quality Workshop at Maitland (Clean Air Plant and Equipment Review of the 1997 Regulations) at which health study was one of our priorities. This was reflected in the official notes of the sessions.
- 2004 July Addressed Mt Owen commission of enquiry on health impacts of mining operations and need for regional monitoring. Presented a written copy of the address.
- 2004 September, Mine Watch addresses Minerals Council Environmental Workshop.
- 2005, Glen Albrecht Paper and findings released supporting concerns raised.
- 2005 May Participated in conference Environmental Health in the Hunter 2005 Dr. Craig Dalton.
- 2006 August Submission Mount Owen.
- 2008 November Public Meeting called.
- 2008 October. Submission Wambo; Health issues raised.
- 2008 October, Singleton Healthy Environment Group is formed by Public demand. Starts correlating data.
- 2009 March Asked for PM2.5 dust Monitor for Singleton
- 2009 February letter to Lisa Corbyn requesting dust monitor
- 2009 April submission for SCHEG to Human Rights Consultation (This was the day of a very bad dust event)
Email same day to DEECW
Email to Dr John Wiggers HNE Dept Health

- 2009 August, Addressed Mines Related Councils Narrabri reaffirmed support for a Health Risk assessment/study.
- 2009 October 2nd on behalf of SSHEG emailed David Kitto requesting a health risk assessment as part of the DGRs for the Warkworth Mine extension.
- 2009 October 26th, Submission against Bayswater B, asked for health study. Pointed out that both Singleton Council and Muswellbrook council requested a health assessment as part of the EIS for Bayswater B.
- 2009 November 10th Participated in Radio National Programme 'Future of Coal' raised Health Issues.
- 2009 November Public Meeting Submission presented to meeting with mandate given to proceed to government bodies.
- 2009 November, Letters to David Kitto, Sam Haddad, Minister of Planning Keneally, Hon. George Souris, Minister for the Hunter Jody McKay, Premier Nathan Rees Why was the Singleton Community not receiving the same level of 'Duty of Care' as the Wyong Community as a Health Risk Assessment had been required by the Director General's requirements for Wallarah Underground mine and not a requirement for Bayswater B power Station. No replies to date.
- 2009 November 18th Public meeting re; Air quality monitors, DECC handed a submission of Community Expectations.
- 2010 February 15th submission against Abbey Green Pit noted absence of health assessment and argued government duty of care to rectify.
 Contact George Souris re no response to submission.
 Contacted Media 'friends' re no response to our submission.
 Assisted in supplying contacts and background information for Four Corners Report
 Continued to raise Health Issues in relation to SSHEG Submission. With SSHEH
 Attended meeting with Jodie McKay
 Attended Meeting with Lee Rhiannon. Spoke at public Meeting.
 Attended meeting with Kerry Chant and Officers of Health Dept and SSHEG members.
 Sought information about exceedences from DECCW.
 May 25th Left on DECCW Website in respect to Why the Upper Hunter Air Quality Data is not available for residents as is for Lower Hunter and other areas in the State

Over the years there have been probably hundreds of calls to DECC & Planning

****Attachment 15 extract from Attachment S10 - 2010 Report re Camberwell**

Submission to Senate Select Committee on Agriculture 1997
Story of how the Farmer's property and livelihood was "Stolen"

My story is only one of many in the mid-Hunter Valley.

My Husband died in 1984 aged 51 years, I found myself embroiled in things that I had never dealt with before.

Firstly Energy Australia decided to put a double 35KVA line right across the property. The negotiations took a while, trying to make them understand that we did not want poles and wires near any house or in our farm land.

"Ashton" was a beautiful property possibly the best watered in our area.

The North and West boundaries were Bowman's Creek with the associated alluviums, Bowmans Creek had never dried up during droughts, irrigation was always possible from four holes due to the incredible aquifers underlying the Valley.

The southern boundary was the Hunter River with the associated black soils and Glennies Creek was our eastern boundary again, alluviums.

There had been five dairies on the property from the 1920's worked by five share farmer families.

There were also two maintenance men employed.

Gradually over the years these dairies were combined into one large dairy and run in conjunction with beef cattle and hay production.

In 1986, I discovered an open cut mine had been granted consent to mine on the western boundary, no buffer zone was included in the consent.

From the commencement of mining in about 1988 the whole property was constantly engulfed in dust, both from blasting and drag lines working 24 hours a day.

1

The noise from these operations kept the farmers awake at night as well as the large spotlight on the dragline swinging to and fro across the property.

Living there became a nightmare.

The dairy herd would not eat the irrigated pasture at times especially after a blast or strong westerly winds. They would walk out of the paddock and try to find feed near the creek. It was during a very dry time and native pasture was very limited.

I employed an Agricultural Consultant to determine the herd feeding problem. His results showed excessive amounts of dust on that particular feed, barley (that has minute hair-like structure on the long leaves), which collected and held the dust. The herd developed coughs, which were quite audible after blasts and windy days.

The next problem was our lucerne growing along Bowman's Creek. It was showing stress and dying in areas.

I contacted the next door mine as we considered it had to be the constant dust. They brought a "lucerne expert" up from Victoria who walked through the paddock, kicking it with his boots and inspecting a plant or two at ground level. He said we had nematodes.

I asked to be shown these, producing a spade we had brought but he declined.

Very soon after his visit we discovered it was the water from Bowman's

Creek.

The so-called "lucerne expert" I found out later was running a coffee shop with his wife? (He must have been a talented expert)!!!

A number of years previously Coal and Allied had been permitted to mine under Bowman's Creek about 8 kilometres upstream.

2

I was informed by a land holder upstream that the base of the creek had broken and the water was pouring direct into the underground mine.

It apparently was flowing through the tunnels picking up the heavy metals, then continuing down an aquifer, rising again as a spring approximately 2 kilometres down stream. This water then continued to flow down through the Ravensworth area and on through Ashton property and then into the Hunter River.

Water testing showed the water flowing into the mine was 300 ppm salinity and came out of the mine into the springs and aquifers at 1200 ppm (cut off salinity is 700 ppm for lucerne).

This water added contamination to the already contaminated river water due to the then SPCC (later EPA), which permitted two mines upstream to discharge 2 megalitres a day each into the river.

Our river pump was approximately 300 metres down from the convergence of the creek and river, consequently we took the full brunt of the contamination of the river water.

I had a Water Resources person to look at our problem and was told to purchase a water testing unit and only irrigate at less than a particular salinity level.

During a couple of very hot and dry summers, there were times that we could not irrigate due to high salinity levels. One January we were unable to use the water for twelve days.

I was forced to "dry off" half the herd as we could not provide the green feed necessary for milk production.

3

By this time we had had enough. The mine next door was contacted and acquisition was requested.

The share dairyman then left, he was working as hard as usual but the returns from his share were less than half that he had received previously due to the smaller herd and milk being rejected by the factory for dust contamination.

The rejections occurred after very windy periods and blasting.

When a refrigerated vat is emptied, of the milk, under strict hygiene regulations the farmer must wash the vat using specific detergents, then must leave the lid open for a period to dry and eliminate any odour. This was the cause of the dust entering the vat.

I was able to employ a local retired couple to milk and another person to irrigate etc.

It took many very nasty and prolonged periods of negotiation with the mine personnel to reach a deal.

I was told that I was to keep the dairy running because they were going to prove that dairying and mining could co-exist.

I then had to borrow money to keep the dairy running until the company made the decision to purchase.

The whole deal was most unpleasant, my Lawyer stating that he could not believe the conduct of the mining personnel.

I finally sold to them in 1994. There was no compensation from the Government or the mining industry for loss of income over those years (which was considerable) or compensation for the loss of water quality.

During these difficult years, my manager, who had lived and worked on Ashton from the age of fourteen became ill. I believe it was the anger and

4

frustration he lived through during those years, watching the demise of a property he loved. He was proud of what he had achieved in his years of management. The pressure he was under progressed his health problems to the stage that an immediate quadruple by-pass was ordered.

He was unable to work after this, so part of the negotiations with the mine had to include a "super type" payment for him as he had always known he could retire on Ashton. Approximately 18-24 months later the mining company shut the dairy. (I was proven right!!!).

Mine is only one story of many stories from this area of the Hunter Valley. So many farmers were left with no water, or the water contamination was so bad it could not be used.

The area of land that has been laid waste by mining is large. Those mountains of blown-up rock rubble they call the rehabilitated land is toxic and no stock can graze.

The rocks contain the same heavy metals as the coal seams, which leach out during rain, contaminating the gullies and creeks and eventually entering the rivers.

These rubble mountains are unstable and will sink and move for hundreds if not thousands of years. The trees planted only grow very slowly and according to a study done about fifteen years ago will eventually collapse due to the lack of trace elements (these also leach out with rain).

The diverse and rich Hunter Valley is already under strain from contaminated water, land use is no longer predominately agricultural, 600 square kilometres of mining has been taken from agricultural use.

Communities and families have been uprooted and dispersed by the forced sale of properties and villages.

5

If I had known in the early 1990's what I now know about water and dust contamination from coal I would certainly have had the dust and water regularly tested.

****Attachment S1 extract** **Appendix 3 - 37 Pollutants SSHEG Identified.**
Major pollutants (in order of magnitude) emitted from mining and electricity generation to the airshed of the Singleton-Muswellbrook postcodes area, and their NPI Health Hazard Ratings (www.npi.gov.au; accessed 20 May 2009)

Pollutant	Pollutant load in airshed (kg/yr)	NPI Health Hazard Rating 3 = very high hazard to health; 2 = medium hazard to health 1 = harmful to health
Sulphur dioxide	132,730,000	1.5
Nitrogen oxides	62,640,000	1.5
Particulate matter 10µ	55,160,000	1.2
Carbon monoxide	11,860, 000	2
Hydrochloric acid	2,190,000	1.5
Particulate matter 2.5µ	1,520,008	1.2
Sulphuric acid	1,450,000	2.3
Total volatile organic compounds	1,310,000	No rank given
Fluoride compounds	544,000	1.5
Boron and compounds	178,100	1.7
Formaldehyde	110,001	1.3
Manganese and compounds	73,923	1.3
Zinc and compounds	21,361	0.8
Cyanide (inorganic) compounds	7,950	1.8
Chromium (III) compounds	4,991	1.2
Ammonia (total)	3,810	1
Copper and compounds	3,784	1

Nickel and compounds	3,473	1.2
Lead and compounds	2,029	1.6
Toluene	1,860	1.3
Benzene	1,134	2.3
Cobalt and compounds	1,095	1
Chromium (VI) compounds	674	2.5
Arsenic and compounds	559	2.4
Xylenes	535	1.3
Polycyclic aromatic hydrocarbons	507	1.3
Selenium and compounds	459	1.7
Cumene	369	1.2
Ethylbenzene	318	1
n-Hexane	232	1.3
Cyclohexane	212	0.7
Mercury and compounds	195	1.7
Beryllium and compounds	159	2.3
Acetaldehyde	79	1.2
Antimony and compounds	62	1
Cadmium and compounds	40	2.3
1,3-Butadiene	18	2.7

Attachment S20

NSW Government Response to SSHEG Community Submission

NSW Premier replied “ *principle concern is the Health and welfare of local residents*” and appointed the Chief Health Officer of NSW Health to investigate, which resulted in the Independent Expert Advisory Committee on Air Quality in place by April 2010, with the early meetings in May 2010.



Health

Air Pollution Expert Advisory Committee

Date	Wednesday, 22 th June 2011
Time	4.30 pm – 6.30 pm
Venue	Greenwood Conference Room, Level 11, 73 Miller Street, North Sydney
Teleconference Details	Dial in: 1800 766 715 Conference Code: 318 253

Organisation	Title	Name	Attendance
University of Western Sydney	Member	Prof Alison Jones	T/ C
University of Sydney	Member	Prof Bruce Armstrong	Present
CSIRO	Member	Dr Mark Hibberd	Present
University of Sydney	Member	Prof Guy Marks	T/C
University of Newcastle	Member	Prof Michael Hensley	T/C
Director REMS SSWAHS- NSW Health	Observer	Prof Bin Jalaludin	Present
Director, HNEAHS PHU- NSW Health	Observer	Prof David Durrheim	Apology
CHO, NSW Health	Observer	Dr Kerry Chant	Present
Director, EHB - NSW Health	Observer	Prof Wayne Smith	Present
Director, SWAHS PHU - NSW Health	Observer	Dr Vicky Sheppeard	Present
Risk Unit Manager, EHB- NSW Health	Observer	Mr Adam Capon	Apology
EHB - NSW Health	Secretariat	Ms Hanisah Corner	Present

- Focus:-
- # *To advise on alternative and more appropriate means of measuring exposures to air pollution.*
 - # *To advise on possible pollution mitigation strategies for developments around the Hunter area.*
 - # *To consider health effects from air pollution in the context of the broader health status of the community.*
 - # *To provide advice on potential health studies in the area.*

While the minutes of the first Expert Advisory Committee meeting of 6th May 2010 notes:- “*the purpose of the Expert Group is to look at population health, not individual health of single residents*”, this clearly differs from the SSHEG Government submission detailing of 9th Nov 2009, where much of the Singleton Shire Population is a dispersed rural community, and Local Doctors are reporting Asthma in Children is a major community concern..