Singleton Shire Healthy Environment Group
"HVO South Mod 5 Cheshunt & Riverview "

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

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We seek identification as to what is making our Children and Community Sick so they can be mitigated by OH&S Compliance Orders.

SSHEG Focus on Health

SSHEG is Not Anti Mining or Anti Power Stations

Department of Planning and Environment,
23-33 Bridge Street, Sydney NSW 2000

"Hunter Valley Operations South – Cheshunt Pit to continue through Riverview Pit extracting the Bayswater Coal Seam"

This SSHEG Submission recognises the overall advantage of mining the Bayswater Coal Seam throughout the Lease area. The Community concerns relates to the Air Quality and Noise Disease Impacts on "Near Neighbour Residents" and Jerrys Plains Residents and Children at Jerrys Plains School, and especially Maison Dieu Residents including Children.

Presently, the NSW EPA allowable Air Pollution Compliance Limits, is at odds with the World Health Organisation's 2015 and 2016 call for "Minimisation" of Air Pollution and Particulate Matter with specific reference to Lung and Cardiovascular Disease associations without any Threshold limit.

Specifically, NSW EPA and Office of Environment and Heritage seem unable to come to terms with the WHO Disease Research findings that relate directly to Particulate Matter PM 2.5 as distinct from the industry PM10 reference and TEOM Monitoring Standard.

SSHEG therefore reaffirms that EPA Clean AIR ACT invokes and administers the Minimisation Conditions for all Hunter Valley Coal Mines.

SSHEG also reaffirms that those "Near Neighbours to Open Cut Mining", the elderly and others from time to time, are being Disease exposed to levels of Air and Night Time Noise Pollution; often by repeated Rising levels of Mine 15 Minute Average increments of PM2.5 for example from drifting Blast Plumes, Diesel Exhaust Fumes and Fugitive Coal Gas emissions; all now Disease recognised demanding "*Mines to Operate to Minimise these PM2.5 emissions*".(Refer SSHEG Clean Air 2017 submission Extract P14)

Part B Why has NSW Heath and NSW EPA been unable to utalise the Minimisation provision of Government Air Pollution Acts, and what guidelines could be used to facilitate their use to "Clean Air in the Hunter Valley" ?

Firstly a lead by NSW Health and NSW Environmental Health is needed to set Compliance standards for "Hunter Valley Open Cut Coal Mines Precincts" separate to other Jurisdictions and based on three factors not catered for by existing National Standards. Developments in better targeted Short Term Air Pollution Disease associations Research and progressive World Health initiatives since 2014 provide an ongoing basis for these changes.

I. Mines without Buffer Zones with Residents forced to Coexist beside Open Cut Black Coal Mines.

II. Resident Disease Impact criteria from PM2.5 and PM1.0 (Mine Diesel use), Black Carbon Air Pollution.

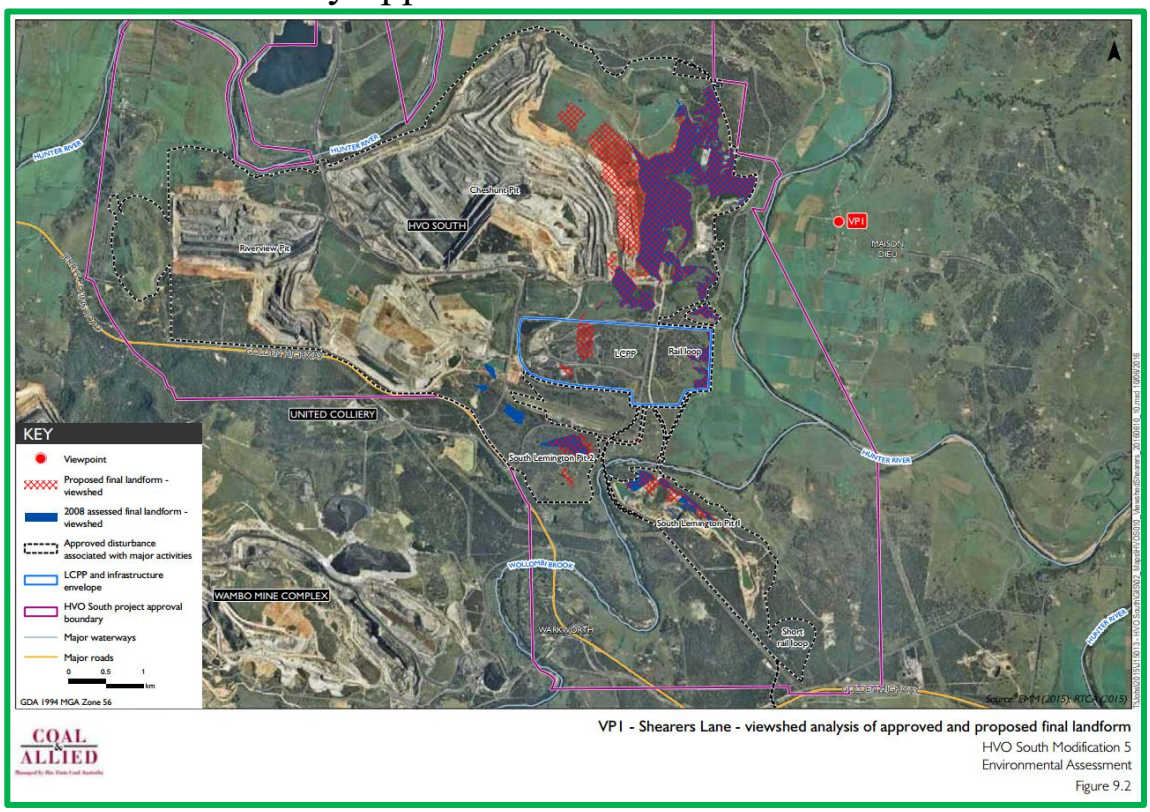
III. Demography of "Near Neighbour Residents in terms of Air Pollution Disease Susceptibility. Eg Schools, Elderly, etc

IV. Disease latency from repeated 15 Minute Air Pollution Exposure spikes related to concentrated Mine Pollution Air Drifting patterns in addition to the local Environs Cumulative Air Pollution levels at the time.

V. Quantitative Analysis to Exposure the fallacy that Indoor Air Quality is not related to Outdoor Air Pollution levels, thus how should farmers be protected ?

SSHEG contend that "*Near Neighbours to Open Cut Coal Mines are Occupationally Exposed Persons*", as one such neighbour attests with diagnosed "Lung Dusting" from living close by to the Maison Dieu area.

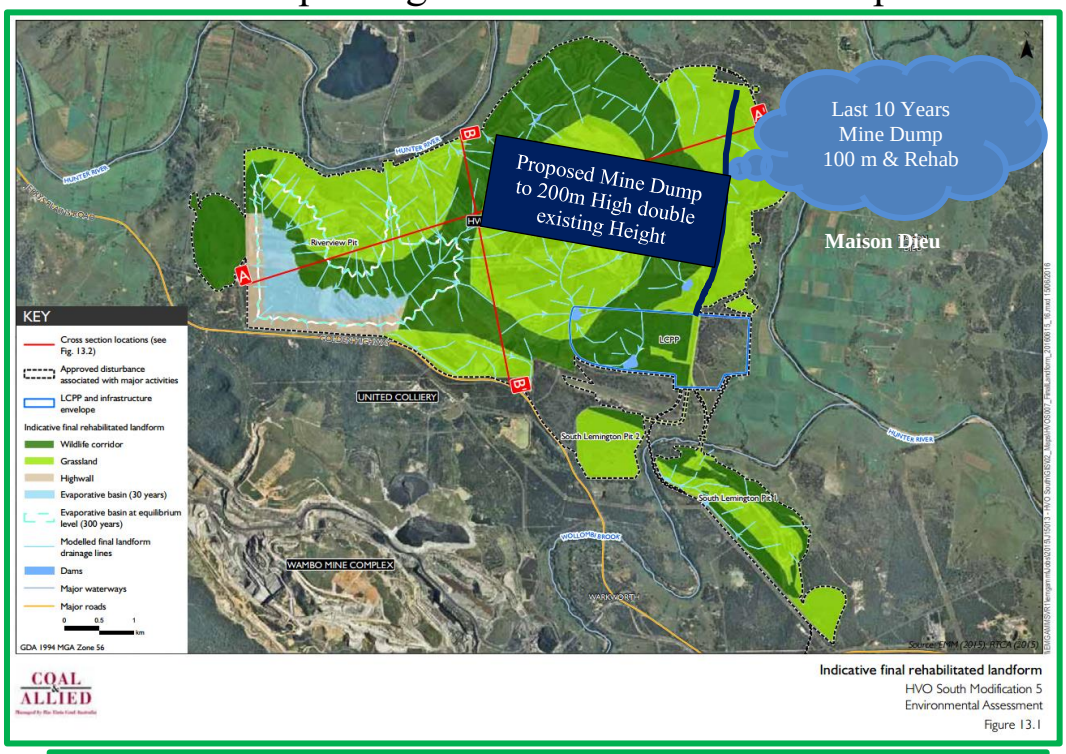
This raises the specific case of Maison Dieu Farmers designated VP1, who has endured over many years, including the last 10 years the formation and rehabilitation of a Mine protective for Maison Dieu of the Embankment directly opposite and West. This was to be the final height!

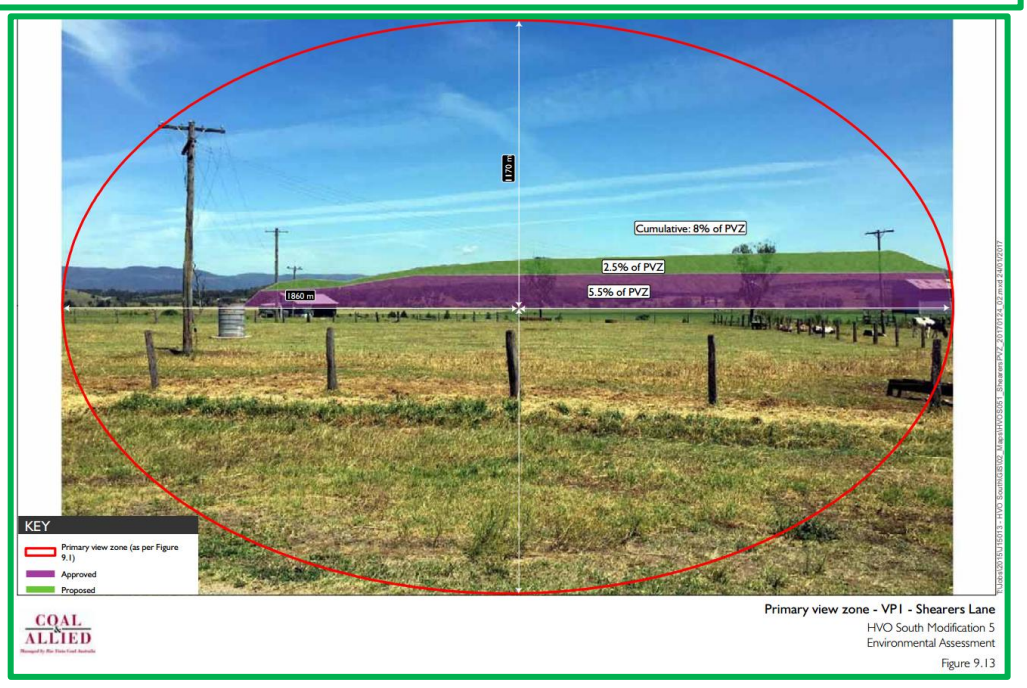


It also needs to be understood that a number of Mine provided facilities have been implemented over the recent 10 year history of the HVO South Mine to Coexist; namely,

1) Special Double Glazing for Noise reduction at Kitchen Window.
2) 3 Month Noise Study Testing following Resident Complaints of Night disturbance; but which mine?
3) Specific Mine Procedures were established to prevent Mine Night Lights shining directly into Residence.

4) Rainwater Tanks fitted with first flush piping and Tanks cleaned out annually.
5) House Air Conditioned (pressurised) with electricity and service paid for by HVO Mine.
6) On one occasion was advised to go indoors due to the Mine Dust levels passing over where he was in the paddock.






EXISTING
2008 ASSESSED FINAL LANDFORM
PROPOSED FINAL LANDFORM
T:\Jobs\2015\6JT50113 - HVO South\GIS\02_Maps\HVO50113_ShearersVisual_20160610_07.mxd 10/06/2016
Existing landform as at November 2015
COAL & ALLIED
VP1 - Shearers Lane - photomontage
HVO South Modification 5
Environmental Assessment
Figure 9.3

Already VP1 had to endure the Air, Noise and Light disturbances from the Open Cut Mine as the embankment area A was formed and Rehabilitated over a period of around 10 years.

Now with this HVO South Mod 5 application, these farming families at Maison Dieu who operate a Wyoming Dairy Farm are being asked to withstand the Mine Pollution onslaught for another 10 Years to implement their Mine Plan and rehabilitate an added obtrusive Embankment on their doorstep.

SSHEG considers that more needs to be done to protect these Maison Dieu Residents; such as, shutting down the Mine when Pollution is drifting from the West and West North West direction. Additionally, PM2.5 using 15 Minute averages located at the VP1 Residence outdoors is to provide the Mitigation Control Mine Shutdown Guidance for the Mine site.

The HVO South Mod 5 Proposal and the 'Super Embankment" will itself affect the operability of the Wyoming Dairy Farm, with both Paddock feed affected by Mine fallout and Bore water Pollution a likely impact on Milk Quality; this will need further testing and research. Further the old adage "That the rain in Spain falls mainly on the Plains" is already being felt at Maison Dieu where it is already evident that the current artificial Mine Embankment at around 100 M High is changing the rain patterns that have been predominantly from the South West. Raising this to 200 Metres and a Super Void before the embankment will further impact this Dairy Farm.

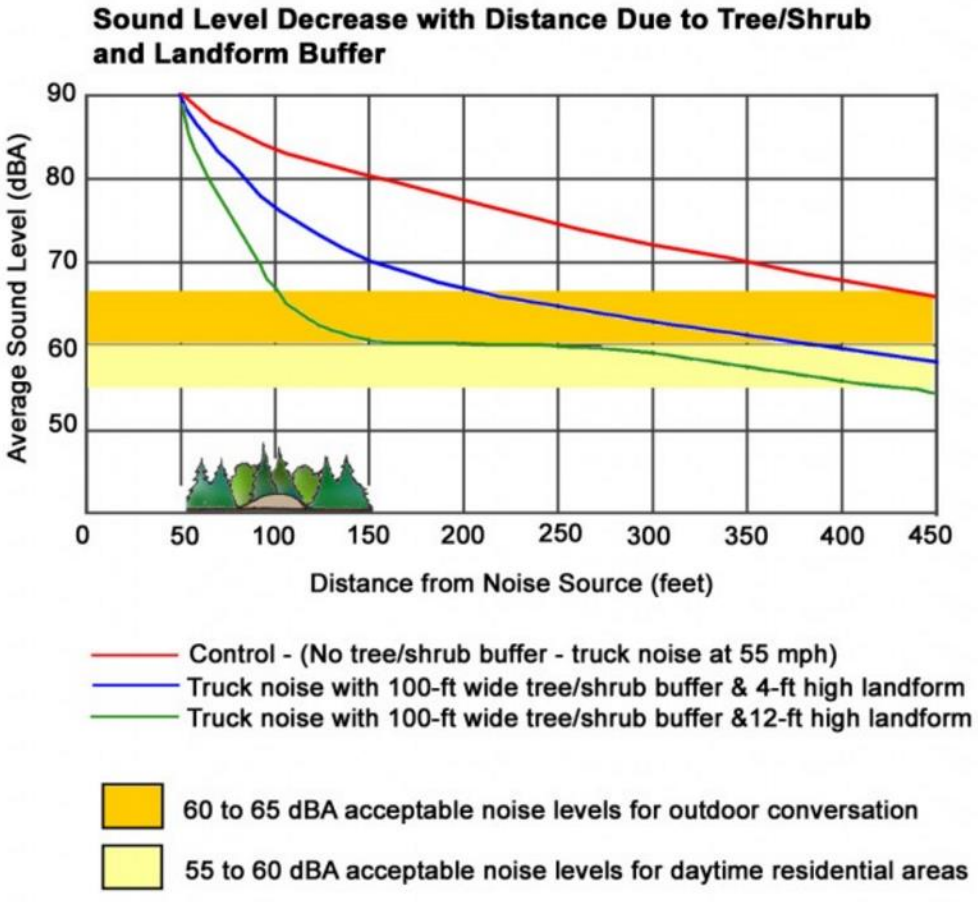
In terms of the economics of this Proposal, it is evident that in the last 10 years the Wyoming Dairy Farm Property value has been downgraded, and should be valued as the working Enterprise before its value is further trashed by the surrounding Mines Leases. This Wyoming Dairy Cattle stock has an Internationally reputation. As an indication one Wyoming Calve Progeny elsewhere in Australia sold for around US$250,000 alone.

Experience over the last 10 Years suggests that more needs to be done to screen the Dump Trucks, Dozers, etc during the Embankment work, suggesting that Noise and Dust Pollution Barriers need to be included due to the direct line of sight to Maison Dieu.

SSHEG has already proposed to HVO that Tree Screening using initially mature Trees that are fast growing be incorporated. This practice is in use in the Farm sector to screen Farmhouses where dirt roads built for Horse and Buggy now have vehicles with a trailing dust cloud.

Little use of Trees particularly for Mine Noise Pollution Barriers suggests that this needs further promotion by the Government Authorities along with research as to the optimum interwoven planting spacing. Further the identification of fire progression retardant tree barriers would add to the mix in the Rural Hunter Valley for property protection.

US Department of Agriculture National Agroforestry Center provides some quantative guidance that trees can provide.



This post is an excerpt from Conservation Buffers: Design Guidelines for Buffers, Corridors, and Greenways. Check out the Guide to learn more about designing buffers to improve air water quality, protect soil, enhance habitat, enhance economic productivity, provide recreation opportunities, and beautify the landscape.

Some further research overseas give added understanding that this option should be added to the Suite of Mine Dust, Noise and Light Mitigation Controls in the Hunter Valley.

Urban Forestry & Urban Greening

Volume 10, Issue 1, 2011, Pages 61–66

Evaluation of Anticipated Performance Index of some tree species for green belt development to mitigate traffic generated noise

Vinita Pathak, B.D. Tripathi, V.K. Mishra

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http://dx.doi.org/10.1016/j.ufug.2010.06.008

Abstract

Green belts are effective tools for mitigation of traffic generated noise. For green belt development it is necessary that plants used for green belts must be tolerant to air pollution. In this study, the Air Pollution Tolerance Index (APTI) of plants commonly used for green belt establishment in Varanasi city, Uttar Pradesh, India was evaluated with the help of analysis of some biochemical parameters. On the basis of APTI and some biological and socioeconomic parameters of plants, the Anticipated Performance Index (API) of these plants was calculated. Among all the plants taken under consideration *Ficus infectoria* L. ranks first and is a keystone species. *Mangifera indica* L. and *Ficus religiosa* L. were classified into the 'excellent' category. The most suitable plant species for green belt development in urban areas were identified and recommended.

Keywords

Peri-urban green space; Pollution; Noise reduction; Traffic noise

Thanking you in anticipation of your acknowledgement

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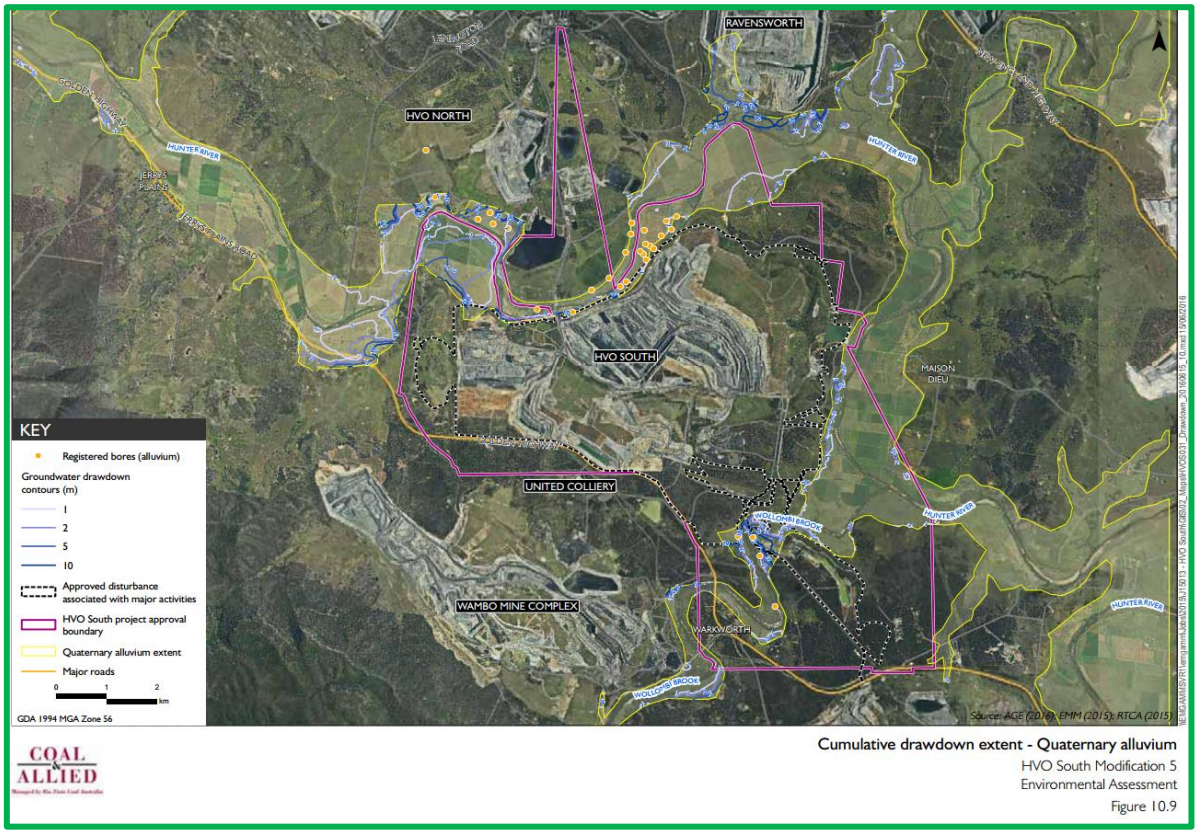
Singleton Shire Healthy Environment Group



Journal of Environmental Management
Volume 85, Issue 1, October 2007, Pages 44–58

Estimating the reduction of urban PM_{10} concentrations by trees within an environmental information system for planners

W.J. Bealey[a], A.G. McDonald[a], E. Nemitz[a], R. Donovan[b], U. Dragosits[a], T.R. Duffy[c], D. Fowler[a]
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http://dx.doi.org/10.1016/j.jenvman.2006.07.007

Abstract

Trees have been widely quoted as effective scavengers of both gaseous and particulate pollutants from the atmosphere. Recent work on the deposition of urban aerosols onto woodland allows the effect of tree planting strategies on airborne aerosol concentrations to be quantified and considered within the planning process. By identifying the potential planting locations in the local authority area, and applying them within a dispersion and deposition model, the potential magnitude of reduction in the ambient concentration of PM_{10}, achievable through urban tree planting, has been quantified for two UK cities. As part of the Environmental Information Systems for Planners (EISP), flow diagrams, based on planning decisions, have incorporated output from the model to make decisions on land use planning ranging from development plans and strategic planning, to development control. In this way, for any new developments that contribute to the local PM_{10} level, the mitigation by planting trees can be assessed, and in some cases, reductions can be sufficient to meet air quality objectives for PM_{10}.

Keywords

Air pollution; Particulates; Land use planning

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The following image illustrates some different dust particle sizes.

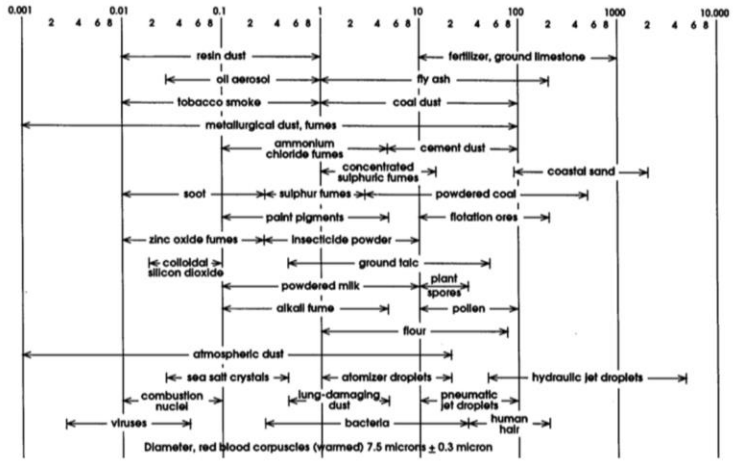

Image taken from: http://www.filtercorp.biz/

A key point here is that visible dust is not a major concern for health, but it is the smaller particles that are generated at the same time. These may not be visible but will travel further and are the major health issue for the community. As a result most dust monitoring is usually focused on the PN10 dust (less than 10 micron) particles.