

# Fresh Air

The Newsletter of Air Resource Management Ltd

May 2006



The latest piece of equipment acquired by Air Resource Management is Zadok, pictured at left being admired by our first client. Three centuries ago Zadok lent his name to a piece of processional music by Handel for the coronation of King George III. This more recent incarnation is now spreading ARM's name abroad (in the South Island).

## Particulate Concentrations From Combustors

Resource Consent air discharge permits issued for fuel-burning devices include conditions relating the particulate concentration limit to the combustion conditions. The actual concentration determined during our tests is expressed as usual at a standard condition of NTP (0°C, 1 atmosphere pressure and a dry gas basis). A further correction is applied for the combustion conditions e.g. 12% carbon dioxide, or more recently e.g. 11% oxygen.

We have recently identified a problem when testing cremators which introduce dilution air into the stack above the cremator. Since we test after this point the combustion correction often gives a wildly-skewed result.

Air discharge permits are intended to control the emission of contaminants to air. The only effect of introducing dilution air is to change the emission concentration; the mass emission remains the same.

We have now adopted the practice of us-

ing the calculated mass emission, together with the oxygen content before the dilution air is introduced to obtain a more accurate corrected result for comparison with the limit. This has the added advantage of being scientifically superior since the result refers to actual combustion conditions.

Please consult us for an explanation of the calculations involved.

## Air Pollution From Motor Vehicles

This subject has been addressed in several issues of Fresh Air already. It is necessary to readdress the matter following a recent article in the NZ Listener.

### • Emission testing

We have considered expanding into this field several times. Our estimate of the cost for each vehicle tested is about \$35, a fee which would double the present cost of a WOF. The tests proposed for a fee of about \$5 will be of very limited use – one could just as well achieve

the same effect by eye. A \$35 test would give a useful measure of six gaseous emissions and a particulate reading. However, the cost benefit is simply absent. The money spent would be much better used in other ways.

- **Emission control**

Modern vehicles are sold to the first owner complete with suitable emission controls; it can be stated with some confidence that these will last several years provided that the vehicle is correctly maintained. Older vehicles present a problem which can be better addressed directly through maintenance rather than a test which indicates that maintenance is required.

- **Mass emission reduction**

Any resources allocated for emission testing or control would be much better used on improvements to public transport.

- **Ambient air test results**

Some alarming statistics are advanced as justification for draconian measures of control. It is always necessary to address statistical evidence carefully in order to reach a correct conclusion. For example, the high levels of exceedances reported in Auckland every year are not those experienced by every citizen. Many of the monitoring stations are deliberately sited at critical points (Queen St, Khyber Pass, Lincoln Rd, Penrose motorway). It is results from these stations which hit the headlines.

It is stated as if a known fact that about 400 people die from air pollution in NZ every year. This is a deduction from overseas studies relying on a statistical interpretation of the data referred to above.

Our conclusion is that the best approach for amelioration in order to achieve the desirable level given in the national guidelines is already known. Any future effort should be devoted to better public transport in

Auckland, and more especially those parts of Auckland presently under such intense pressure from thousands of vehicles per day.

Our readers are invited to respond for publication in a future issue.

### **Landfill Gas Testing**

Modern portable landfill gas monitors are readily available. We are able to use these machines on behalf of local authorities to fulfil their statutory obligations in providing a report to the Regional Council. The machine tests for methane, carbon dioxide, oxygen, carbon monoxide and hydrogen sulfide.

### **Air Emission Testing Staff**

Recently we were pleased to host a visitor from the UK, Toby Campbell. Toby does similar work to ourselves in England and is very knowledgeable. We have tested a number of cremators recently and Toby has experience with those too.

During our discussions he showed us a plastic card he has obtained from the UK equivalent of our Qualifica-



### **New Staff**

We welcome Glenn Veart who joined us at the beginning of March as a principal and minor shareholder. It is Glenn's intention to take over Air Resource Management later this year when Richard Hoyle retires. Richard will continue as a part-time employee after that date.

tions Authority which certifies that he is qualified to conduct air emission tests to a certain level. The statutory authorities in the UK now require all tests to be conducted by qualified people.

This is a further development of the NZ Regional Councils' requirements for air emission testing companies to be IANZ-accredited.

It is a continuing cause of concern to us that, having the mandatory IANZ accreditation, our reports are then forwarded to staff in the Regional Councils who have no specialist qualifications. When ignorant of even the rudimentary knowledge necessary to evaluate our reports they sometimes require us to educate them under the guise of a Section 92 request for further information.

Air Resource Management has always maintained, at considerable cost, an extensive programme of in-service training for its staff. It is commonly six months or more before a new staff member is permitted to take charge of a test. Such training includes attendance in Australia on courses conducted by the CASANZ; Abbey & Andy are off shortly to Melbourne to learn about air pollution control.

The inevitable consequence of all these activities is a rise in the cost of tests for our clients.

#### **Air Resource Management**

34 Lincoln Road  
Henderson  
PO Box 21-639 Henderson  
Waitakere City  
Phone: 0-9-836 0489  
Fax: 0-9-838 8523

**Principal:**

Richard Hoyle  
Mobile: 021-977-852  
Email:  
mail@airresourcemanagement.co.nz

**Website:**  
www.airresourcemanagement.co.nz