The Canterbury Regional Council over the years has been tasked by the Govt to reduce emissions to meet strict standards. On the whole, I am sure that most would fully support all the work that the Regional Council has done, and welcome the positive outcomes they have achieved through a mix of regulation and education.

We do not believe there needs to be any further tightening of the current regulations as we consider that the operative Air Plan contains sufficient controls and restrictions to achieve the desired outcomes. We are not alone in this belief, as in May 2014, Radio New Zealand reported Mr David Bedford, Canterbury Regional Council Commissioner, as stating he believed that the region was on track to meet the new air pollution standards.

Sadly, with what appears to be almost religious zeal, Environment Canterbury has fallen into the trap of overstating and exaggerating their case and at times making misleading claims.

They continue to claim that emissions from wood burning is the direct cause of a considerable number of hospital admissions and premature deaths, when a number of experts have demonstrated that the numbers bear a much stronger relationship to other factors, for example cold, damp homes. In 2009 a complaint to the Advertising Standards Authority about an advertisement placed by the Regional Council purporting to relate premature death in Canterbury to air pollution, was upheld. The Introduction of the latest Air Plan, called pCARP, contains a section which emphasises the harmful health effects of some emissions, quoting 435 adult premature deaths. This is in spite of the Council in an earlier report stating that some 40 to 70 people could die from the effects of air pollution annually.

Again from pCARP, under the heading Source of Contaminants, Sect 1-3 the following statement is made: “It is estimated that 65 to 90% of measured PM10 in polluted air sheds comes from burning wood and coal on domestic fuel burning equipment …… industrial sources contribute 7 to 17% and motor vehicles 3 to 16%. “

In relation to Christchurch this is deliberately misleading, as the upper limit figures for domestic emissions used appear to be derived from a report called ChCh Inventory of Emissions 1999, which uses figures from 1996. 1996 figures, due to many factors, including the ChCh earthquake, town planning decisions and the good work of the Regional Council, are now totally out of date and should never be the basis for a document such as pCARP. The more recent and therefore more relevant figure as used in the Section 32 report I believe should have be the basis of pCARP

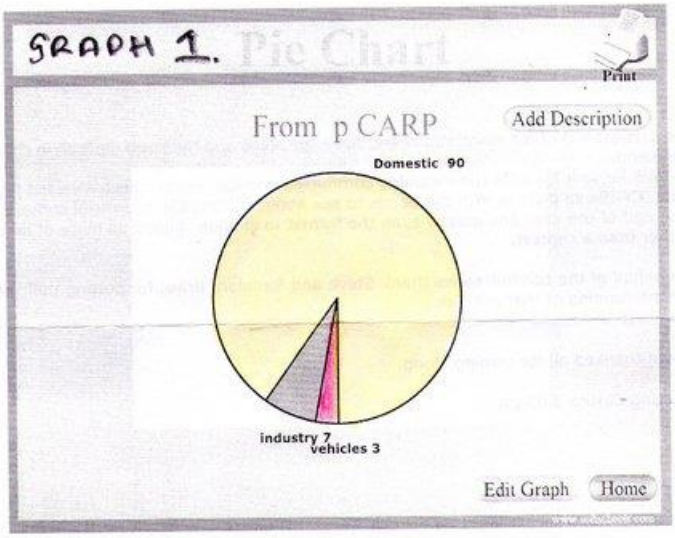
I have drawn 4 Pie graphs to illustrate how the variation in information can alter perceptions and perhaps even influence this hearings panel.

Graph 1 and 2 have been drawn using the above data, ie from 1996.

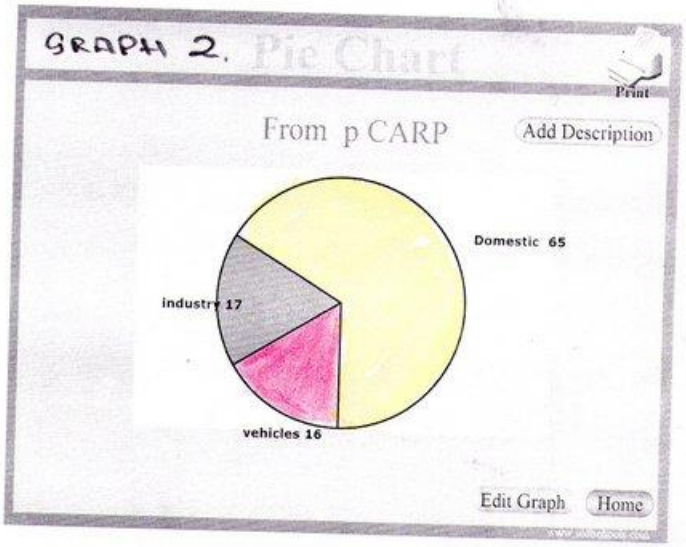
Graph 3 from data in the Section 32 report.

Graph 4 from data obtained from the Regional Council as a result of a request made under the provisions of the Local Govt. Official Information and Meetings Act and published in the Press 21/4/2015

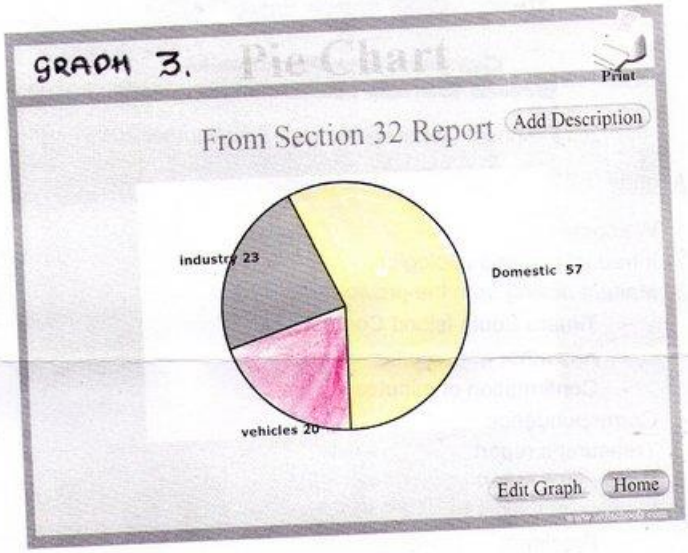
GRAPH 1.



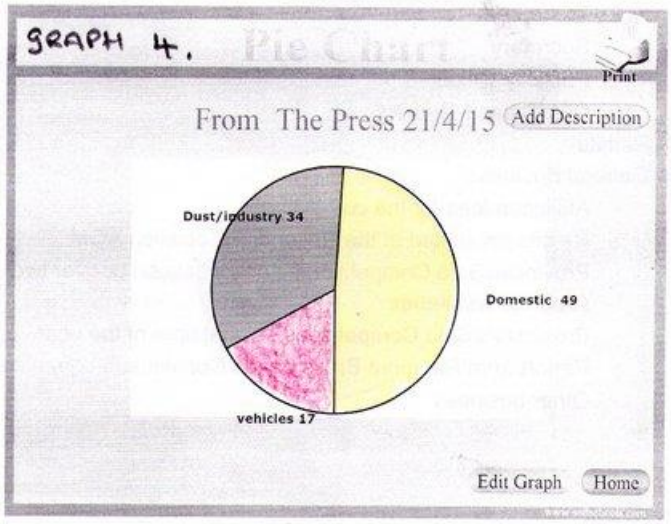
GRAPH 2.



GRAPH 3.



GRAPH 4.



We wish to speak to the three aspects of the proposed air plan that we submitted on.

They are:

1. Motor vehicles

2. Open fires in Heritage buildings, listed by HPT or CCC

3. Open air burning of organic matter on small holdings of a rural nature

1. Motor Vehicles.

From the list of submitters' reports, it appears that there is some confusion about what we are asking for. We are not asking to limit individual car emissions, since other worldwide legislation is ensuring that emissions are reducing through changes in fuel and technological advances in engine design etc so those measures will achieve the desired outcomes.

We do not accept the Regional Councils statement in the proposed plan P 1.4 that, while acknowledging that Motor Vehicles contribute to the emissions (some 20% from the Sect 32 report), the air plan cannot help to reduce emissions. Simply having a passenger rail service to and from Rolleston would help. We understand that the Regional Council has quite a say in public transport systems.

2. Open fires in heritage listed buildings.

Heritage buildings have suffered badly as a result of the ChCh earthquakes and a totally unsympathetic approach from both local and national government. Comments like "Old Dungers" have not helped the cause of maintaining our links with our European past, which is being lost at an alarming rate. Those who try and preserve our links with our past by accurately and faithfully preserving and/or restoring heritage buildings should be supported. The occasional use of fire places and solid fuel stoves (coal or wood ranges) within those buildings should be applauded, not condemned.

It must be acknowledged that as a result of the significant total loss of heritage buildings and the loss of many more chimneys from the surviving stock of buildings, those remaining listed heritage buildings within the ChCh area capable of actually having an open fire is very very low.

The list below, from information from pCARP and Sect 32 shows the number of heritage buildings permitted to operate an open fire (or other approved device) under the proposed air plan. In brackets after each number is the % emissions attributed to all domestic wood burning devices within each area.

ChCh = 26 (57%) but now, using figures released under the Information Act, 49%

Kaiapoi =16 (88%)

Rangiora = 26 (69%)

Ashburton = 50 (82%)

We are surprised that the Regional Council accepts Heritage buildings from County, Borough and District Councils such as the 50 in Ashburton (where 82% of emissions on a ”high pollution night” is attributed to domestic emissions) but only 26 with only ½ being conventional dwellings in the much larger ChCh which has a domestic emissions figure of 57 % (49%) . We believe that a further 25 to 30 heritage buildings that may have their chimneys intact added to the list will not add a material increase to ChCh’s emissions.

It is worth noting that, according to the Air Status Report, ECan has allowed for some 46 open fires being used per night. The unrestricted use of open fires has not been permitted in ChCh for almost 10 years. Simply removing those will create room in the air-shed for the very occasional lighting up of an open fire within a listed heritage building .

The following statements have been made by the Regional Council in relation to ChCh and open fire use:

Referring to the year 2007: “open fire use almost entirely ceased”

And in 2015: “very few open fires in use”

The domestic emissions on a high emission night in ChCh are now below 50% of the overall emissions recorded and yet stringent restrictions are sought by the Regional Council to almost entirely ban open fires. Under pCARP there is room within the air shed of ChCh (I will discuss this point shortly) to allow open fire and wood burning stoves in all remaining listed heritage buildings with operable fire places.

By restricting ChCh open fire use to Council and or Historic Places Trust listed Heritage buildings (that still have operable fire places), and taking into consideration the very low numbers of possible buildings and their scattered geographical distribution, and accepting that very few would be lit (preparing and lighting an open fire requires a degree of commitment which is not often found these days) the emissions would be insignificant

3. <u>Open Air Burning.</u>

ChCh has been the victim of some dramatic and at times what feels like uncontrolled and poorly planned expansion into rural land. Once rurally zoned land is often still rural in use and appearance, despite its underlying zoning and may remain that way for a very long time, and yet the occupiers and guardians are being burdened and restricted by rules that apply to residential zones while still trying to maintain rural activities.

One such is the restriction on outdoor burning.

We have tried to convey to the panel that burning in such situations is a necessary tool.

In our case:

-Over a kilometre of hedge faces and tops which we must maintain

-Many trees, both ornamental and fruiting, debris from wind damage to clear (over 50 mature 70 year old pines blew over in the storm of 2000)

- Hill-side site with very limited access for all but tracked vehicles (incidentally there is no wood chipper available in the South Island capable of being operated by a tracked vehicle)

- Despite our continued efforts, due to our situation high on the Port Hills , the barrier that ChCh city imposes on large and oversize tractors fitted with tree trimming apparatus, and the surplus of work on the Plains, we now cannot get a contractor to mechanically cut and trim the shelter belts and hedges. All maintenance is now done by hand hence no emission except from the chain saw.

- A site where cuttings and trimmings cannot just be left on the ground as they are a fire risk

-Even if prunings from the shelter belt maintenance could be carted off site to the green waste facility, the green waste facility is itself the subject of pollution complaints. Further irony is added when it is acknowledged that branches over 100mm in diameter are not accepted by the green waste and will be used as firewood burnt mostly off- site. Burnt on- site during periods of low emissions creates minimum impact but moved off- site and burnt during the winter as free domestic firewood would further contribute to the mid- winter period of higher emissions.

- the emissions from the diesel powered vehicles (not all with emissions control) working on site, and the trucks travelling to and from the green waste site, all added to the emissions of the green waste site would contribute to “pollution” which may be greater and more harmful than simply burning on site.

We understand that the Regional Council understands the principle of off- setting emissions

<u>The big picture must be looked at</u>. Common sense must play its part.

In May 2012, a study was released by the Regional Council asking the question: "Is ChCh likely to meet the NESAQ targets for PM10 (emissions)" Report R12/40

The study concluded after analysing the 2009 figures relating to domestic heating and the effects of regulation and the Canterbury earthquakes, that the room or capacity in the ChCh air shed for domestic emissions was a maximum of 1570 kg/n. This figure would ensure emissions levels were achieved and there were no exceedances of the imposed standards.

The study attempted to quantify the number of burners allowed, but since the study was completed, new rules have been applied to wood burner installations.

However, from the study the following table was created:

Table 2.5 Number of complying burners allowed in 2020

Oil burners	1451	emit 1.7kg/n
Gas Burners	5157	emit 0.5 kg/n
Pellet Burner	4944	emit 76kg/n
Wood burners	17534	emit 1490/ n
Total	29076	1570 kg/n

From the above table, 17,534 (wood burners) plus 4,944 (pellet burners) = total no. of all wood fuelled burners = 22,478 (say 22,500)

The emission calculations giving 1490kg/n for the wood burners (which the report claimed were all compliant) uses the emission figure of 85g/d, which is high, and appears to be based on an averaging of the figures for the compliant **and** non-compliant wood burners.

But the report states that non- compliant wood burners are assumed not to be operating in 2020 so the 85g figure used, between the 60g/d for a 1st generation low emission complying wood burner and 103g/d for the old, non-complying burner, is incorrect (figures from Air Status report).

The figure that should have been used is somewhere between 60 and 45g/d as since Sept 2005, only 2nd generation low emission wood burners that emit a max of 45g/d have been permitted.

As the life of the compliant burners comes to an end, (15 years from permit date or end of 2018, whichever period is longer), the 1st generation low emission burners will completely disappear. I understand that a new permit application may be able to be made, which may take the life of the 2nd generation low emission burner out to 2035.

The question is: "How many burners by 2020"?

By studying emission standards of various wood burners, dwelling and burner numbers we will attempt to answer the question. All figures from Regional Council reports and information supplied

Put simply, by 2020 under pCARP, the only wood burners permitted will be Pellet fires, ULE burners (emissions 15g/d)and those currently complying 2nd generation low emission burners (emissions 45g/d)which are issued with a further permit. All non- complying and 1st generation low emission burners (60g/d) will have been removed from the ChCh air shed.

If, from the R12/40 report, the emissions are capped at approx. 1500kg/n, then it follows that the air shed can support a total of:

1. at least 104,000 ULE burners and pellet fires (15g/d emissions) 104,000 x 15g =1560 kg/n

2. or 34,800 2nd generation low emission wood burners (45gm/d emissions) or 1566 kg/n

3. or a mix of both,

and still be within the guidelines.

Currently, approx. 21% of the 107,460 dwellings in ChCh (22,567) burn wood in either compliant or non-compliant burners,

It follows that, if all the 22,567 were compliant then:

34,800 – 22,567 = 12,233 extra dwellings (or over 50% more) could be fitted with a low emission burner.

The same reasoning applies to ULE burners:

104,000 -22,567 = 81,433 extra dwellings (or 350% more) could be fitted with a ULE or Pellet burner.

Calculating the exact make- up of the domestic wood burning heater mix will be difficult, though currently, between 11- 15% of wood burners are pellet fires.

Under pCARP it is extremely difficult to install any wood burning heater now except a ULE device, so it is not unreasonable to assume that a huge majority of new and replacement wood burners will be UL Emission types. We also believe many households will go for the easy and currently cheaper option and install a heat pump, thus off -setting the possible increase in demand for wood burning as a form of domestic heating.

Using these figures, under the new regulations ie converting to pCARP complying burners, ChCh could allow 22,567 dwellings to use these and with emissions = 22567 x 15 = 338 kg/n which is well below the threshold (around 22% of the capacity).

If half converted to a ULE device and the other half used 2nd generation low emission burners with a new permit, the emissions would be around 676 kg/n, or 45% of the capacity.

If from natural population growth, or as a result of increasing electricity prices, the number of residential owners in ChCh wanting to fit a new burner increased by 50%, an extra 11,284 ULE burners would add 11,284 x 15= 169 kg/n to the emissions.

The new emissions therefore 169kg/n (from population growth)+ 676kg/n (half and half low and UL emitters) = 845kg/n (or some 54% of the allowable emissions threshold)

Can the air shed cope with the increase ?

These calculations can be and were done a number of ways using figures found in the Air Status Report , RN 12/40, and the E Can survey on Burner use by measuring hot flues. It is very evident that the answer is yes.

I hope I have demonstrated there is enough room in the air shed under pCARP to easily cope with any future domestic emissions. In fact there is a considerable surplus of available air envelope to cope with greater emissions, without causing any exceedance of the emission cap.

Heritage Buildings

Because of the above I once again ask the panel to rethink its stance on the use of open fires in listed heritage buildings in ChCh. I believe that all members of the panel know, as does the Regional Council which has acknowledged the same, that the number of open fires lit will be very small and in fact insignificant in the pollution stakes. Allowing the occupier and guardian of the taonga to occasionally use and enjoy an historic house in the way that it has been for perhaps 150 years is a small but important gesture toward supporting our now highly threatened historic past. Heritage needs all the support that can be possibly given.

Open Air burning

Further to my request for rights to continue to burn organic matter in the open, I submit that there is room in the air shed for an increase in emissions without causing an exceedance.

Those within the ChCh City Council area are limited to a very restricted burning window of Sept/Oct. and then March/April (which is often shortened in autumn by complete fire bans).

Emission figures obtained from the Regional Council show that while the months March/ April, and Sept /Oct have recorded high PM10 levels, they are due solely to sea spray or dust. (graphs available) and that those months are not in a period of high emissions.

It must also be noted that the Air Quality Status Report states that the more harmful PM2.5 particles, such as produced by diesel engines, are at their lowest from Oct to March, so clearly any emissions from open air burnings will not raise them to a dangerous level.

Nuisance from smoke; If correct procedures are followed, burning is quick and relatively smokeless. Our immediate neighbours are all restricted by pCARP provisions and also seek relief from the over restrictive open air burning rules.

Heritage Buildings affected by pCARP

I have attached two photos which may give the hearing panel some idea of the heritage buildings that are affected by pCARP

1. photo 0981 is our home. It is a faithful and accurate restoration which incorporates the original features of the house including a coal or wood burning stove in the old kitchen and an open fire in the " front" room.

2. photo 1279 is Mother Hubbard's or The Red House. It is the oldest wooden commercial building still occupied (and commercially used) in Christchurch.

In fact we believe it is the oldest commercially used building in ChCh constructed from any building material. Again it has a working coal or wood range and an open fire in the front room, which was used as an office or other such place of commerce.

RE: Open Air Burning

More pics taken around our property illustrating the type and scale of ongoing work that is required.

1. Pile of general trimmings

2. Topping of shelter belt trees

3. Cutting toppings into fire wood

4. Toppings etc

5. Toppings before processing

6. Macrocarpa hedge being reduced in width in preparation for lowering in height to make ongoing maintenance easier.

7. An earthquake victim

1

November 2015.

Tabled a Hearing 25.11.15 P Croft

We, the undersigned residents of upper Moncks Spur Rd, Morten Settlement, have read and support the submission of P Croft and K Bovett (submitters No. 60575) made in respect of the Outdoor Burning provisions contained in the Proposed Canterbury Air regional Plan .

Outdoor burning of prunings and trimmings from shelter belts, trees and associated vegetation including storm damage is vital to the maintenance of and to maintaining the amenity value of our area.

By supporting this submission we acknowledge that outdoor burning of dry organic matter as per the regional Council moisture requirements creates only minimal smoke and we do not consider it to have a nuisance value.

Lew Peek + Mardi Blyth — 172 Moncks Spur

L.J. Cole — 186 Moncks Spur R

Barry and Lesley Cook — 203 and 207 Moncks Spur R

Gary Pattison + Joanne Bamford — 170 Moncks Spur Rd

Scott and Tracey Paterson — 170A Moncks Spur R

MARK RYAN + GERALDINE B. — 176 Moncks Spur

DAVID & Yvonne FOX — 179 Moncks Spur. (Absolute support.)

P.T.O.

Ferne Jameson and Paul Groufsky

[signature] [signature]

198 Moncks Spur Road

Christchurch

MIKE MCCORMICK 197 MONCKS SPUR RD [signature]

P Croft

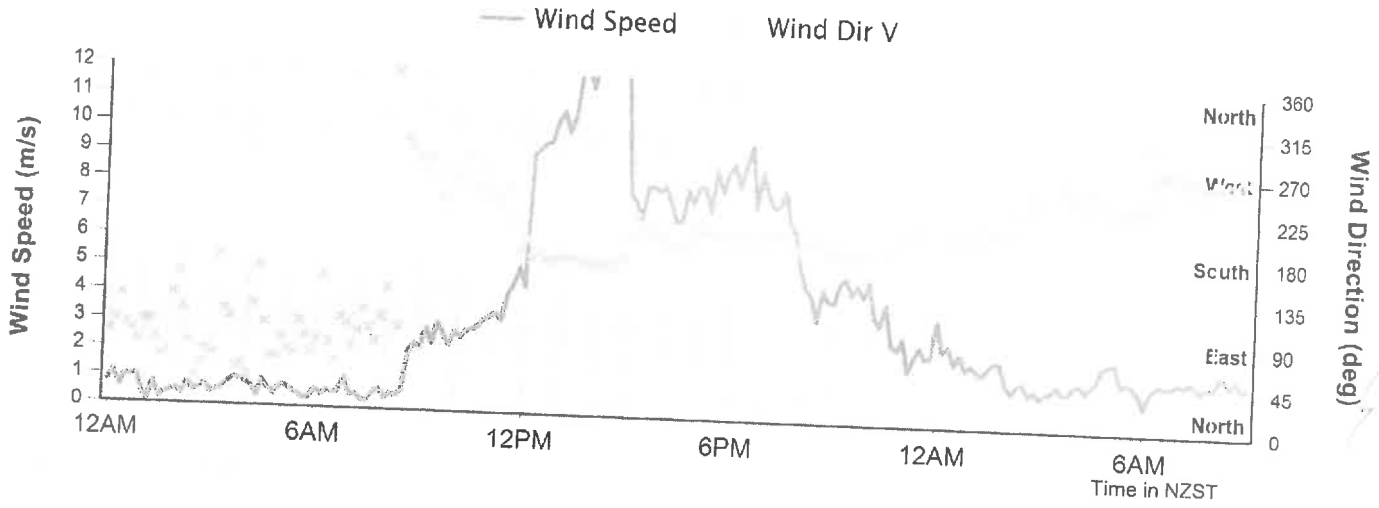
Wed 25 Feb 2015 Woolston

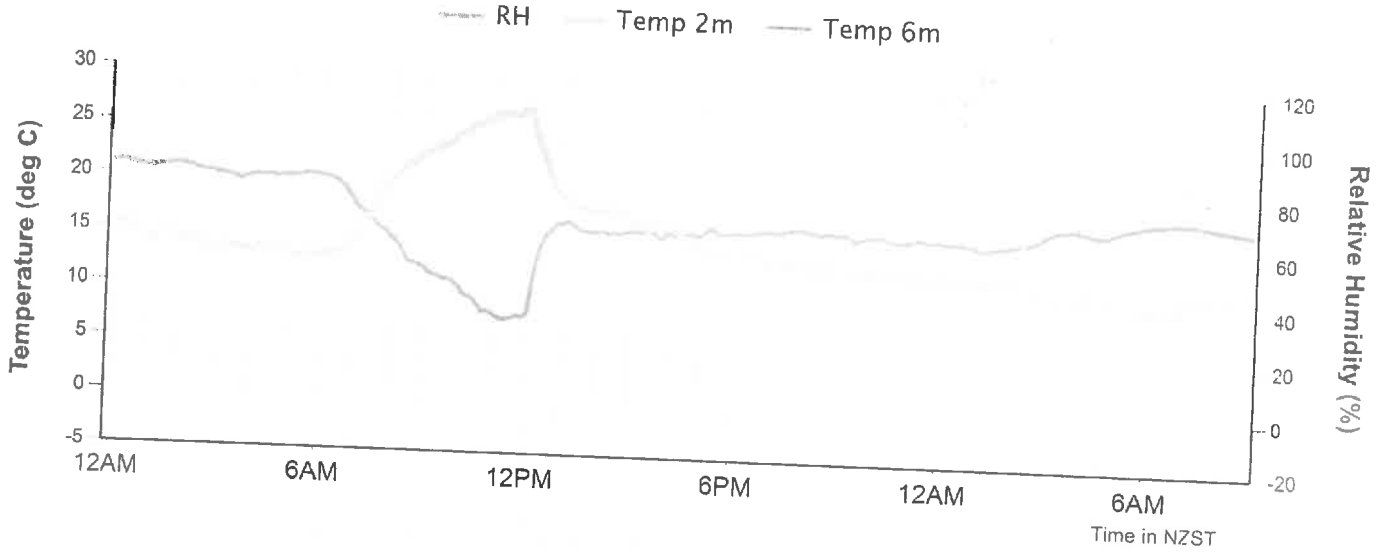
24 hour average PM FDMS

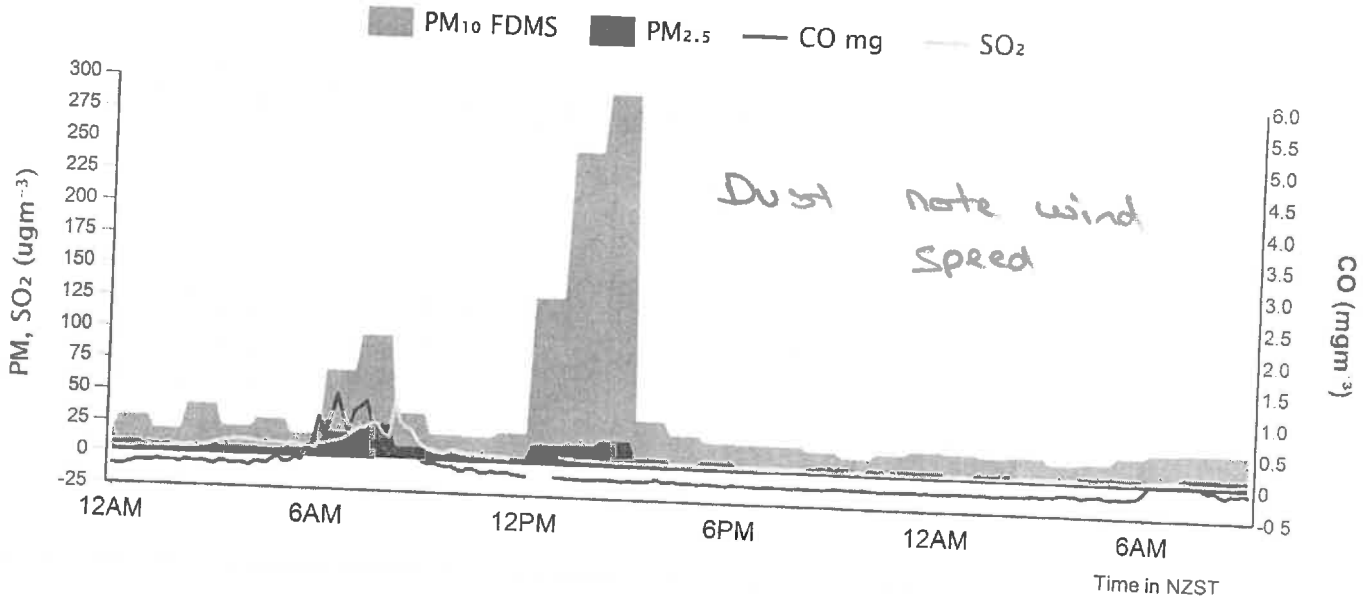
PM_{10}	$PM_{2.5}$	$PM_{10}-PM_{2.5}$
54	9	45

Gases

8hr max CO	24 hr Av SO_2	1 hr Max SO_2
0.1	8	25







P Croft

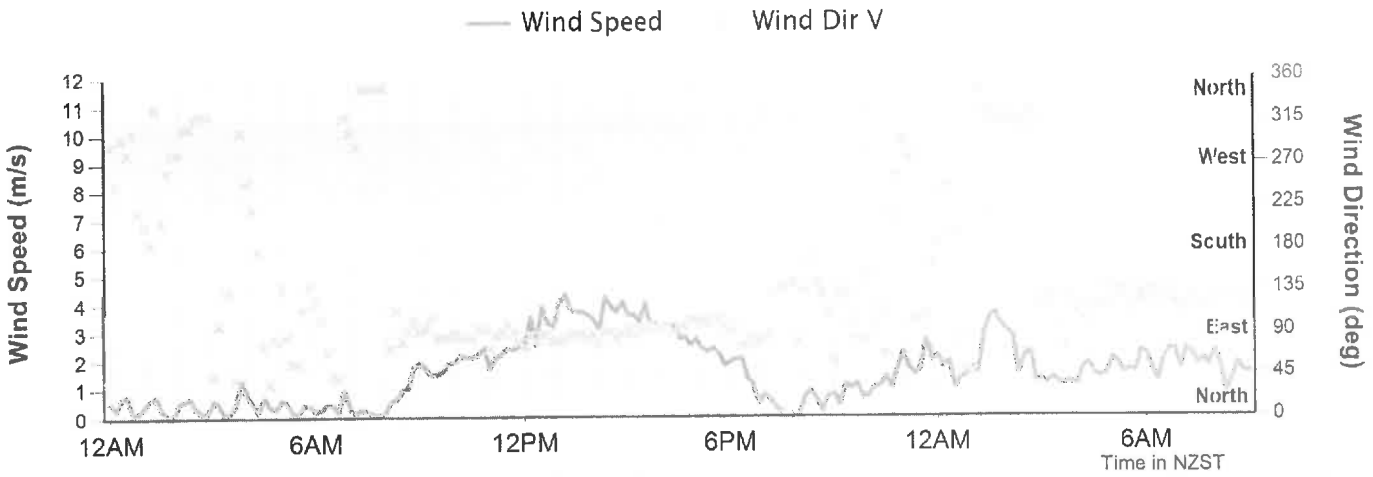
Wed 17 Jun 2015 Woolston

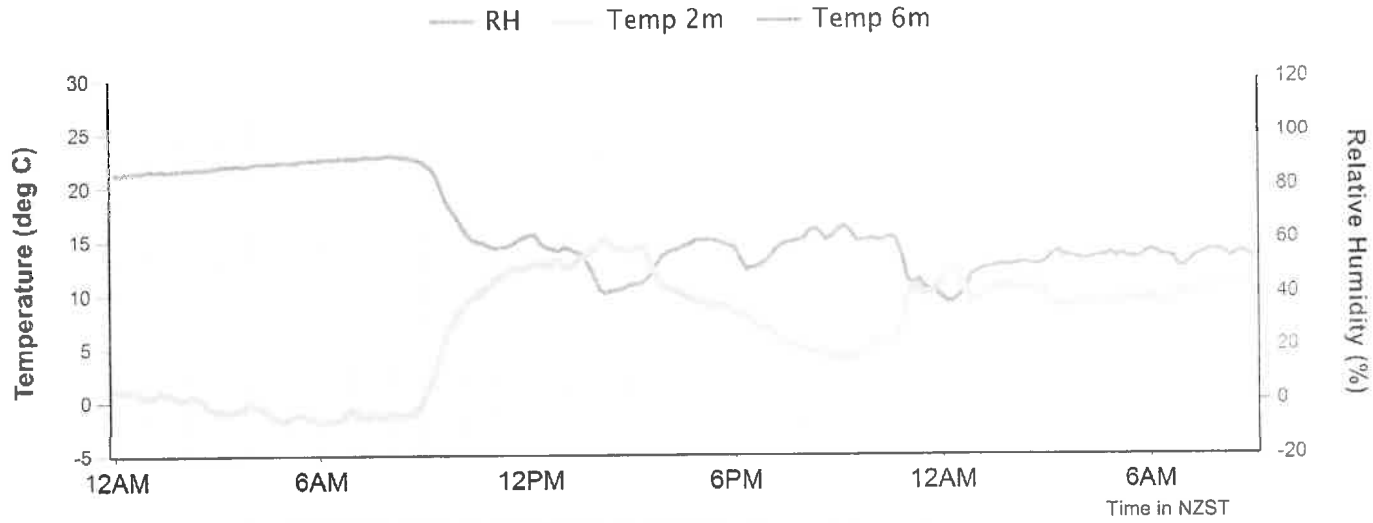
24 hour average PM FDMS

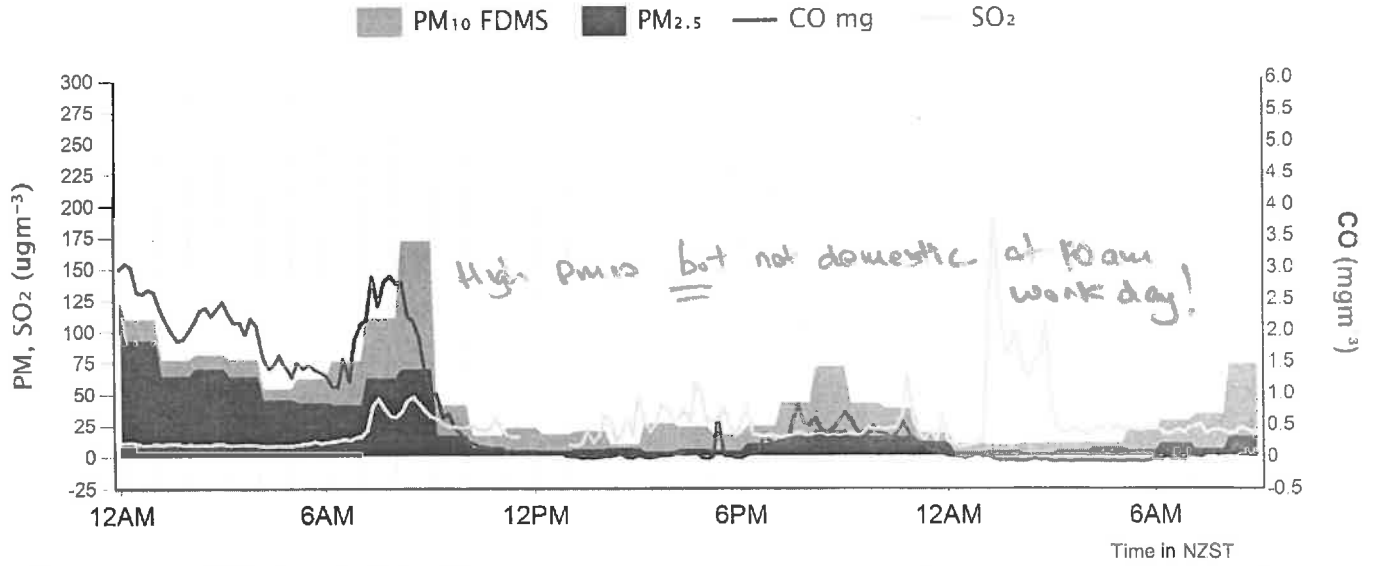
PM_{10}	$PM_{2.5}$	PM_{10}–$PM_{2.5}$
52	29	23

Gases

8hr max CO	24 hr Av SO_2	1 hr Max SO_2
2.3	20	40







P Croft

Wed 7 Oct 2015 Woolston

24 hour average PM FDMS

PM_{10}	$PM_{2.5}$	PM_{10}–$PM_{2.5}$
71	14	56

Gases

8hr max CO	24 hr Av SO_2	1 hr Max SO_2
0.6	31	105