

Waiwhakaiho Airshed
Monitoring Programme
Annual Report
2013-2014

Technical Report 2014-55

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Executive summary

The Waiwhakaiho airshed in the Fitzroy area of New Plymouth is the location of several industries that include two abrasive blasting operations, a feed mill, a fertiliser storage and distribution depot, a pallet and drum recycling operation, and an asphalt plant. The companies hold resource consents to allow them to discharge emissions into the air. This report for the period July 2013 – June 2014 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the companies' environmental performance during the period under review, and the results and environmental effects of the companies' activities in relation to emissions to the air.

The companies monitored during the period under review were Downer EDI Works Limited, Fitzroy Engineering Group Limited, Katere Surface Coatings Limited, Farmlands Co-operative Society Limited, Ravensdown Fertiliser Co-op Limited, and Taranaki Drum & Pallet Recycling.

The companies held a total of 6 resource consents, which include a total of 118 special conditions setting out the requirements that the companies must satisfy.

The Council's monitoring during the year under review included 22 inspections, during which point source and ambient suspended particulate monitoring may be undertaken, two deposition gauge surveys, and review of two stack test reports.

The deposition gauge surveys found that, in relation to dust resulting in deposited particulates, ambient air quality in the airshed during the year under review was very good. During the 2013-2014 year none of the "TRC SEM" samples¹ analysed exceeded the 4g/m²/30 days deposition rate guideline, with only 26% of all the gauges collected in the airshed as a whole exceeding this guideline. There were two gauging locations, one in the vicinity of each of Ravensdown Fertiliser Co-operative Limited and Katere Surface Coatings Limited, where the guideline was exceeded at the time of both surveys. The highest result obtained during the year under review was one of the Downer EDI Works Limited gauges, which was just over five times the guideline rate. The guideline reflects a deposition rate that may cause complaints in a residential area.

In the 2013-2014 year there were 43 air related incidents recorded on the Council's Unauthorised Incidents Register for the Waiwhakaiho airshed. Eighteen of the forty three incidents were substantiated at the time of inspection, resulting in the identification of twenty nine unauthorised discharges. Eight abatement notices and twelve infringement notices were issued as a result of the incident investigations undertaken. In three other cases, although the complaint could not be substantiated at the time of investigation, issues that had the potential for effects were identified and preventative measures were agreed upon. The complaints related to a variety of air quality issues, namely odour, dust, or smoke. All incidents and the Council's investigations and enforcement actions have previously been reported to the Council and public. None of the substantiated air related incidents were due to the activities of consented companies monitored under this programme.

¹ Taranaki Regional Council's "state of the environment" monitoring sites are sites that are not in the immediate vicinity of any of the industrial dischargers.

During the year, the Downer EDI Works Limited demonstrated a good level of environmental performance and compliance with their resource consent, as discussed in Section 2. However, for the seventh consecutive year, there was a failure to demonstrate compliance with the consent arising from a delay in particulate emission monitoring. Although the Company kept Council informed regarding the delay, the plant operating conditions required for testing have been clarified, and it is recommended that the Company start to seek opportunities to undertake this required monitoring earlier in the 2014-2015 year to bring it back on schedule.

During the year, Farmlands Co-operative Society Limited demonstrated a high level of environmental performance and compliance with their resource consent, as discussed in Section 3. Although the request on 13 May 2010 for the operation and management plan to be updated and forwarded to the Council for approval has not been responded to, the feedmill was found to have ceased operating in April 2011. This will be followed-up if and when the site becomes operative again.

During the year, Fitzroy Engineering Group Limited demonstrated a high level of environmental performance, as discussed in Section 4. Although there were exceedances of the particulate deposition rate recorded during one of the two sampling runs, these were considered to be as a result of other unauthorised discharges in the airshed.

An improvement in the Katere Surface Coating Limited's environmental performance is required. During the year under review the Company was instructed that the spent blasting media needed to be addressed and/or that the stormwater drain filters needed to be cleaned out at each of the four monitoring inspections. At the time of writing this report the Company had been advised that an abatement notice will be issued if the garnet is not cleaned up at the end of each day. An improvement in the control of wind blown yard dust is also desirable.

During the year, Ravensdown Fertiliser Co-operative Limited generally demonstrated a good level of environmental performance and compliance with their air discharge consent, as discussed in Section 6, although improved control of yard dust is desirable.

During the year, Taranaki Drum and Pallet demonstrated a high level of environmental performance and compliance with the resource consent, as discussed in Section 7.

Overall, the companies monitored in this airshed programme demonstrated a good level of environmental performance.

This report includes recommendations relating to monitoring in the 2014-2015 year.

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1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is the Annual Report for the period July 2013-June 2014 by the Taranaki Regional Council (the Council) describing the results of the monitoring programme associated with the air discharge permits held by six industries within the Waiwhakaiho airshed. The monitoring covers emissions to air from the companies' activities in the Fitzroy area of New Plymouth.

Since 1 October 1991, with the enactment of the *Resource Management Act 1991* (RMA), the Council has been the agency with primary responsibility for air quality management in the Taranaki region. Early in 1992, the Council initiated air quality monitoring programmes for industries holding discharge permits, and has subsequently issued and monitored air discharge permits for a number of other industrial and trade premises.

The Council began monitoring some of the industries in the Waiwhakaiho airshed in 1992. This report is the twenty first Annual Report to be prepared by the Council to cover some of the Companies' air discharges and their effects. It is the thirteenth Annual Report to deal with emissions in the area as an airshed.

A separate report covers the results and findings of the Council's monitoring programmes associated with the water discharge permits held by some of these companies².

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about compliance monitoring under the Resource Management Act and the Council's obligations and general approach to monitoring sites through annual programmes, lists the resource consents held by companies in the Waiwhakaiho airshed, and outlines the nature of the monitoring programme in place for the period under review.

Each company's activity is then discussed in a separate section (Sections 2 to 7).

In each subsection (e.g. Section 2.1) there is a general description of the industrial activity and its discharges, an aerial photograph or map showing the location of the activity, and an outline of the matters covered by the company's air discharge permit.

Subsection 2 presents the results of monitoring of the company's activities during the period under review, including scientific and technical data.

Subsection 3 discusses the results, their interpretation, and their significance for the environment in the immediate vicinity of the site under discussion.

² Lower Waiwhakaiho Catchment Monitoring Programme Biennial Report, 2012-2014

Subsection 4 presents recommendations to be implemented in the 2014-2015 monitoring year.

Section 8 presents the results and findings in relation to any investigations, interventions, and incidents relevant to the Waiwhakaiho airshed and discusses the deposition gauge results, their interpretation, and their significance for the environment in the Waiwhakaiho airshed as a whole.

Section 9 presents a summary of recommendations made in relation to the monitoring of each company's activities.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The *Resource Management Act 1991* (RMA) primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- (a) the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- (b) physical effects on the locality, including landscape, amenity and visual effects;
- (c) ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- (d) natural and physical resources having special significance (eg, recreational, cultural, or aesthetic);
- (e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the consent holder. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual courses of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

The Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The Unauthorised Incident Register (UIR) includes events where the company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified company is indeed the source of the incident (or that the allegation cannot be proven).

1.1.5 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the consent holder/s during the period under review, this report also assigns a rating as to each Company's environmental and administrative performance.

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. **Administrative performance** is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the *RMA* can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

- **High** No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.
- **Good** Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
 - Strong odour beyond boundary but no residential properties or other recipient nearby.
- **Improvement required** Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.
 - **Poor** Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

- **High** The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.
- **Good** Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.
- **Improvement required** Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.
- **Poor** Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2013-2014 year, 60% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 29% demonstrated a good level of environmental performance and compliance with their consents.

1.2 Resource consents

1.2.1 Air discharge permits

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations.

A list of the companies holding air discharge permits monitored as part of the Waiwhakaiho airshed monitoring programme is given in Table 1, and their locations are shown in Figure 1. The companies' activities and the special conditions on their consents are presented in later sections. Copies of the full consents are given in alphabetical order in Appendix I

Table 1 Resource consents for the monitored industries in the Waiwhakaiho airshed

Consent holder	Consent number	Purpose of consent	Next review date	Expiry date
Downer EDI Works Limited	4060-4	To discharge emissions into the air from the manufacture of hot mix asphalt paving mixes and associated activities	-	June 2020
Farmlands Co-operative Society Limited	4051-5	To discharge emissions into the air from the milling and blending of grain and animal meals and associated activities [transferred 17 January 2014]	-	June 2020
Fitzroy Engineering Group Limited	4025-3	To discharge emissions into the air from abrasive blasting operations and associated activities at the factory site and from yard blasting operations at or about GR: P19:068-394 and mobile abrasive blasting at various locations throughout the Taranaki region	-	June 2020
Katere Surface Coatings Limited	4475-2	To discharge emissions to air from abrasive blasting and surface coating activities at a permanent site located at Katere Road, New Plymouth and from mobile operations throughout the Taranaki region including within the Coastal Marine Area at Port Taranaki	-	June 2020
Ravensdown Fertiliser Co-op Limited	4024-3	To discharge emissions into the air from the storage, blending and distribution of fertiliser	June 2020	June 2026
Taranaki Drum & Pallet Recycling	6073-1	To discharge emissions into the air from the burning off of pallets	-	June 2020

1.3 Monitoring programme

1.3.1 Introduction

Section 35 of the RMA sets out obligations upon the Council to gather information, monitor, and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region and report upon these.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations, and seek information from consent holders.

The air quality monitoring programme for the industries in the Waiwhakaiho airshed consisted of up to four primary components.

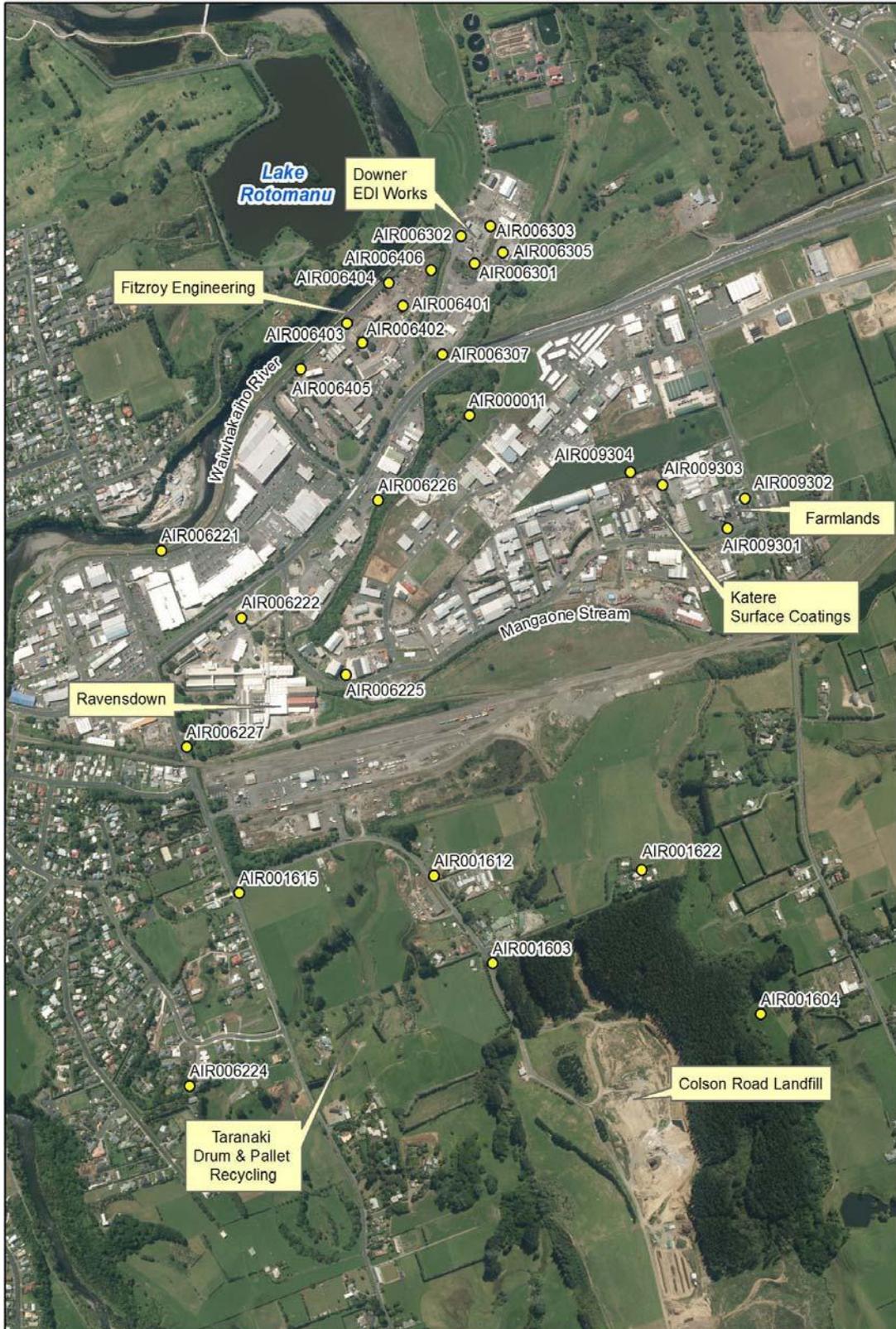


Figure 1 Location of industries holding air discharge permits, and monitoring sites within the Waiwhakaiti airshed

1.3.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- in discussion over monitoring requirements;
- preparation for any reviews;
- renewals;
- new consents;
- advice on the Council's environmental management strategies and content of regional plans and;
- consultation on associated matters.

1.3.3 Site inspections

Each site was visited up to four times during the monitoring period. Inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the consent holder were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was surveyed for environmental effects.

1.3.4 Chemical sampling

Deposition gauges were placed in the vicinity of selected sites on two occasions during the year, and the collected samples were analysed for deposited particulate. The monitoring locations are shown in Figure 1.

1.3.5 Data Review

The consents held by Downer EDI Limited and Fitzroy Engineering Group limited both contain special conditions requiring that the particulate concentration of the stack discharges are monitored by independent parties on an annual basis. The conditions under which the testing must be performed, and the reporting requirements, are also specified. This emissions monitoring must be completed by 1 June each year, and the reports must be provided to the Council within 20 working days of testing.

2. Downer EDI Works Limited

2.1 Introduction

2.1.1 Process description

The purpose of the plant is to produce asphalt for use on roads and driveways etc. A permanent drum mix plant has replaced the batch plant and mobile plant that were formerly in use at the site.

The asphalt production is achieved by the following processes. The plant is a parallel-flow drum mix plant consisting of a rotary drum [which is used to both dry and heat the aggregate and to mix the hot aggregate with bitumen], a dual fuel burner and integral combustion air fan, a bitumen drum injection system and expansion box. Aggregate is transferred into the rotating drum at the burner end and then travels down the slightly inclined rotating drum where products of combustion and excess air dry and heat the aggregate. The drum is fitted with flights, which achieve a lifting motion ensuring good contact between the drying gases and the aggregate. Hot liquid bitumen is injected into the drum about half way down. A steam barrier from the drying aggregate, and burner design, prevents the burner from impinging on the hot bitumen. Hot mix temperatures range from 135 °C to 170 °C depending on the blend, and mixes generally contain about 5% bitumen. The product is removed continuously by a conveyor at the end of the drum and is transferred to insulated storage bins prior to discharge into trucks.

The spraying of bitumen into the aggregate, and the steam generated by drying the aggregate removes a substantial proportion of the entrained dust. The combustion products, dust, bitumen volatiles, and pyrolysis products are drawn through an expansion box where large dust particles settle out and drop into the aggregate/bitumen mix. The emissions then pass through a venturi water scrubber, which injects water into the exhaust gas stream and centrifugally separates out the water/dust prior to discharge from the 17 metre stack.

Road patching mix can be manufactured in a pugmill serviced via a by-pass conveyor.

The current drum mix plant was installed in 2006. It has a maximum production rate of up to 80 tonnes per hour, but is normally operated at around 50 tonnes per hour, with the typical annual operating time being around 200 to 400 hours per year.

The major components of this drum mix plant were either new or refurbished, with only items such as the aggregate storage facilities, control room and weighbridge being existing facilities. The scrubber settling ponds, although existing, were deepened to increase retention/settling time.

The drum burner for this plant operates primarily on natural gas but with dual fuel capability. The plant is able to operate on diesel oil, primarily to give some commercial advantage when negotiating fuel contracts. The burner has a rated capacity of 12 MW gross, but the plant requires only 7 MW gross on average at the plant's maximum production rate of 80 tonnes per hour.

Diesel and kerosene are not blended or stored at the site but at Port Taranaki. If diesel firing of the dual fuel drum burner was required, the consent holder advised that the

existing self-bunded [double-skinned] 10,000 litre fuel tank would be used for fuel storage.

The plant is designed to be capable of processing recycled asphalt, and the Company indicated that they may want to introduce this at a later date. However, no information was provided to the Council at the time of their resource consent application regarding the potential effects from the processing of recycled asphalt paving and so it is not currently permitted by their consent.

The main potential issues associated with the discharges to air from the site are particulates, silica, organic compounds, carbon monoxide, nitrogen oxides and sulphur dioxide.

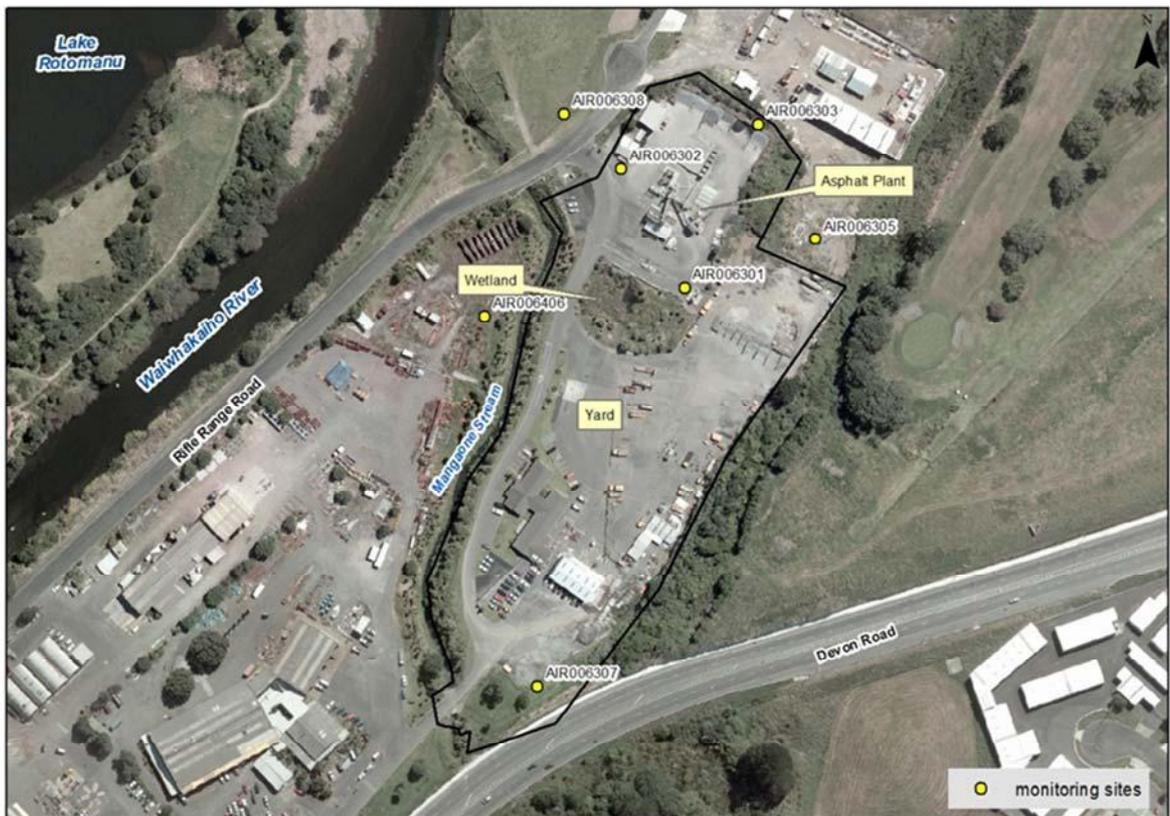


Figure 2 Location of Downer EDI Works Limited and related deposition gauge sites

In addition to the emissions from the asphalt plant itself during normal operation, the main sources of additional particulates are:

- Storage and movements of aggregate and crusher dust, the effects of which are mitigated by keeping the materials damp,
- washing out of the drum between substantially different batches of asphalt,
- run-out of aggregate loaded in excess of requirements,
- fugitive emissions, which are controlled by ensuring that adequate monitoring and maintenance is undertaken by operators at the site, and
- mobilisation of dust from the yard surface due to truck movements. The roads and yard areas have been progressively hard paved and these surfaces are kept damp when appropriate. The yard has been equipped with water sprays to assist in minimising dust during windy weather. Spillage of aggregate is scraped up and the

area washed down as necessary. A speed limit of 10kph has been imposed to reduced dust generation from vehicle movements in dry weather.

Some of the total organic carbon (TOC) emissions can produce a noticeable odour, however it is expected that these odours would dissipate sufficiently so that they are not considered to be offensive beyond the boundary of the site. Bitumen odour can be apparent beyond the boundaries of the premises resulting from the dumping of hot mix or patching mix into waiting trucks. When the material is deposited in the truck, a moderate cloud of bitumen smoke may drift downwind. This event is of short duration.

Most of the sulphur dioxide and nitrogen oxides produced by the burning of fossil fuels in the plant are removed by the water scrubber in the cyclone.

Ground level concentrations of carbon monoxide and silica are estimated to be well below relevant guidelines.

2.1.2 Air discharge permit

Downer EDI Works Limited (previously Works Infrastructure Limited) holds air discharge permit 4060 to cover emissions to air from the manufacture of hot mix asphalt paving and associated processes. This permit was originally issued by the Council on 8 February 1995 to Technic Industries Limited as a resource consent under Section 87(e) of the Resource Management Act. This consent was renewed on 29 March 2004 and then renewed again on 23 March 2005 for a period until June 2020.

Ownership of the plant has changed several times, with Downer EDI Works Limited (formerly operating under the names of Works Civil Construction and then Works Infrastructure Limited) taking over the site from Technic Industries Limited in November 1997.

The special conditions on the consent are intended to control the quality of the emissions from the site, and limit the potential for off-site effects as a result of the operation of the asphalt plant and associated activities. This is achieved by:

- Requiring that the Company carry out their activities in a way that is consistent with the information submitted at the time of the consent application, or seek the Council's approval before making any changes (special conditions 1 and 3).
- Ensuring that the Company adopts the best practicable option in preventing or minimising any adverse effects that may result from discharges to air from the site (special condition 2).
- Prohibiting the processing of recycled asphalt, as no information was provided in the AEE relating to the potential effects of discharges from this activity (special condition 4).
- Controlling the operation and maintenance of the burner (special conditions 5 to 7).
- Measurable limits on particulate and smoke discharges (special conditions 8 and 20).

- Requiring the Company to monitor and report on the particulates in the emissions from the discharge stack at the request of a potentially affected party (special conditions 9 and 10).
- Limiting off site effects in relation to dust, odour, and gaseous contaminants (special conditions 11 to 17).
- Requiring that dust mitigation measures are in place to control potential dust emissions from associated activities (special conditions 18 and 19).
- Requiring that the Company operates, monitors, and maintains systems related to emission abatement equipment to ensure optimum performance, and keeps a log, accessible to the Council, detailing the checks and maintenance carried out (special conditions 21 to 25).
- Provision for the review of the conditions attached to the consent (special condition 26).

2.2 Results

2.2.1 Inspections

29 August 2013

The site was inspected in wet and windy conditions. No emissions or odours were found beyond the boundary of the property. The plant was not operating at the time of inspection.

18 December 2013

No odours or dust were found beyond the boundary of the property. The bitumen plant was operating and trucks were loading out.

6 March 2014

Trucks were loading out at the time of inspection, but the asphalt plant was not operating at the time of inspection and there was no discharge from the stack. There were no off-site dust or odour issues reported.

21 May 2014

The plant was not operating at the time of inspection and there was no visible discharge from the stack. There was no odour beyond the boundary of the property, and no dust issues were reported.

2.2.2 Provision of Company data

2.2.2.1 Particulate emissions monitoring

Special conditions 8, 9 and 10 relate to the standard to which the emissions from the asphalt plant must be treated, and outline the frequency and conditions under which emissions testing must be performed to confirm compliance. The timing of the testing, and reporting of the results to the Council are also specified.

Testing must be undertaken as per a specified Australian Standard, by a party independent from the Company before 1 June each year, under production conditions that give rise to maximum emissions, and the results are to be reported to the Council within 20 working days of the testing.

The overdue 2012-2013 testing undertaken was on 25 July 2013, with the report received by the Council on 13 August 2013, within the 20 day timeframe required by the consent. A summary of the results is as follows:

Sample 1:	86 mg/m ³
Sample 2:	79 mg/m ³
Sample 3:	75 mg/m ³
Average:	80 mg/m ³

The average result obtained indicates compliance with the limit of 125 mg/m³ specified in condition 8.

As with the 6 preceding monitoring years, the stack testing for the 2013-2014 year had been delayed beyond the timeframe required by the consent, which the Company advised the Council was due to factors such as there not being a production run of sufficient length (minimum of 4 hours) occurring at a time when the independent consultant could travel to Taranaki to undertake the monitoring, and the weather. The Company's production log was provided to the Council which confirmed that up until 29 May 2014, with the exception of the period used to complete the overdue 2012-2013 monitoring, there had been only 3 days on which production runs had been undertaken that lasted for 4 hours or more. The Company kept the Council informed of the delays, and at the time of writing the report, the testing had been undertaken.

The testing undertaken was on 26 August 2014, and will be reported on in the 2014-2015 Annual Report.

As delayed monitoring has been an on-going issue, the operational requirements for this testing to be undertaken have now been clarified with the Company and their consultant. The Company previously thought that, to allow for emissions monitoring, that a single production run of 4 to 5 hours was required for the triplicate determinations to be undertaken. This has been investigated with the consultant, and it has been determined that valid and representative results can be obtained from three determinations, each of which can be on a different product batch. The Company has now been advised that 3 production runs of approximately one and a half hours duration will allow the monitoring to be undertaken, and this should provide additional opportunities for the monitoring to be carried out in the future. It is expected that the Company should be able to get the emissions monitoring back on schedule during the 2014-2015 year.

2.2.3 Results of receiving environment monitoring

2.2.3.1 Deposition gauging

Many industries emit dust from various sources during operational periods. In order to assess the effects of the emitted dust, industries have been monitored using deposition gauges.

Deposition gauges are basically buckets elevated on a stand to about 1.6m. The buckets have a solution in them to ensure that any dust that settles out of the air is not re-suspended by wind.

Gauges are placed around the site and within the surrounding community. The gauges were left in place for between two weeks and a month, on two separate occasions.

The rate of dustfall is calculated by dividing the weight of insoluble material (grams) collected by the cross-sectional area of the gauge (metres²) and the number of days over which the sample was taken. The units of measurement are grams/metre²/day.

Guideline values used by the Council for dust deposition are 4g/m²/30 days or 0.13g/m²/day deposited matter. Consideration is given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values. This guideline value has been incorporated as a limit in the Company's consent.

A site map marking the location of the gauges around the Downer EDI Works site is shown in Figure 2, with the monitoring site locations also described in Table 2.

Material from the gauges was analysed for solid particulates with the results shown in Table 3. The prevailing wind directions during the surveys are shown in Appendix II.

Table 2 Downer EDI Works Limited air monitoring site locations

Site Code	Location description	At or beyond site boundary
AIR006301	Approx 80 m SE of asphalt plant	Inside boundary
AIR006302	NW of asphalt plant approx. 10m from Rifle Range Road	Inside boundary
AIR006303	NE of asphalt plant approx. 50M along screening bank	Inside boundary
AIR006305	East. Near golf course track	Outside boundary
AIR006307	Between southern site entrance and Devon Road	Inside boundary

For an industry such as this, relatively high deposition rates are expected due to handling and processing of aggregate material. As can be seen from Table 3, three of the seven samples collected and analysed during the year under review exceeded the Council's recommended guideline value of 0.13 g/m²/day and consent limit of 4 g/m²/30 days for deposited particulate at monitoring locations at the site boundary. It must be noted however that the consent limit applies only at site AIR006305, the only site "at or beyond the site boundary", and this monitoring site has the potential to be impacted by the activities of the occupiers of the neighbouring property on which the gauge is located.

January 2014 survey

For the January survey the result for site AIR006303 (within the site boundary) was above guideline and AIR006305 (beyond the site boundary) was above the consent limit. The filters from both sites were described as being gritty, and having a medium filtration rate (Photo 1).

The gauge collected from these sites were both found to contain material that had an appearance consistent with soil, rather than the being typical of the type of aggregates used on site. It is noted that site development work was occurring to the east of the site. These observations indicate that there may have been a significant contribution from sources other than the activities of Downer EDI Works Limited.

February 2014 survey

For the February survey it was found that the samples collected from all gauging sites complied with the Company's consent limit. It is noted that on retrieval of the samples from this run, the gauge collected from site AIR006305 was found to have been knocked over.

Table 3 Deposition gauge results from around the Downer EDI Works Ltd site

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume litres
					g/m ² /day	g/m ² /30day	
AIR006301	TRC148703	7-Jan-14 to 28-Jan-14	7.3	21	0.09	2.7	0.80
	TRC149230	4-Feb-14 to 25-Feb-14	4.4	21	0.08	2.4	0.50
	summary for data 1994- June 2013	min	0.07	19.9	0.01	0.3	0.22
		max	1.02	45.1	0.60	18	5.20
		median	0.37	28.2	0.13	3.9	2.06
number		45	39	48	48	39	
AIR006302	TRC148704	7-Jan-14 to 28-Jan-14	9.5	21	0.07	2.1	0.80
	TRC149231	4-Feb-14 to 25-Feb-14	7.8	21	0.02	0.6	0.30
	summary for data 1994- June 2013	min	0.13	19.9	0.01	0.3	0.19
		max	1.1	45.1	0.89	26.7	6.92
		median	0.34	28.2	0.12	3.6	1.86
number		44	39	47	47	38	
AIR006303	TRC148705	7-Jan-14 to 28-Jan-14	12.9	21	0.68	20	0.60
	TRC149232	4-Feb-14 to 25-Feb-14	5.3	21	0.07	2.1	0.40
	summary for data 1994- June 2013	min	0.11	19.9	0.02	0.6	0.14
		max	0.99	45.1	12.3	370	6.06
		median	0.32	28.6	0.13	3.9	1.85
number		37	34	39	39	31	
AIR006305	TRC148706	7-Jan-14 to 28-Jan-14	14.0	21	0.25	7.5	1.30
	TRC149233 ^a	4-Feb-14 to 25-Feb-14	-	21	-	-	-
	summary for data 1999- June 2013	min	0.12	17.8	0.03	0.9	0.22
		max	2.07	41.8	0.61	18.3	5.31
		median	0.4	27.5	0.14	4.2	2.12
number		32	36	32	32	32	
AIR006307	TRC148707	7-Jan-14 to 28-Jan-14	3.6	21	0.05	1.5	1.10
	TRC149234	4-Feb-14 to 25-Feb-14	4.6	21	0.03	0.9	0.40
	summary for data 2000- June 2013	min	0.14	17.8	0.02	0.6	0.19
		max	2.1	41.8	0.89	27	5.06
		median	0.35	27.1	0.10	3.0	1.41
number		26	31	26	26	26	

Key: Results in bold exceed consent limit
a – gauge knocked over

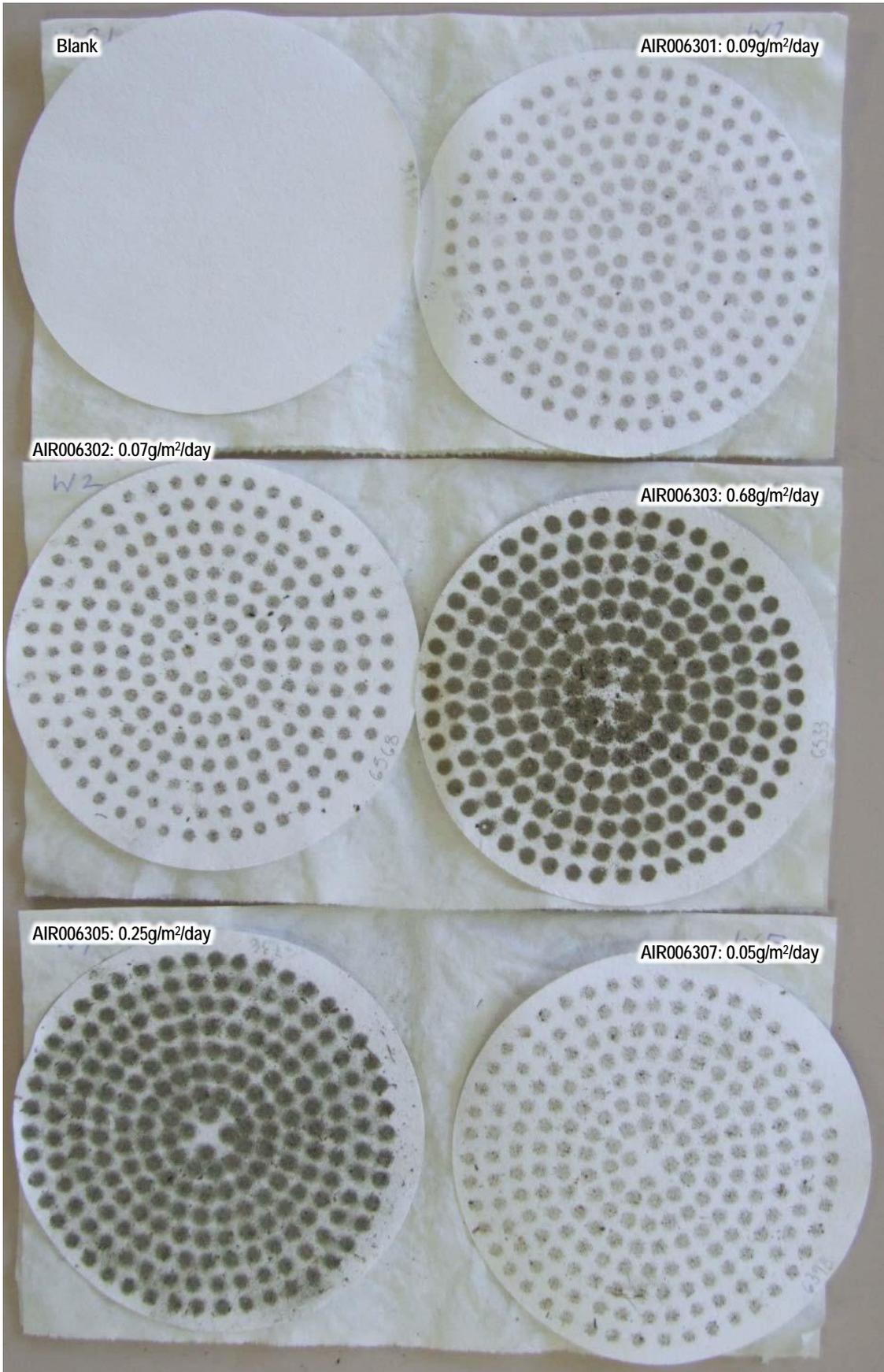


Photo 1 Downer EDI Works Limited deposition gauge filters, January 2014 survey

2.2.4 Investigations, interventions, and incidents

In the 2013-2014 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in their resource consent or provisions in Regional Plans.

2.3 Discussion

2.3.1 Discussion of site performance

Routine compliance monitoring inspections during the year under review found that activities at the site were well managed. There were no off site effects found from either dust or odour due to the Company's activities at the time of inspection. However the asphalt plant was only in operation on one of the four compliance monitoring inspections undertaken.

In terms of potential dust issues it is considered that activities at the site were generally well managed.

There was one exceedance of the particulate deposition rate guideline value, and one exceedance of the consent limit at the only monitoring location beyond the boundary of the site. However the nature of the material collected was not consistent with that used in the processes covered by the air discharge consent, or any associated activities at the site.

There were no dust or odour complaints received by the Council.

Particulate emission monitoring was again carried out behind schedule due to operational reasons. The Council was kept informed regarding the postponement of testing. As this has been an on-going issue, the operational requirements for this testing to be undertaken have now been clarified with the Company and their consultant. The Company has been advised that three production runs of approximately one and a half hours duration will allow the monitoring to be undertaken, and it is expected that the Company should be able to get the emissions monitoring back on schedule during the 2014-2015 year.

2.3.2 Environmental effects of exercise of consents

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity, for example vegetation pollens, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dusts may settle out within timeframes ranging from a few seconds to minutes.

The environmental effects of dusts include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. It has been found that background rates of dust deposition in rural areas of New Zealand are typically 0.1-1.5 g/m²/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m²/30 days. From experience, rates above 3-4 g/m²/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources.

The amount of dust and detritus generated at any industrial site is influenced by many factors. From past results of deposition gauging it is likely that factors including seasonal weather variations, vehicle traffic about the site, and the type of work being conducted will have some effect on the results.

Deposition gauging was conducted for the 49th and 50th time during the 2013-2014 monitoring year around the Downer EDI Works site. The deposition gauges results, and performance against the guideline, are shown in Figure 3.

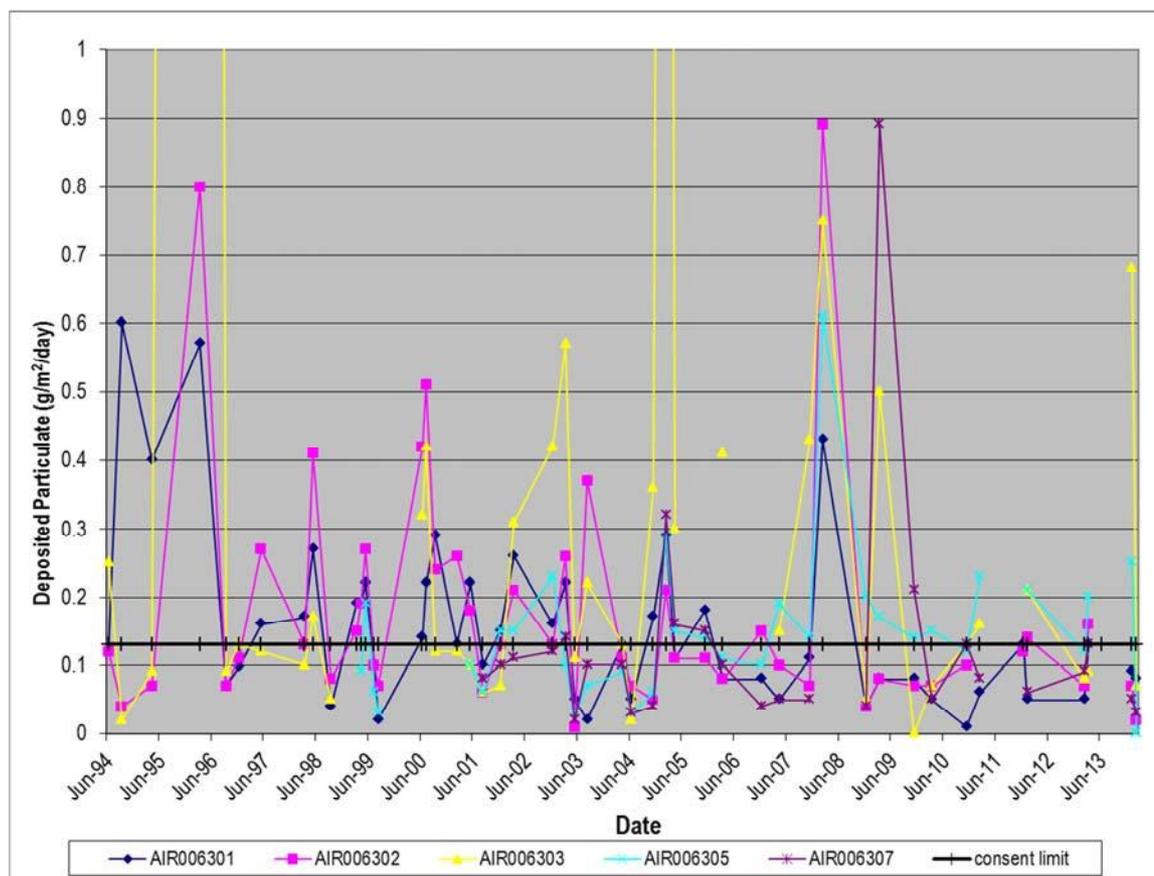


Figure 3 Deposition gauge results at Downer EDI Works monitoring sites (June 1994 – June 2014)

The results from the gaugings show that 22 percent of the samples collected during the 2013-2014 period were in excess of the particulate deposition rate guideline values adopted by the Council (Figure 4).

During the January survey the particulate deposition rates measured in the gauge north east of the asphalt plant, behind the aggregate bunkers approximately 50 metres along the screening bank (AIR006303) and the gauge east of the asphalt plant (AIR006305) were up to five times the consent limit. The wind direction during this gauging period indicates that site AIR006303 was downwind of the Downer EDI Works Limited site for approximately 54 % of the time, and site AIR006305 was downwind of the Downer EDI Works Limited site for approximately 60 % of the time. The appearance of the material collected on the filters during the analysis of the samples from both gauges was found to be gritty, however the appearance of the material was consistent with top soil (Photo 1), and it is noted that site development works have been undertaken on a property to the east of the Downer site.

Although the gauges were downwind of this development for only 26 % of the time, the winds from the east tended to be stronger.

There were no exceedances recorded during the February survey.

It is noted that there were no complaints received by the Council in relation to dust issues from the Downer EDI site during the 2013-2014 year.

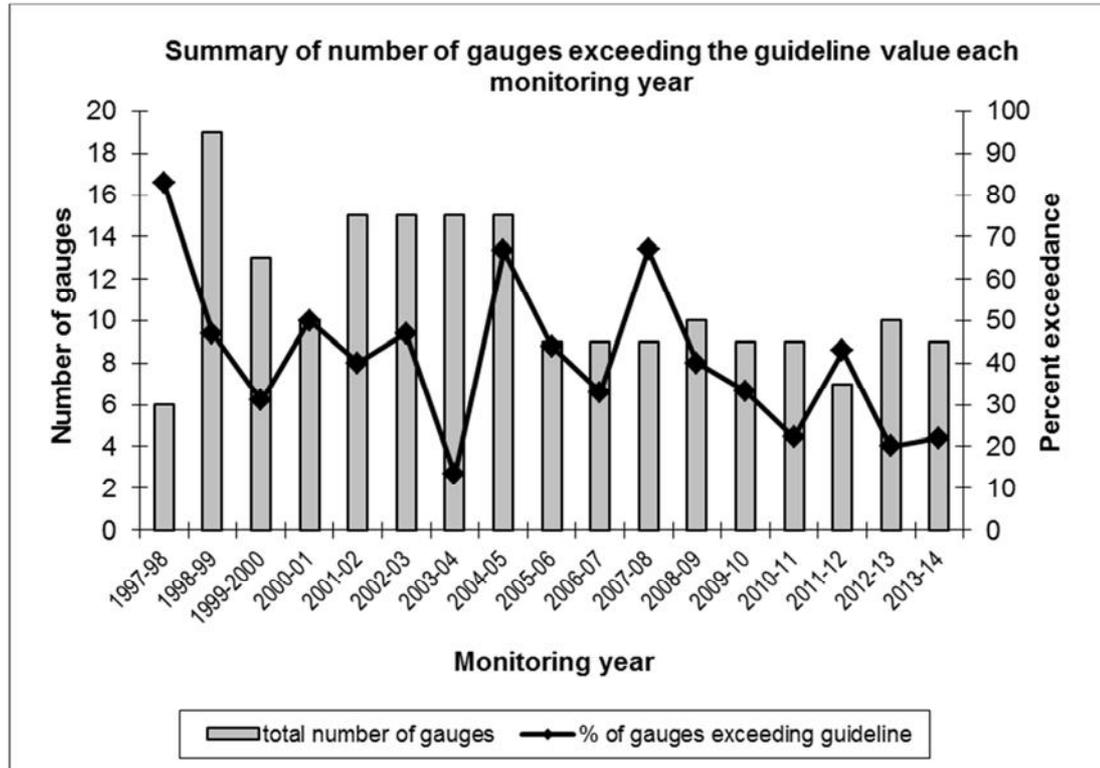


Figure 4 Summary of deposition gauge guideline exceedances in the vicinity of the Downer EDI Works site (July 1997-June 2014)

Statistical analysis of the data collected to 30 June 2014 found three statistically significant trends.

The statistically significant trends of decreasing particulate deposition rates at sites AIR006301 and AIR006302 that have been evident at times since the end of the 2009-2010 year have continued during the year under review (Figure 5 and Figure 6).

The statistically significant trend of increasing particulate deposition rate at site AIR006305 that was reported on at the end of the 2009 to 2011 and 2013 periods was again evident at the end of the 2013-2014 monitoring year (Figure 7).

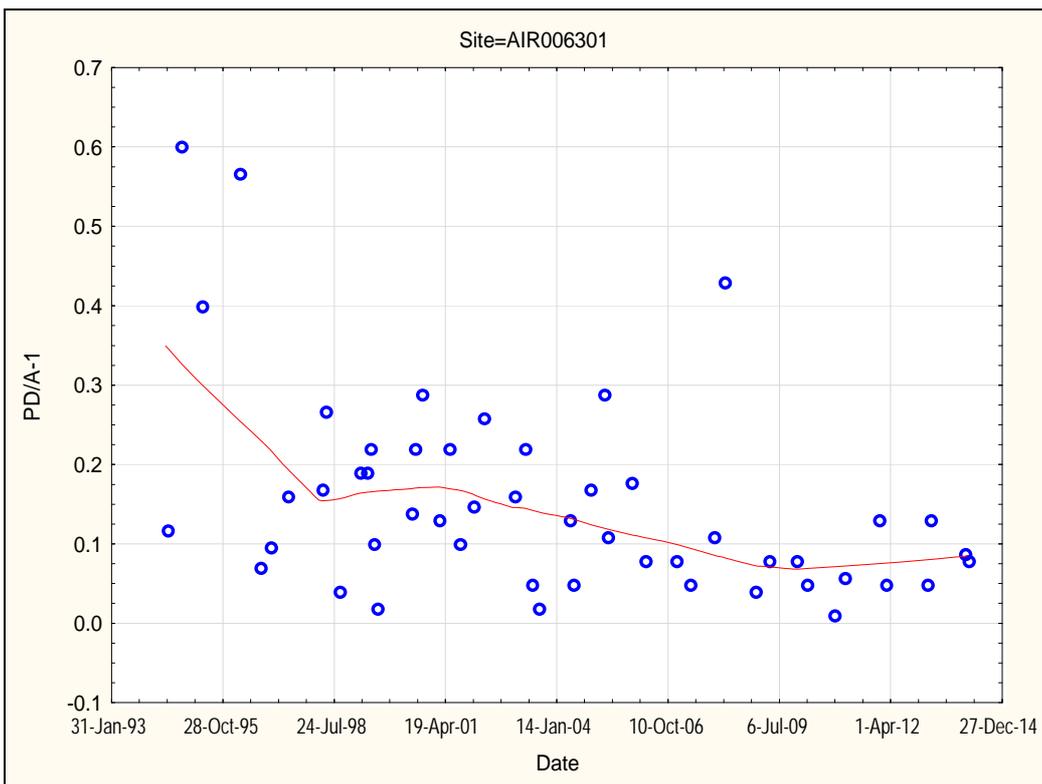


Figure 5 Particulate deposition rate trend at Downer EDI Works monitoring site AIR006301 (June 1994 – June 2014)

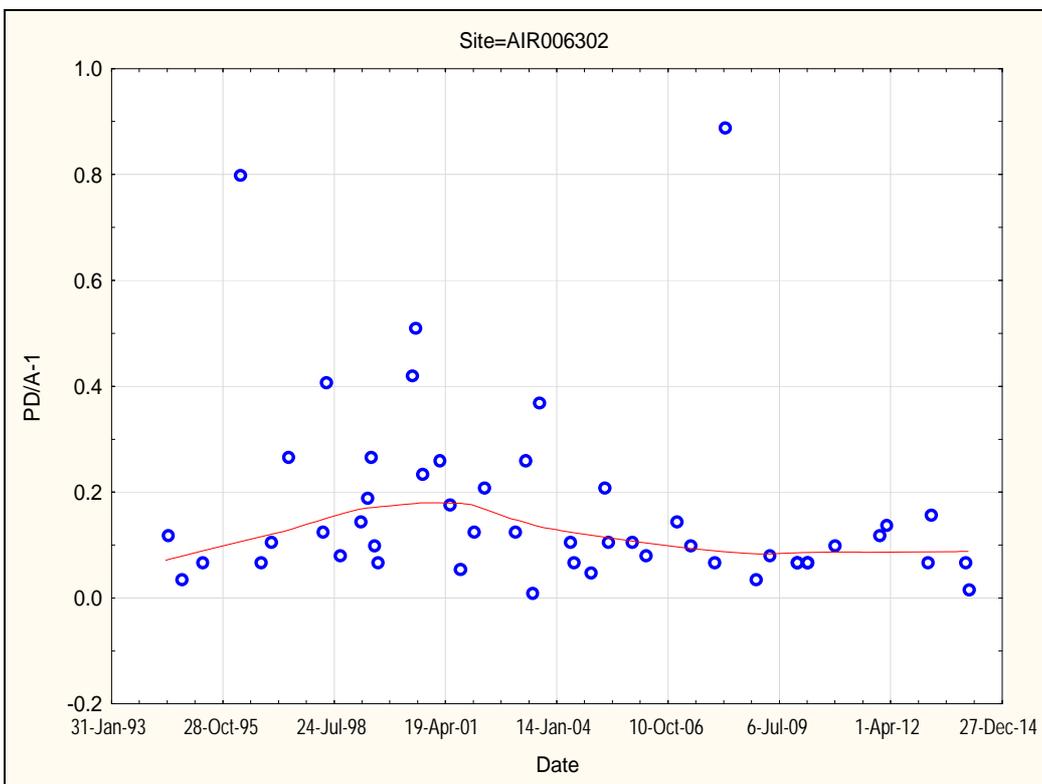


Figure 6 Particulate deposition rate trend at Downer EDI Works monitoring site AIR006302 (June 1994 – June 2014)

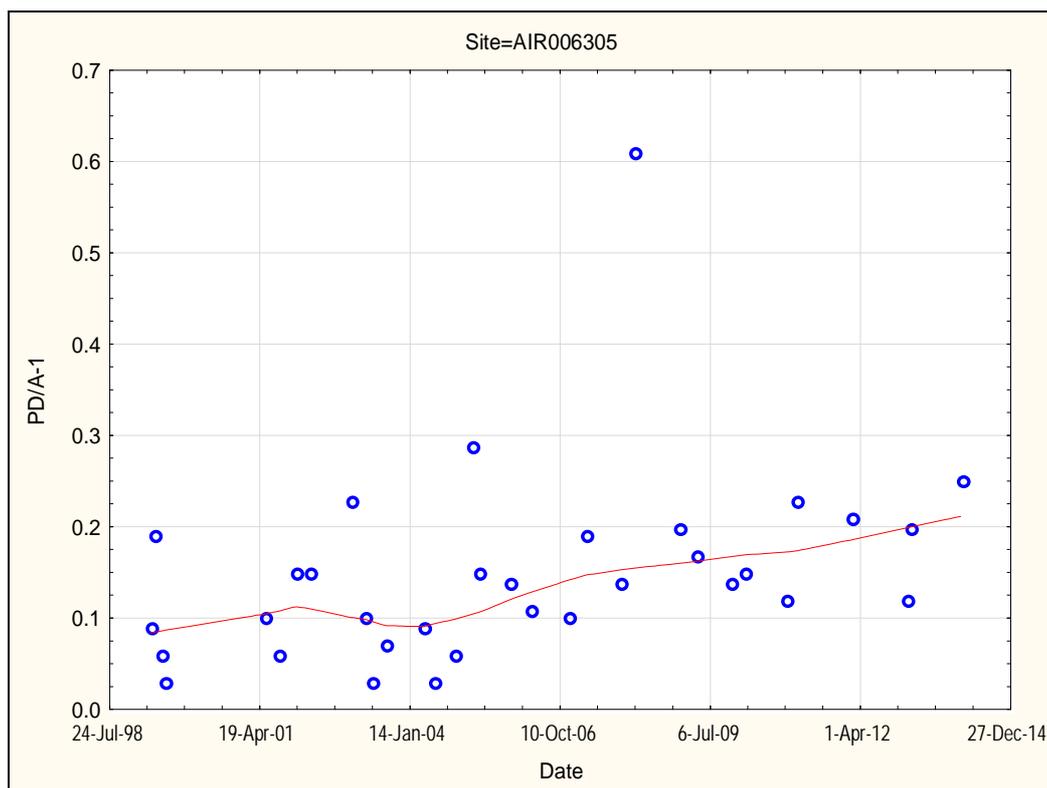


Figure 7 Particulate deposition rate trend at Downer EDI Works monitoring site AIR006305 (June 1994 – June 2014)

2.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 4.

Table 4 Summary of performance for Consent 4060-4, Downer EDI Works Limited discharge of emissions into the air

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Exercised in accordance with the application	Inspection	Yes
2. Adoption of action likely to minimise adverse effects on the environment	Inspection, liaison with consent holder	Yes
3. Approval prior to alterations to plant or processes	Inspection and liaison with consent holder	N/A
4. Prohibition of recycled asphalt processing	Inspection and liaison with consent holder	Yes
5. Reduction of noxious emissions through 6 monthly burner maintenance	Discussed during inspection	Yes
6. Operation using waste oil not permitted	Inspection and liaison with consent holder	Yes
7. Sulphur content of fuel	Discussed during inspection. Diesel not used in asphalt plant.	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
8. Treatment prior to gas discharge	Inspection found emissions captured and treated satisfactorily. No complaints received. Emissions monitoring. Emissions monitoring due 1 June 2014 completed 26 August 2014. Production runs thought to be too short for monitoring requirements.	Yes
9. Stack emissions testing	Review of documentation provided to the Council. Plant conditions required for monitoring clarified.	Monitoring due 1 June 2014 delayed until 26 August 2014
10. Definition of methodology to be used for stack emissions testing	Monitoring delayed until after the end of the monitoring period due to a lack of monitoring opportunities	N/A
11. Particulate deposition rate at site boundary	Deposition gauge monitoring	Exceeded at the only monitoring site beyond the site boundary in one survey however contribution from off-site sources
12. Objectionable odour or level of dust not permitted at site boundary	Inspection and observation when inspecting officer is in the vicinity of the site on other business.	Yes
13. Definition of factors constituting an objectionable odour	N/A	N/A
14. Limit on suspended particulate matter at or beyond boundary	No visible dust at boundary at inspection	Yes
15. No noxious or toxic levels of airborne contaminants at site boundary	Inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
16. Control of ground levels of nitrogen dioxide	Compliance demonstrated 2011-2012. Next scheduled 2016-2017	N/A
17. Control of ground levels of sulphur dioxide	Compliance previously demonstrated, and Company did not use diesel during year under review	N/A
18. Minimisation of dust emissions from aggregate and crusher dust through treatment and shielding	Inspection and observation when inspecting officer is in the vicinity of the site on other business. No dust complaints received	Yes
19. Cleaning of yard	Inspection and observation when inspecting officer is in the vicinity of the site on other business. No dust complaints received	Yes
20. Duration of smoke discharges	Inspection and observation when inspecting officer is in the vicinity of the site on other business. No complaints received regarding visible emission/smoke	Yes
21. Maintenance of equipment important to controlling emissions	Information discussed at inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
22. Inspection of water scrubber and settling pond	Discussed at inspection	Yes
23. Maintenance of a log	Discussed at inspection	Yes
24. Availability of log to Chief Executive of the Council	Available on request	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
25. Maximum temperature in hotmix drum	Inspection and liaison with consent holder	Yes
26. Provides opportunity for review of conditions	No further opportunities for review	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		Good

During the year, the Downer EDI Works Limited demonstrated a good level of environmental performance and compliance with their resource consent, as defined in Section 1.1.5. However, for the seventh consecutive year, there was a delay in demonstrating compliance with the consent due to a delay in particulate emission monitoring. Although the Company kept the Council informed regarding the delay, the plant operating conditions required for testing have been clarified, and it is recommended that the Company start to seek opportunities to undertake this required monitoring earlier in the 2014-2015 year to bring it back on schedule.

2.3.4 Recommendations from the 2012-2013 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring of consented activities at the Downer EDI Works Limited site in the 2013-2014 year continues at the same level as in 2012-2013.

THAT the option for a review of resource consent 4060-4 in June 2014, as set out in condition 26 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

These recommendations were implemented.

2.3.5 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for air discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA the obligations of the Act in terms of monitoring emissions and their effects, and subsequently reporting to the regional community. The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere.

It is proposed that for 2014-2015 the programme remains unchanged.

2.4 Recommendation

1. THAT monitoring of consented activities at the Downer EDI Works Limited site in the 2014-2015 year continues at the same level as in 2013-2014.

3. Farmlands Co-operative Society Limited

3.1 Introduction

3.1.1 Process description

The process involves the reception of bulk loads of various grain (generally unprocessed), and molasses. Raw materials storage, grinding, blending, palletising, bagging, storage in bulk and reloading onto trucks, whether in bulk or bagged form, is all carried out on site. Materials are moved around the site from a gravity discharge hammer mill by the use of a screw conveyer and bucket elevator. Both systems are totally enclosed. This process results in less dust generation than the previous pneumatic conveyer.

Releases into the atmosphere are controlled by the treatment of airflows through either cyclones (which separate dust from air by inertia) or by baghouse (giant vacuum cleaners passing airflows through socks or bags and retaining particles on the fabrics). Both of these represent standard modern abatement technology.

Potential discharges also arise from discharge of raw materials from bulk trucks into tipping pits, discharge of final product into dry tankers, spillage during storage, dust generation during processing, bagging and any penetration of pneumatic ducting by abrasive material.

The feedmill was found to have ceased operating at the compliance monitoring inspection in April 2011, when the inspecting officer was also informed that a new mill may be built at the site at some point in the future. Monitoring of the site has continued as the Council has not received notification regarding future operations at the site, and the consent remains in effect.



Figure 8 Farmlands Co-operative Society Limited site and deposition gauge locations

3.1.2 Air discharge permit

Farmlands Co-operative Society Limited holds air discharge permit 4051 to cover the milling and blending of grain and animal meal and associated activities. This permit was originally issued to Poultrymens Co-operative Limited by Council on 17 June 1992 as a resource consent under Section 87(e) of the Resource Management Act. This consent was due to expire on 1 June 2002. The consent was transferred to PCL Industries Limited on 23 July 1999, The Company applied for a renewal of the consent, and this was issued on 12 April 2002 subject to several additional conditions. The renewed consent was transferred to PCL Feeds Limited on 21 January 2010, to Viterra (NZ) Limited on 13 August 2010, and then to Farmlands Co-operative Society Limited on 10 December 2013. It is due to expire on 1 June 2020.

Special conditions 1, 2, 3, and 8 focus on minimising or eliminating the potential for the emission of dust by requiring that the processes are well managed, are not altered without notification to the Council, and consideration is given to how the generation of dust can be prevented.

Special conditions 4, 5 and 6 place numerical limits on the concentration of dust that may be emitted from on site point sources, and that may be present off-site in either the ambient suspended or deposited form.

Special condition 7 requires that the consent holder logs incidents having actual or potential effects off-site, with the intention that these can help target any control processes that may needed to be improved.

Special condition 9 allows the opportunity to review the conditions attached to the consent in June 2008 and/or June 2014.

3.2 Results

3.2.1 Inspections

The site is inspected four times per year in relation to water discharge matters, with three of the routine compliance monitoring inspections per year scheduled to include a focus on air discharge matters. Any air related matters noted at the additional water focused inspection are also reported here.

21 August 2013

The site was inspected in overcast conditions after recent heavy rain. The site was unmanned. No dust or odour was found beyond the boundary of the property. It was noted that the site was tidy.

6 November 2013

The site was unmanned at the time of inspection. It was noted that some of the sheds were open and there was product stored on pallets. No dust or odours were found beyond the boundary of the property. There were a number of light vehicles and trucks parked on site and the site was reported to be tidy.

1 May 2014

The inspection was undertaken in fine weather conditions. There was no odour or dust beyond the boundary of the property. It was noted that the site was unmanned, but that there were a few vehicles parked on site. The site was tidy at the time of inspection.

3.2.2 Results of receiving environment monitoring

3.2.2.1 Deposition gauging

Many industries emit dust from various sources during operational periods. In order to assess the effects of the emitted dust, industries have been monitored using deposition gauges.

Deposition gauges are basically buckets elevated on a stand to about 1.6m. The buckets have a solution in them to ensure that any dust that settles out of the air is not resuspended by wind.

The rate of dustfall is calculated by dividing the weight of insoluble material (grams) collected by the cross-sectional area of the gauge (metres²) and the number of days over which the sample was taken. The units of measurement are grams/metre²/day.

Guideline values used by the Council for dust deposition are 4g/m²/30 days or 0.13g/m²/day deposited matter. Consideration is given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values. This guideline value has been incorporated as a limit in the Company's consent.

Gauges were placed around the site at the locations shown in Figure 8. The gauges were left in place for between two weeks and one month, on two separate occasions. The results are given in Table 5, while the prevailing wind directions during the surveys are shown in Appendix II.

During the 2013-2014 year, the samples collected in the vicinity of Farmlands Co-operative Society Limited showed that the particulate deposition rate complied with the consent limit on both monitoring occasions, with the results below their respective historical medians.

Table 5 Deposition gauge results from around the Farmlands Co-operative Society Limited site 2013-2014

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume Litres
					g/m ² /day	g/m ² /30day	
AIR009301	TRC148695	7-Jan-14 to 28-Jan-14	0.30	21	0.05	1.5	0.7
	TRC149222	4-Feb-14 to 25-Feb-14	0.10	21	0.06	1.8	0.4
	summary for data 1993-June 2013	min	0.1	20.9	0.02	0.6	0.16
		max	1.3	35.1	0.99	29.7	11.7
		median	0.39	27.8	0.11	3.3	1.86
number		41	32	46	46	31	
AIR009302	TRC148696	7-Jan-14 to 28-Jan-14	0.28	21	0.10	3.0	1.0
	TRC149223	4-Feb-14 to 25-Feb-14	0.08	21	0.09	2.7	0.4
	summary for data 1993-June 2013	min	0.11	20.9	0.02	0.6	0.23
		max	1.3	35.1	0.37	11.1	9.8
		median	0.4	27.9	0.12	3.6	2
number		39	31	43	43	29	

3.2.3 Investigations, interventions, and incidents

In the 2013-2014 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in their air discharge consent or provisions in the Regional Air Quality Plan.

3.3 Discussion

3.3.1 Discussion of site performance

The findings from the air monitoring programme found that the feedmill plant at the Farmlands Co-operative Society Limited site has remained non-operational during the year under review, although there were vehicles found onsite and the sheds were used for storage. There were no dust or odour issues identified at inspection.

3.3.2 Environmental effects of exercise of consents

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity, for example vegetation pollens, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dusts may settle out within timeframes ranging from a few seconds to minutes.

The environmental effects of dusts include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. In the case of dust emissions from this feedmill site, it has previously been noted by the consent holder that dust lying on roofs, when exposed to moisture, accelerates rusting. It has been found that background rates of dust deposition in rural areas of New Zealand are typically 0.1-1.5 g/m²/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m²/30 days. From experience, rates above 3-4 g/m²/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources.

The amount of dust and detritus generated at any industrial site is influenced by many factors. From past results of deposition gauging it is likely that factors including seasonal weather variations, vehicle traffic about the site, and the type of work being conducted will have some effect on the results.

Deposition gauging was conducted for the 47th and 48th time during the 2013-2014 monitoring year, at two locations in the vicinity of the feedmill site.

The results from the gaugings indicated that during the year under review the rate of dust deposition in the vicinity of the feedmill site was again generally well below median compared to historical results. Results in recent years have also been at or below the Company's consent limit (Figure 9)

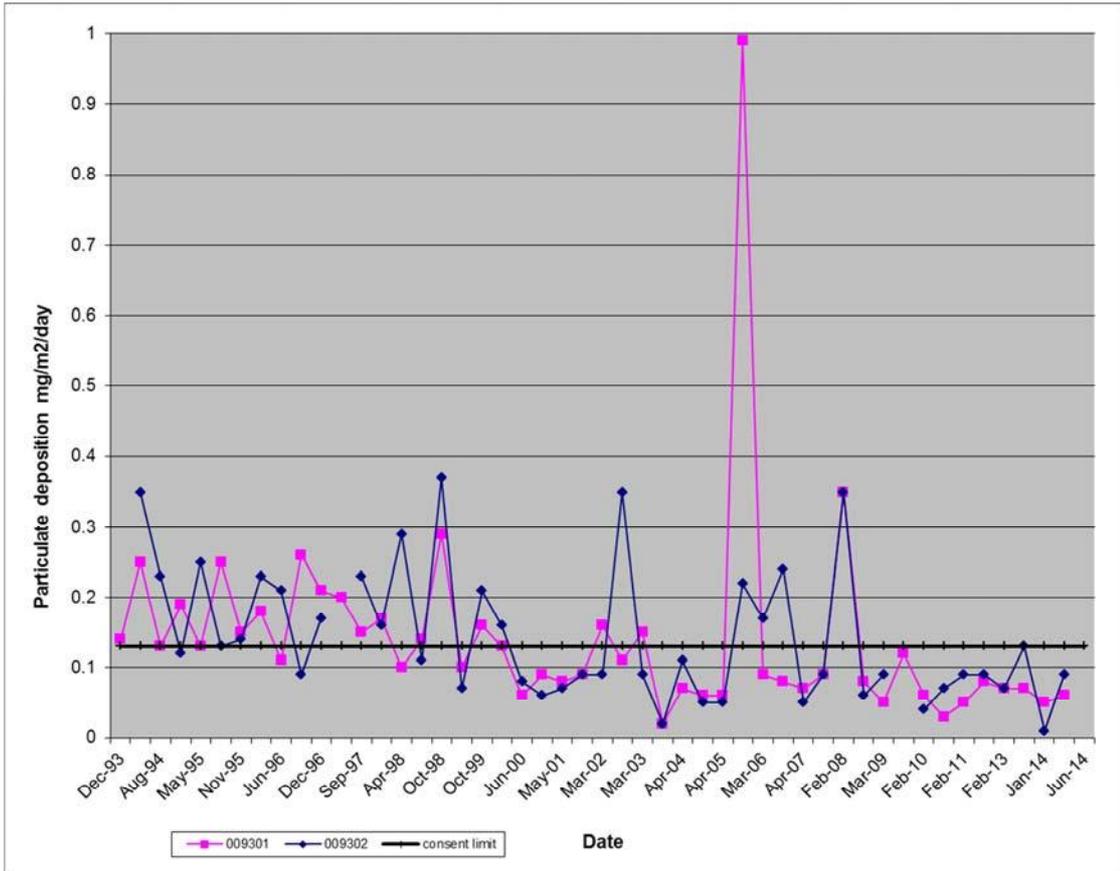


Figure 9 Deposition gauge results for the Farmlands Co-operative Society Limited monitoring sites

Statistical analysis of the data collected to 30 June 2014 found that the statistically significant decreasing particulate deposition rate trends have continued at both monitoring locations (Figure 10 and Figure 11).

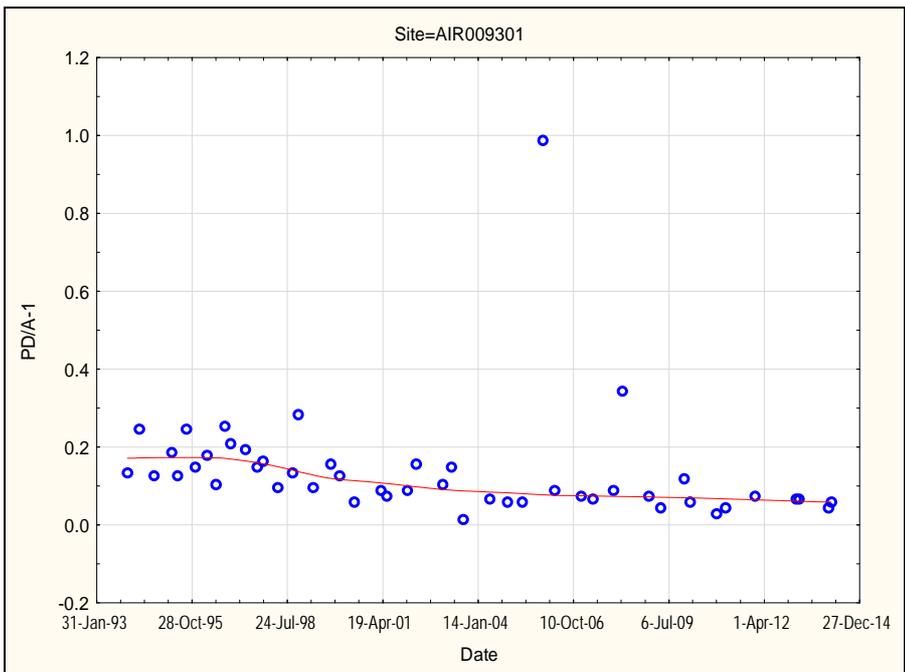


Figure 10 Particulate deposition rate trend at Farmlands Co-operative Society Limited monitoring site AIR009301 (December 1993 – June 2014)

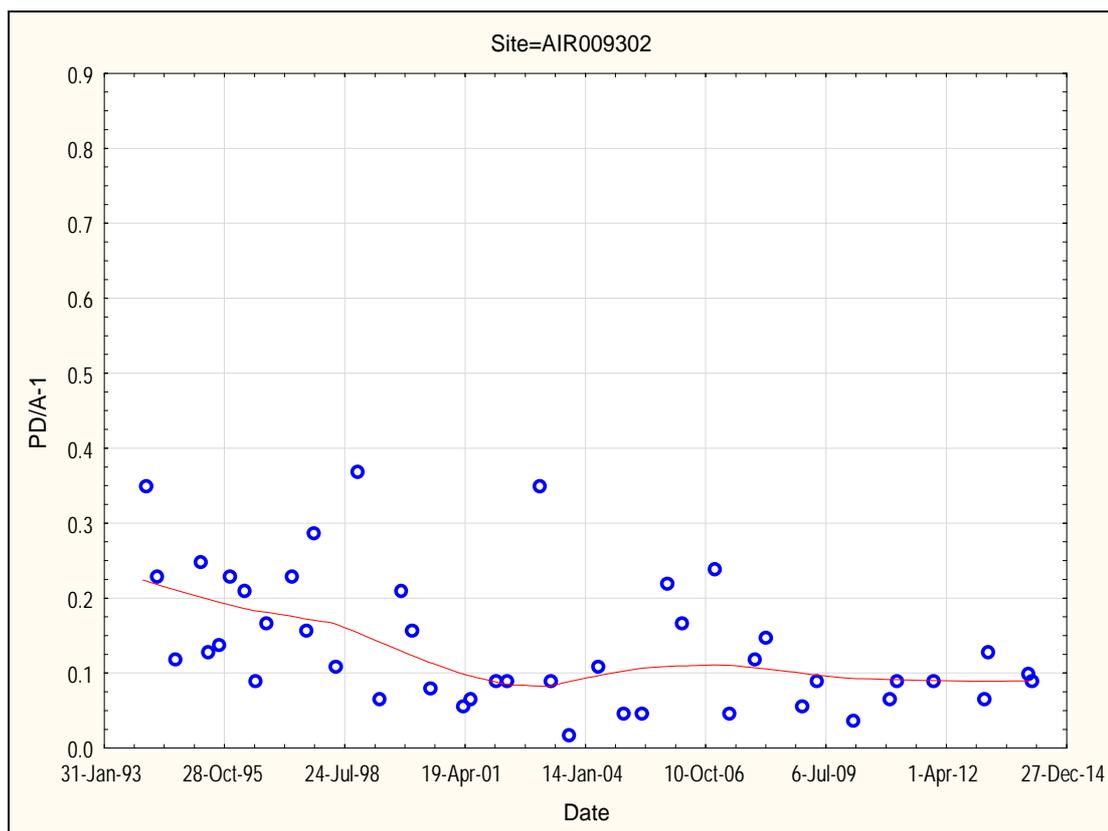


Figure 11 Particulate deposition rate trend at Farmlands Co-operative Society Limited monitoring site AIR009302 (December 1993 – June 2014)

3.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 6.

Table 6 Summary of performance for Consent 4051-5, Farmlands Co-operative Society Limited discharge of emissions into the air

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise adverse effects on the environment	Inspection and liaison with consent holder	Yes
2. Consultation prior to alterations to plant or processes	Liaison during inspection. The Council kept informed about upgrades	Yes
3. Preparation of a management plan	Latest plan received and approved by the Council in 2002. Plan review requested 13 May 2010 due to contribution of air related matters to breach of stormwater consent.	No, however mill operation ceased April 2011
4. Discharge dust concentration	Point source suspended particulate measurements during inspection	Yes
5. Dust deposition rate beyond boundary	Deposition gauging	Yes
6. Objectionable dust or odour not	Odour survey at inspection	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
permitted beyond boundary		
7. Records of emission incidents	Inspections to view records.	Yes
8. Clearance of dust accumulations	Inspection. Housekeeping generally found to be good during the year	Yes
9. Optional review provision re environmental effects	Next opportunity for review June 2014	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

During the year, Farmlands Co-operative Society Limited demonstrated a high level of environmental performance and compliance with their resource consent, as defined in Section 1.1.5. Although the request on 13 May 2010 for the operation and management plan to be updated and forwarded to the Council for approval has not been responded to, the feedmill was found to have ceased operating in April 2011. This will be followed-up if and when the site becomes operative again.

3.3.4 Recommendations from the 2012-2013 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring of consented activities at Viterra (NZ) Limited's feedmill in the 2013-2014 year continues at the same level as in 2012-2013.

THAT the option for a review of resource consent 4051-5 in June 2014, as set out in condition 10 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

These recommendations were implemented.

3.3.5 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for air discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA the obligations of the Act in terms of monitoring emissions and their effects, and subsequently reporting to the regional community. The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere.

It is proposed that for 2014-2015 the programme remains unchanged.

3.4 Recommendation

1. THAT monitoring of consented activities at Farmlands Co-operative Society Limited's feedmill in the 2014-2015 year continues at the same level as in 2013-2014.

4. Fitzroy Engineering Group Limited

4.1 Introduction

4.1.1 Process description

Abrasive blasting is used to clean and prepare surfaces for painting. The process involves blasting "garnet", an abrasive sand-like substance on to the surface of the object in question. Material from the blasting process becomes airborne due to the release of high pressure air used to accelerate the abrasive media to the required cleaning velocities. Spray painting is also carried out on the site.

Emissions from abrasive blasting operations have the potential to cause nuisance and possible health risks, especially when conducted within populated areas. The applicant's permanent site is within an industrial area. The environmental effects of dusts can include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. In the case of dust emissions from Fitzroy Engineering Limited's blasting operation, there is also the potential for the dust to contain metals such as lead, zinc, and chromium from the surface of the items blasted. The potential for lead to be contained in the dust has been significantly reduced as the Company now undertakes lead testing as a matter of course. If a positive result is obtained, special procedures apply to contain and dispose of the debris in accordance with Department of Labour Guidelines. Fitzroy Engineering has also informed Council that the blasting of chromium items is not undertaken by the Company.

The Company has carried out abrasive blasting in the permanent facilities and in the yard at their leased site on Rifle Range Road, New Plymouth since 1990, and also undertakes abrasive blasting work on fixed items at various locations throughout the Taranaki region (mobile blasting).

At the Fitzroy Engineering site there is a permanent facility called the "grit room". The grit room has a wet scrubber unit on its discharge outlet to minimise emissions to the atmosphere. The wet scrubber was commissioned in July 1995. The canvas curtains at the north-east end of the building were replaced by solid doors during the 1998-1999 monitoring period. These doors more effectively contained dust emissions from the operation. The grit room is now used very infrequently, and was not used at all during the year under review.

Fitzroy Engineering has another facility on its premises to provide for unusually sized and/or shaped objects. This facility is called the "garnet shed". A scrubber tower and spray system was installed to mitigate emissions from the garnet shed in June 2000, which was expected to provide a decrease in particulate levels on and off site. An upgrade was carried out in January 2003 when a stack extension, incorporating a third ring of water spray nozzles, was added. Further upgrades were undertaken during the 2005-2006 year when it was found that the discharge from the stack did not comply with condition 7, limiting the particulate emissions to less than 125 mg/m³. The upgrade consisted of a reduction in nozzle size to achieve a more effective droplet size, and changing the spray configuration from a circumferential pattern to a centrally located arrangement. These upgrades were intended to generate a more effective water mist within the tower.

Spent garnet and waste removed from the bottom of the scrubber towers is stored in bags in the yard, which are disposed of by a contracted company on an as required basis.

Yard blasting is carried out when items can not be blasted within the grit room or garnet shed. The yard areas on site are predominantly gravel, and therefore any sandblasting material spilt or deposited on site from aerial emissions is difficult to manage, and may be resuspended by wind or vehicle movements. A substantial area of the yard near the offices at the Rifle Range Road end of the site was sealed during the 2002-2003 monitoring period.

The containment of emissions from yard and mobile blasting is limited to the use of screens, tarpaulins and other similar methods of airborne particulate suppression due to the temporary nature of the work being carried out.

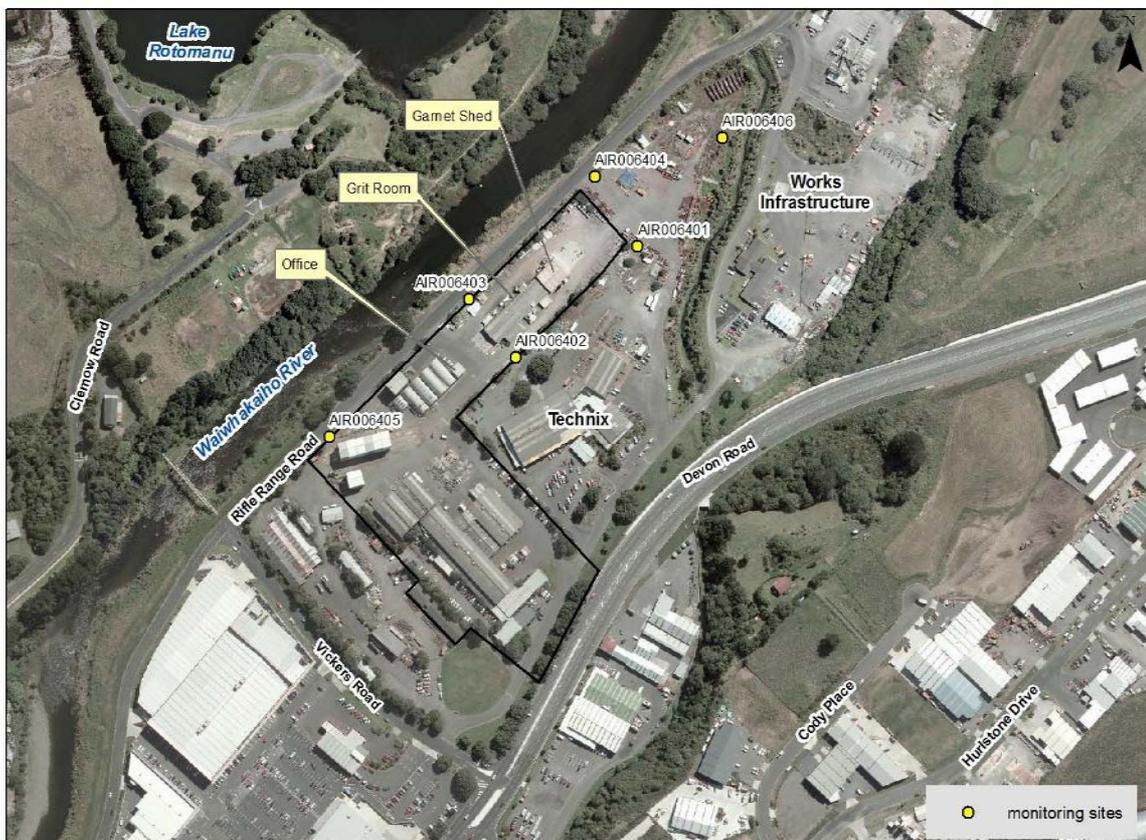


Figure 12 Fitzroy Engineering Group Limited site and deposition gauge locations

4.1.2 Air discharge permit

Fitzroy Engineering Group Limited holds air discharge permit 4025 to cover discharge of emissions into the air from abrasive blasting operations at the factory site and from field abrasive blasting operations at various locations. The Council issued this permit on 6 May 1992 as a resource consent under Section 87(e) of the Resource Management Act. The variation to include emissions to air from mobile blasting at various locations throughout the Taranaki region was made on 24 March 1993. The consent expired on 1 June 2002.

The Company applied for a renewal of consent on 19 October 2001. Therefore, the Company could continue to operate under the terms and conditions of this consent until a decision on the renewal of consent was made. Negotiations between Fitzroy Engineering and one of the potentially affected parties, relating to the proposed special conditions, took place over an extended period. The final non-notified approval form was received on 17 November 2006 and the renewed consent was issued on 21 November 2006. The consent is due to expire on 1 June 2020.

The conditions on the consent are intended to reduce the quantity, control the quality, and minimise the potential for adverse effects from the emissions from the blasting activities and associated processes. This was achieved by:

- Requiring the consent holder adopt the best practicable option, as defined in the Resource Management Act 1991, to minimise emissions (special condition 1).
- Ensuring that consideration is given to weather conditions, and limiting the locations at which blasting may be undertaken (special conditions 5, 10, and 23). In general the blasting must be undertaken within the permanent facilities, where the discharge must be contained and treated to meet specific discharge limits (special conditions 11, 12 and 22).
- Ensuring that adequate screening is in place for yard and mobile blasting (special conditions 25 and 26).
- Controlling the blasting media used (special conditions 3 and 7).
- Requiring that certain notifications are made and/or permissions sought prior to undertaking blasting when certain infrequent or “higher risk” blasting activities are undertaken (special conditions 20, 21, 24, 27, and 29). In the case of the Council, this allows for additional requirements to be placed on the consent holder in certain circumstances, and ensures the opportunity for Council to undertake monitoring specific to those activities.
- Addressing housekeeping issues (special condition 6).
- Limiting the effect the discharge may have on ambient air quality, particulate deposition rates, and surface water quality (special conditions 4, 8, 28, and 30).
- Requiring that the consent holder ensures that all operators understand and comply with the conditions of the consent (special condition 9).
- Requiring that the consent holder prepares a management plan to ensure that they have systems in place so that staff manage their work in a way that will comply with consent conditions (special condition 15).
- Requiring that the consent holder adheres to the procedures set out in the management plan, operates in a way that is consistent with the information provided in support of the consent application, and makes any information recorded in relation to the management plan available to the Council (special conditions 2, 17 and 16).
- Provides for sealing of areas of the site if the management practices proposed in the plan are not successful in controlling windblown dust from the site (special conditions 18 and 19)
- Conditions were added placing requirements on the Company in relation to monitoring and reporting on the particulates in the emissions from the discharge stack (special conditions 13 and 14) and providing the opportunity for an annual meeting to discuss any concerns (special condition 22) at the request of a potentially affected party.

4.2 Results

4.2.1 Liaison meeting

Special condition 22 of the Company's consent provides for an annual liaison meeting to be held between Fitzroy Engineering Group Limited and their landlord, Technix, with the Council also in attendance.

It had been decided at a previous liaison meeting that a meeting held during August each year would allow for the previous year's monitoring information to be collated and circulated to FEGL and Technix prior to the meeting being held. It was agreed by all present that this was a good idea as it would clarify how things were going and any areas that required a bit of focus early in the current monitoring year. It was also decided that the meeting could be held at either FEGL or Technix, depending on what worked best at the time.

Despite a significant amount of electronic correspondence and a number of scheduled meetings that were subsequently postponed as a result of the unavailability of the Landlord, the liaison meeting was not held.

4.2.2 Inspections

This site was scheduled for four routine compliance monitoring inspections during the 2013-2014 year. Inspections are undertaken in relation to monitoring of the stormwater consent for the site, which up until 21 February 2014 was held by Technix Group Limited. For completeness, the findings of the inspections that relate to the area of the site operated by Fitzroy Engineering Group Limited were previously reported here, but will now be reported under the Fitzroy Engineering Group Limited section of the Lower Waiwhakaiho catchment monitoring report.

There is also provision for a further inspection of mobile blasting operations to be undertaken by the Council. The Council was not notified of any mobile blasting undertaken by Fitzroy Engineering Group Limited during the year under review, however an additional site inspection was carried out.

13 September 2013

There were no dust or odours were found beyond the boundary of the property. Blasting was not occurring at the time of inspection. The Company was informed that there was garnet present around the back of the blast shed that needed to be cleaned up. There were localised paint odours around the paint shed during the inspection. It was reported that the site was tidy.

20 December 2013

No painting or blasting was occurring at the time of inspection. No odour or dust was found beyond the boundary of the property. The site was reported to be tidy.

24 March 2014

The site inspection was undertaken in fine weather conditions. There was no blasting or painting at the time of inspection, and no dust or odours were found beyond the boundary of the property.

17 June 2014

The site inspected following heavy rainfall and during showery weather. There were no odours or discharges from paint shed or sand blasting operations at time of inspection.

4.2.2.1 Mobile blast inspections

No notifications were received by the Council regarding mobile blasting being undertaken by the Company during the year under review.

4.2.3 Provision of Company data**4.2.3.1 Particulate emissions monitoring**

Special conditions 12, 13 and 14 relate to the standard to which the emissions from the blast booth must be treated, and outline the frequency and conditions under which emissions testing must be performed to confirm compliance. The timing of the testing and reporting of the results to the Council is also specified.

Testing must be undertaken as per a specified Australian Standard, by a party independent from the Company before 1 June each year, at a time when no less than three blasting nozzles are in use, and the results are to be reported to the Council within 20 days of the testing.

Stack testing for the 2013-2014 year was undertaken on 22 May 2014. A copy of the report was received by the Council on 18 June 2014. A summary of the results is as follows:

Sample 1:	36.1 mg/m ³
Sample 2:	29.0 mg/m ³
Sample 3:	20.4 mg/m ³
Average:	28.5 mg/m ³

These results indicate compliance with the limit of 125 mg/m³ specified in condition 12.

4.2.4 Results of receiving environment monitoring**4.2.4.1 Deposition gauging**

Many industries emit dust from various sources during operational periods. In order to assess the effects of the emitted dust, industries have been monitored using deposition gauges.

Deposition gauges are basically buckets elevated on a stand to about 1.6m. The buckets have a solution in them to ensure that any dust that settles out of the air is not resuspended by wind.

Gauges are placed around the site and within the surrounding community. The gauges were left in place for between two weeks and a month, on two separate occasions.

The rate of dustfall is calculated by dividing the weight of insoluble material (grams) collected by the cross-sectional area of the gauge (metres²) and the number of days over which the sample was taken. The units of measurement are grams/metre²/day.

Guideline values used by the Council for dust deposition are 4g/m²/30 days or 0.13g/m²/day deposited matter. Consideration is given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values. This guideline value has been incorporated as a limit in the Company's consent.

A site map marking the location of the gauges around the Fitzroy Engineering Group Limited site are shown in Figure 12. The results for the year under review are given in Table 7, with the prevailing wind directions during the surveys given in Appendix II.

Table 7 Deposition gauge results from around the Fitzroy Engineering Group Limited site

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume litres
					g/m ² /day	g/m ² /30day	
AIR006401	TRC148689	7-Jan-14 to 28-Jan-14	8.5	21	0.12	3.6	0.8
	TRC149216	4-Feb-14 to 25-Feb-14	4.0	21	0.12	3.6	0.6
	summary for data 1994- June 2013	min	0.15	20.9	0.04	1.2	0.14
		max	1.3	35.1	7.22	211	7.34
		median	0.36	27.9	0.22	6.6	1.62
number		35	31	36	36	29	
AIR006402	TRC148690	7-Jan-14 to 28-Jan-14	6.4	21	0.11	3.3	1.0
	TRC149217	4-Feb-14 to 25-Feb-14	5.4	21	0.19	5.7	0.5
	summary for data 1994- June 2013	min	0.10	20.9	0.06	1.8	0.1
		max	1.1	34.1	2.47	74	6.94
		median	0.37	27.5	0.15	4.5	1.7
number		31	26	31	31	26	
AIR006403	TRC148691	7-Jan-14 to 28-Jan-14	5.6	21	0.08	2.4	1.1
	TRC149218	4-Feb-14 to 25-Feb-14	7.6	21	0.31	9.3	0.4
	summary for data 1994- June 2013	min	0.11	20.9	0.03	0.9	0.11
		max	0.93	34	1.01	30	6.45
		median	0.4	27.9	0.15	4.5	1.7
number		32	27	36	36	27	
AIR006404	TRC148692	7-Jan-14 to 28-Jan-14	9.6	21	0.1	3.0	0.6
	TRC149219	4-Feb-14 to 25-Feb-14	9.3	21	0.21	6.3	0.3
	summary for data 1994- June 2013	min	0.11	20.9	0.02	0.6	0.05
		max	0.95	35.1	1.54	46	6.73
		median	0.36	27.9	0.14	4.2	1.68
number		35	31	38	38	30	

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume litres
					g/m ² /day	g/m ² /30day	
AIR006405	TRC148693	7-Jan-14 to 28-Jan-14	4.1	21	0.06	1.8	1.1
	TRC149220	4-Feb-14 to 25-Feb-14	7.6	21	0.28	8.4	0.3
	summary for data 1994- June 2013	min	0.09	20.9	0.02	0.6	0.16
		max	1.0	35.1	2.13	64	6.76
		median	0.3	27.9	0.13	3.9	1.46
number		34	31	35	35	29	
AIR006406	TRC148694	7-Jan-14 to 28-Jan-14	11	21	0.07	2.1	0.6
	TRC149221	4-Feb-14 to 25-Feb-14	8	21	0.03	0.9	0.3
	summary for data 1994- June 2013	min	0.12	17.7	0.01	0.3	0.17
		max	1.85	35.1	0.19	5.7	3.7
		median	0.34	26	0.08	2.4	1.41
number		18	23	18	18	18	

Key: Results in bold exceed consent limit

The monitoring showed that the deposited particulate was in excess of the Company's consent limit in four of the twelve gauges collected during the year under review. The samples collected from gauging location AIR006401 and AIR006406 complied with the limit on both monitoring occasions.

January 2014 survey

All the gauges returned results below the consent limit for the January survey.

February 2014 survey

The February survey found that the particulate deposition rate limit was exceeded at four sites. The elevated particulate deposition rates were found at all three sites along the northern site boundary alongside Rifle Range Road (AIR006403, AIR006404, and AIR006405) and the gauge on the southern site boundary to the west of the blast booth (AIR006402).

The filters from the February gauging survey are shown in Photo 2.

The material collected in AIR06402, AIR006403, AIR006404 and AIR006405 all contained organic matter to varying degrees. The appearance of the gritty particulate matter collected had an appearance consistent with gritty top soil rather than blasting media or re-suspended yard dust.

It is noted that due to activities on industrial subdivisions in the airshed, one dust complaint was received three days prior to the February gauging period, and three dust complaints were received during the February gauging period. The complaints lead to the identification of a total of six companies undertaking earthworks in an industrial development located east (and upwind) of the Fitzroy Engineering site where objectionable or offensive levels of dust were being discharged. Abatement notices were issued to five of the companies as a result of the complaint on 1 February 2014, with a further complaint received on 9 February 2014. The abatement notices were found to have been contravened by three companies on 20 February 2014. These unauthorised discharges are discussed in Section 8, but it is noted here that they were

likely to have impacted on the particulate deposition rates in the gauges around the Fitzroy Engineering Group Limited site.

No dust complaints were received regarding dust issues originating from the Fitzroy Engineering Group Limited site.

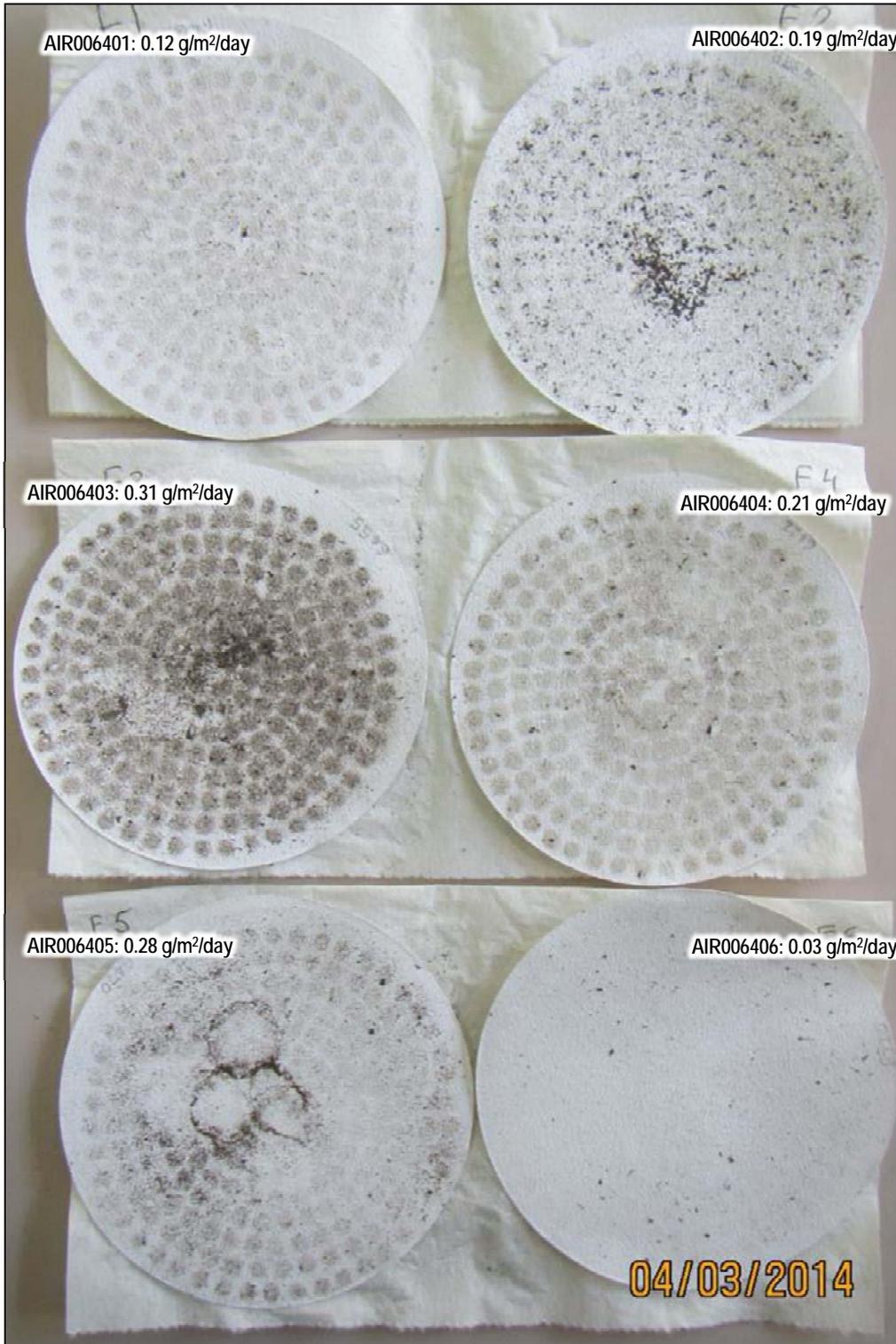


Photo 2 Filters from the Fitzroy Engineering deposition gauge survey February 2014

This indicates that the elevated levels of dust deposition found in the gauges around Fitzroy Engineering Group Limited were not as a result of the activities occurring on this site.

4.2.5 Investigations, interventions, and incidents

In the 2013-2014 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in their air discharge consent or provisions in the Regional Air Quality Plan.

There was however one unauthorised discharge found in relation to the Company's stormwater discharge consent. This was due to very minor hydrocarbon contamination flowing off site into a roadside drain. The matter was addressed promptly, and will be reported on in the Lower Waiwhakaiho catchment monitoring report.

4.3 Discussion

4.3.1 Discussion of site performance

Previous unauthorised incidents have mainly been as a result of inadequate maintenance and a lack of operator training or awareness. During the year under review, although blasting was noted as not occurring at the time of three of the four inspections, there were no reported issues associated with the condition of the blast booth or ducting. There were also no visible emissions noted. Particulate emissions testing showed that the blast booth treatment system was working effectively at the time of monitoring, with the particulate emission rate continuing to be well below the consent limit.

During previous years, observations at inspection have indicated that more frequent use of a water truck would be beneficial during periods of dry weather to minimise that amount of resuspended dust from the metallised yard. A sprinkler system was installed in the 2011-2012 year, and during the year under review no issues were noted at inspection relating to the resuspension of yard dust.

At only one of the four inspections the Company was informed that blast debris needed to be cleaned up. This indicates that the improved focus on this aspect of the Company's activities has generally continued during the year under review.

During the year under review there were no complaints received by the Council relating to dust emissions or off site odours from the site.

4.3.2 Environmental effects of exercise of consent

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity, for example vegetation pollens, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dusts may settle out within timeframes ranging from a few seconds to minutes.

The environmental effects of dusts include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. It has been found that background rates of dust deposition in rural areas of New Zealand are typically 0.1-1.5 g/m²/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m²/30 days. From experience, rates above 3-4 g/m²/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources.

The amount of dust and detritus generated at any industrial site is influenced by many factors. From past results of deposition gauging it is likely that factors including seasonal weather variations, vehicle traffic about the site, and the type of work being conducted will have some effect on the results.

Deposition gauging was conducted for the 38th and 39th time during the 2013-2014 monitoring year around the Fitzroy Engineering site.

The results from the gaugings found that four of the twelve samples collected during the 2013-2014 period were in excess of the Company's consent limit. However, the results of the monitoring and complaint investigations carried out in the Waiwhakaiho airshed indicate that these were not likely to have been as a result of the activities of Fitzroy Engineering Group Limited.

The deposition gauge results in the immediate vicinity of the Fitzroy Engineering Group Site from June 2000 to date are shown in Figure 13.

The site and immediate surrounding landscape has been significantly reshaped by human activity, and has no features of particular aesthetic, cultural, or other value. The main highway, golf course, and Mangaone Stream/Waiwhakaiho River are unlikely to be affected by activities on the site.

There is the potential for the staff and property of industries in the surrounding area to be affected by dust generated by Fitzroy Engineering and during recent years a significant amount of commercial development has occurred in the airshed. This increases the potential for complaints, as the number of people working in this area, and the number of public visiting the area has increased.

During the January survey the particulate deposition rates at all gauging locations complied with the consent limit, and were similar to or below their respective historical medians (Table 8).

During the February survey the deposited particulate limit was exceeded at four monitoring locations. These were at the southern boundary, south of the blasting enclosure (AIR006402), and at the three sites alongside Rifle Range Road; north east of the blasting enclosure (AIR006404), north west of the blasting enclosure (AIR006303) and west of the moveable sheds. There was only a small contribution from vegetation in the gauges retrieved from this survey. The majority of the material collected was very fine grit, not particularly consistent with known dust sources at the site.

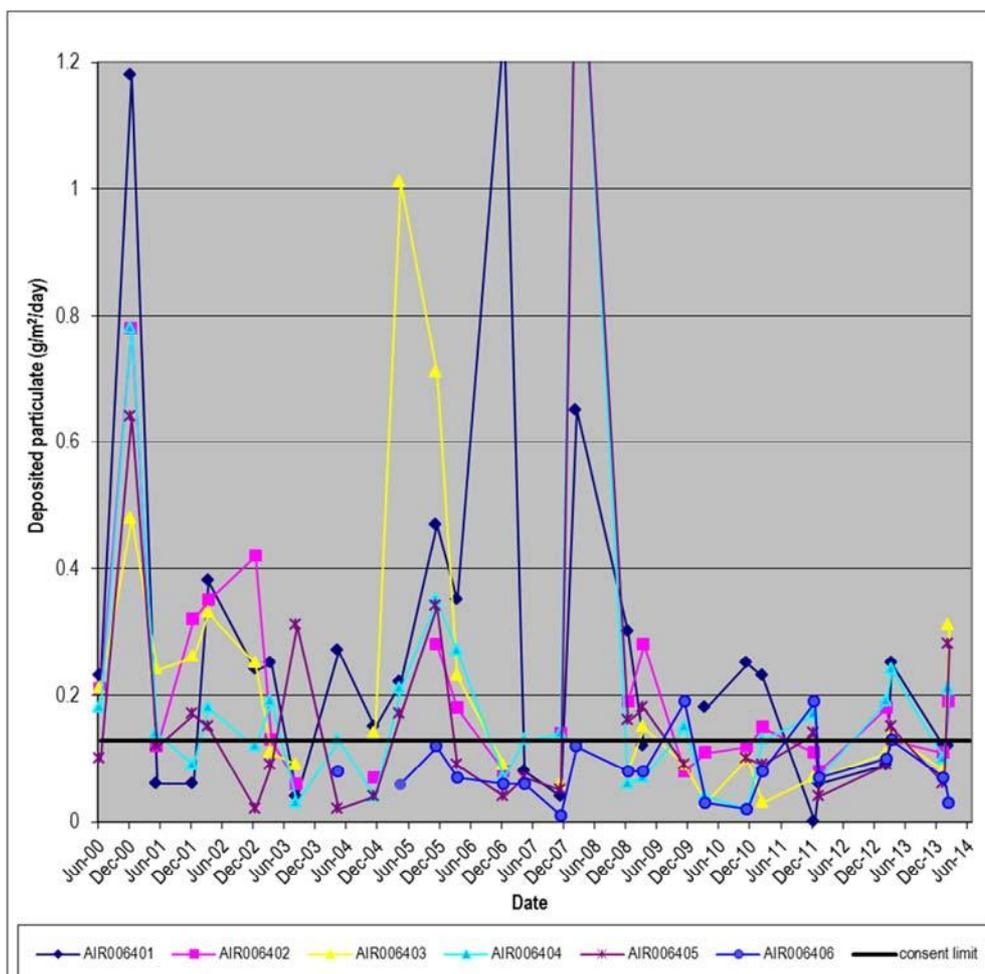


Figure 13 Deposition gauge results at Fitzroy Engineering's monitoring sites (June 2000 – June 2014)

The prevailing wind direction during the February survey was from the east or north east (40 % of the time). The wind strength was often gentle to moderately breezy (>10 km/hour), with the strongest winds from the east. It is noted that this gauging period was predominantly dry, with a total of only 11.5 mm of rain, 7 mm of which fell on one day.

It is considered that on this monitoring occasion the result reflect the air quality conditions in the air shed as a result of the unauthorised discharged from earthworks being undertaken to the east, on Oropuiri Road, rather than being due to Fitzroy Engineering.

When looking at the long term trends, although there were particulate deposition gauge exceedances observed during the year under review, statistical analysis of the deposition gauge data collected to 30 June 2014 found a statistically significant decreasing long term trend in the particulate deposition rate at three of the six monitoring locations in the vicinity of the Fitzroy Engineering Group Limited's premises. This trend was evident at sites AIR006402 on Technix's site south west of the blast booth (Figure 14), AIR006403 on Rifle Range Road, west of the blast booth (Figure 15), and at AIR006405, located near the western corner of the site adjacent to Rifle Range Road (Figure 16).

The trend observed at site AIR006402 became evident at the end of the 2011-2012 year, whereas the trends at sites AIR006403 and AIR006405 are a continuation of trends observed at the end of the 2010-2011 year. A significant decreasing trend had been observed at site AIR006204 at the end of the 2011-2012 year, however this trend was found not to have continued at the end of the 2012-2013 and 2013-2014 years.

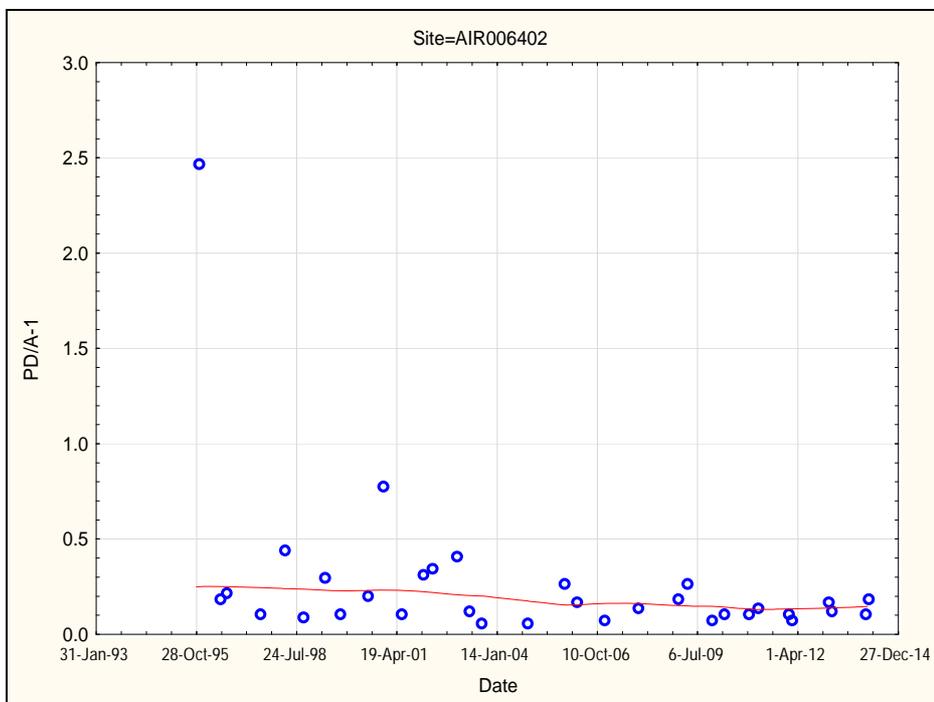


Figure 14 Particulate deposition rate trend at Fitzroy engineering Group Limited site AIR006402 (March 1994 – June 2014)

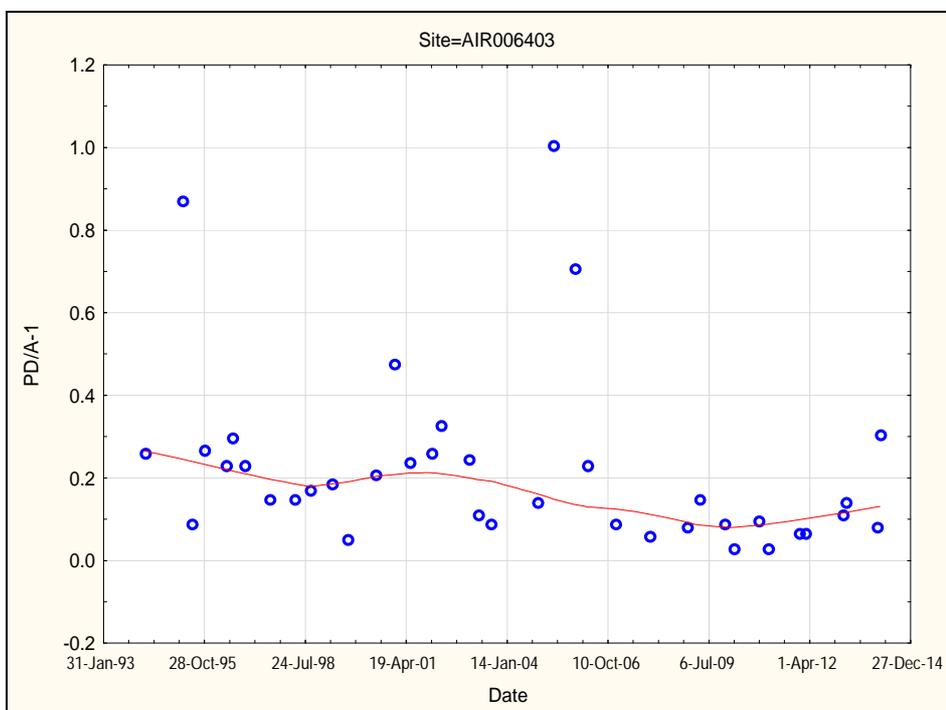


Figure 15 Particulate deposition rate trend at Fitzroy engineering Group Limited site AIR006403 (March 1994 – June 2014)

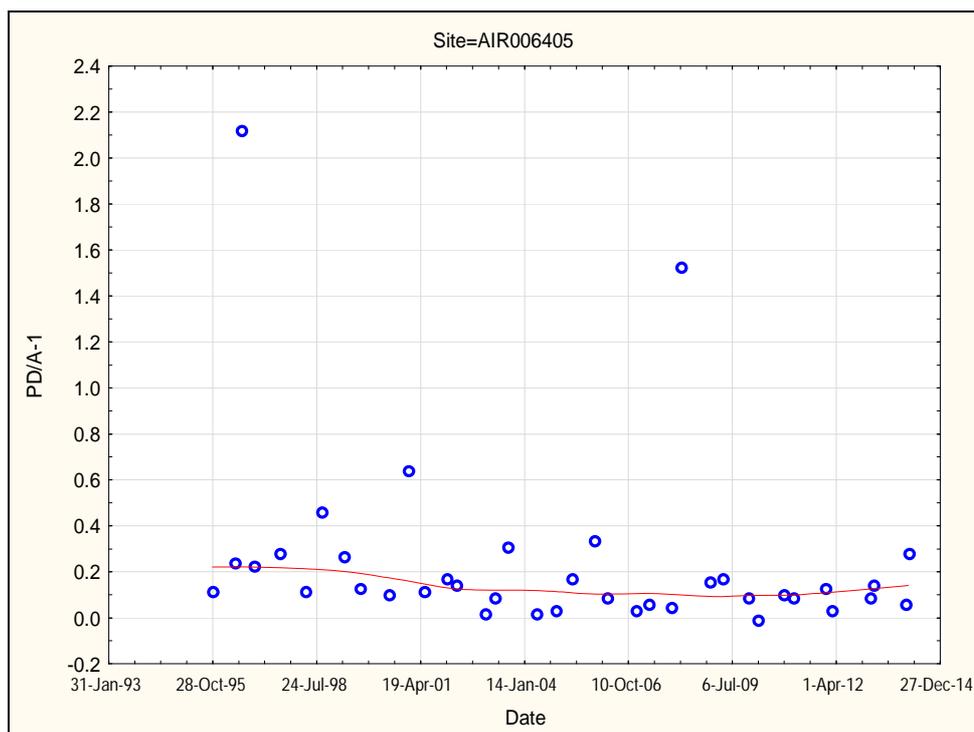


Figure 16 Particulate deposition rate trend at Fitzroy engineering Group Limited site AIR006405 (October 1994 – June 2014)

4.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 8.

Table 8 Summary of performance for Consent 4025-3, Fitzroy Engineering Group Limited discharge of emissions into the air

Condition requirement	Means of monitoring during period under review	Compliance achieved?
All operations		
1. Adopt best practicable option to avoid, remedy, or mitigate effects	Inspection, liaison with Company and observation when inspecting officer is in the vicinity of the site on other business, along with deposition gauge monitoring.	Yes
2. Exercise consent in manner consistent with consent application	Inspection and liaison with Company	Yes
3. Sand-free silica limit of 5 % and limit of 2% finer than 0.15mm diameter	Inspection and liaison with Company. Dry sand not used	Yes
4. No offensive, objectionable or toxic odour or dust beyond boundary. Suspended particulate <3 mg/m ³	Inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
5. Take account of wind conditions to minimise off-site emissions	Inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
6. Clearance of blasting material	Inspection	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
All operations		
7. Avoidance of dry sand blasting	Inspection and liaison with Company. Dry sand not used	Yes
8. Particulate deposition rate limit of 0.13mg/m ² /day	Deposition gauging	Four of twelve gauges above limit most likely due to major contribution from off site sources
9. Compliance of operators with conditions	Inspection	Yes
Operations within permanent facilities		
10. Enclosed blasting at permanent site	Inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
11. All emissions contained and treated as far as practicable	Inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
12. Particulate limit on emissions from enclosure of 125 mg/m ³	Visual assessment at inspection and stack testing	Yes
13. Annual emissions test requirements	Inspection and review of data provided	Yes
14. Standard to which emissions testing to be performed	Review of data provided	Yes
15. Provision and maintenance of Management Plan	Plan on file	Yes
16. Consent to be exercised in line with management plan	Inspection and liaison with Company.	Yes
17. Availability of information collected for condition 15	Inspection and liaison with Company, and accessing information recorded by consent holder	Yes
18. If control of windblown dust not effective, condition 19 to apply	Inspection and observation when inspecting officer is in the vicinity of the site on other business, deposition gauge results.	Yes
19. Yard and roadways to be sealed and maintained subject to condition 18	N/A	N/A
20. Notification prior to using more than 3 blasting nozzles	Check of the Council records, inspection and liaison with Company. No more than 3 nozzles used	N/A
21. Notification prior to using grit room	Receipt of notifications, inspection and liaison with Company. Grit room not used	N/A
22. Emissions limits for lead, chromium and zinc	Not measured. Discussions with consent holder about materials blasted	Yes
22. Meeting to be held between consent holder, Landlord and the Council unless agreed not to	Target for the timing of meeting is approximately August of each year. Not held due to unavailability of Landlord	N/A

Yard operations		
23. Infrequent yard blasting	Inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
24. Notification 7 days to 48 hours before yard blasting	Check of the Council records. Inspection and observation when inspecting officer is in the vicinity of the site on other business	N/A
25. Screening at yard blasting to contain dust emissions	Inspection and observation when inspecting officer is in the vicinity of the site on other business	N/A
Mobile operations		
26. Screening at mobile blasting to contain emissions	Inspection and observation when inspecting officers travelling in region. No mobile blasting found	N/A
27. Notification 7 days to 48 hours before blasting near watercourses	Check of the Council records. No notifications received. No complaints received	N/A
28. Prohibited effects in surface watercourses	No complaints received	N/A
29. Notification if blasting close to dwelling or property boundary	No notifications received. No complaints received	N/A
30. Suspended particulate limit of 3mg/m ³ and deposited particulate of 0.13mg/m ² /day beyond boundary	Not measured during year under review	N/A
Review		
31. General review condition	Next opportunity for review June 2014	N/A
32. Option for review if emissions test standard amended	Standard not amended	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

During the year, Fitzroy Engineering Group Limited demonstrated a high level of environmental performance as defined in Section 1.1.5. Although there were exceedance of the particulate deposition rate recorded, these were considered to be as a result of other unauthorised discharges in the airshed.

4.3.4 Recommendations from the 2012-2013 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring of consented activities of Fitzroy Engineering Group Limited in the 2013-2014 year continues at the same level as in 2012-2013.

THAT the option for a review of resource consent 4025-3 in June 2014, as set out in condition 26 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

These recommendations were implemented.

4.3.5 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for air discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA the obligations of the Act in terms of monitoring emissions and their effects, and subsequently reporting to the regional community. The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere.

It is proposed that for 2014-2015 the programme remains unchanged.

4.4 Recommendation

1. THAT monitoring of consented activities at the Fitzroy Engineering Group Limited site in the 2014-2015 year continues at the same level as in 2013-2014.

5. Katere Surface Coatings Limited

5.1 Introduction

5.1.1 Process description

The Company operates an abrasive blasting and surface coating business from a mobile unit and at a permanent site on Katere Road. A map showing the location of the site is provided in Figure 17.

The emissions from abrasive blasting operations may include sand, grit, dust, silicates, rust, detritus, and various metal compounds including zinc, iron, lead and arsenic. Emission from surface coating processes may include objectionable odours and spray drift.

Blasting takes place within an enclosed building with emissions passed through a scrubber system before being discharged to the atmosphere. Some items are too large to process in the building and are, therefore, blasted outside. All outside work requires effective screening measures such as tarpaulins and similar covers to contain emissions within the site boundary. Screening also applies to operations carried out by the mobile unit. Weather conditions must be considered before any outside work is carried out.

2013-2014 was the twenty third year in which the Council has monitored air emissions from the Katere Surface Coatings Limited site (formerly Vinsen G M Limited) and their effects within the region.



Figure 17 Location of Katere Surface Coatings Limited and their deposition gauge sites

5.1.2 Air discharge permits

Katere Surface Coatings Limited (formerly Vinsen G M Limited) holds air discharge permit 4475 to cover emissions to air from abrasive blasting and surface coating activities from a mobile unit at various locations in the Taranaki region and at a permanent site in New Plymouth.

This permit was originally issued to Vinsen G M Limited by the Council on 9 February 1994 as a resource consent under Section 87(e) of the RMA to cover mobile blasting at various locations within the Taranaki region. A variation of the consent to include the permanent site on Katere Road was issued on 21 March 1996. The consent was transferred to Katere Surface Coatings Limited on 20 January 2003, and was renewed on 18 February 2009. The consent is due to expire on 1 June 2020.

The special conditions attached to the consent are outlined below.

As the consent is for discharges from abrasive blasting at the permanent site (within a blast shed and in the yard) and mobile blasting throughout the Taranaki Region, including in the Coastal Marine Area of Port Taranaki, Special condition 1 now clearly specifies which special conditions within the consent apply to which type of activity.

The remaining conditions on the consent are intended to reduce the quantity, control the quality, and minimise the potential for adverse effects from the emissions from the blasting activities and associated processes. This is achieved by:

- Requiring that the consent holder adopts the best practicable option to prevent or minimise effects of all operations of the Company on the environment (special condition 2).
- Ensuring that consideration is given to weather conditions (special condition 4) and limiting the locations at which blasting may be undertaken. In general the blasting must be undertaken within the permanent facilities (special condition 9) where the discharge must be contained and treated to meet specific discharge limits (special condition 10), although there is provision for occasional yard blasting (special condition 12).
- Ensuring that adequate screening is in place for all blasting activities (special conditions 10, 14, and 15).
- Controlling the blasting media used (special conditions 6 and 7).
- Requiring that certain notifications are made prior to undertaking blasting when certain “higher risk” blasting activities are undertaken (special conditions 13, 16, 17 and 18). In the case of the Council, the notification requirements are now more specific to ensure that sufficient notice is given so that Council staff have the opportunity to undertake monitoring related to those activities and ensure that adequate controls are in place.
- Addressing housekeeping issues (special condition 5).
- Requiring that the consent holder ensures that all operators understand and comply with the conditions of the consent (special condition 8).
- New conditions limiting general off site effects related to dust and odour from all activities (special condition 3), with numerical limits on suspended and deposited particulate concentrations for mobile blasting activities (special condition 19) and

deposited particulate in the vicinity of the permanent site on Katere Road (special condition 11).

Special conditions 20 and 21 contain standard provisions for the consent to lapse if not exercised and for review of conditions.

5.2 Results

5.2.1 Inspections

5.2.1.1 Site inspections

26 August 2013

It was reported that there was no blasting or painting occurring at the time of inspection. It was found that there was a lot of garnet around the blast shed that needed to be cleaned up. The Company was advised that the filter in the stormwater drain also needed to be cleaned out to ensure it continues to working effectively. No odours or dust were found beyond the boundary of the property at the time of inspection.

At the end of the inspection, the Company was instructed to clean up the garnet around the blast shed as per special condition 5.

12 December 2013

It was reported that no odours or dust were found beyond the boundary of the property. Blasting was occurring at the time of inspection, and it was considered that the extraction system was working well. No painting was being undertaken and the shed doors were open. The Company was again advised that the filter in the stormwater drain needed to be cleaned out as soon as possible, and that the garnet around the rear blast shed doors needed to be cleaned up.

26 February 2014

Blasting was occurring at the time of inspection. It was found that there was no dust discharging out of the blast shed. No painting was occurring at the time of inspection. The inspecting officer was informed that waste oil was to be applied to the site later in the week of inspection to minimise dust emissions from the yard. The Company was again advised that the filter in the stormwater drain needed to be cleaned out as soon as possible, but that in general the site was considered to be tidy.

12 June 2014

This inspection was undertaken in wet conditions. There was no painting or blasting at the time of inspection. There was no dust or odour discharging beyond the boundary. It was found that the bags of used garnet had been removed from the site. There was a lot of garnet in the yard at the rear door of the blast shed and the Company was instructed that this needed to be cleaned up as soon as possible. The inspecting officer spoke to the Company owner about cleaning up the accumulation of spent blasting media, and also about cleaning out the filter in the stormwater drain. The consent holder was informed that the inspecting officer would check that these had been done.

At the time of writing this report the stormwater drains had been found to have been addressed, however the cleaning up of the blasting media had not. The consent requires that, as far as practicable, work areas and surrounding areas shall be cleared of accumulations of spent blasting material at the end of each session and by the end of

each working day. The Company was advised that if this was not done in future, an abatement notice would be issued.

5.2.1.2 Mobile blast inspections

No notifications were received by the Council regarding mobile blasting undertaken by the Company during the year under review.

5.2.2 Results of receiving environment monitoring

5.2.2.1 Deposition gauging

Many industries emit dust from various sources during operational periods. In order to assess the effects of the emitted dust, industries have been monitored using deposition gauges.

Deposition gauges are basically buckets elevated on a stand to about 1.6m. The buckets have a solution in them to ensure that any dust that settles out of the air is not resuspended by wind.

Gauges were placed around the site and within the surrounding community. The gauges were left in place for between two weeks and a month, on two separate occasions.

Guideline values used by the Council for dust deposition are 4g/m²/30 days or 0.13g/m²/day deposited matter. Consideration is generally given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values. However, this guideline value has been adopted as a consent limit at the site boundary for both the Company's permanent Katere Road site, and for any mobile blasting work.

A site map marking the location of the gauges around the Katere Surface Coatings site is shown in Figure 17, and the results of the 2013-2014 gauging surveys are given in Table 9. The prevailing wind directions during the surveys are shown in Appendix II.

Table 9 Deposition gauge results from around the Katere Surface Coatings site 2013-2014

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume Litres
					g/m ² /day	g/m ² /30day	
AIR009303	TRC148711	7-Jan-14 to 28-Jan-14	8.3	21	0.30	9.0	0.9
	TRC149238	4-Feb-14 to 25-Feb-14	8.1	21	0.18	5.4	0.4
	summary for data 2010-June 2013	min	0.28	20.9	0.11	3.3	0.4
		max	1.2	27.1	0.32	9.6	2.5
		median	0.66	22.6	0.24	7.2	0.98
number		6	6	6	6	6	
AIR009304	TRC148712	7-Jan-14 to 28-Jan-14	7.4	21	0.12	3.6	0.8
	TRC149239	4-Feb-14 to 25-Feb-14	8.4	21	0.36	10.8	0.6
	summary for data 2010-June 2013	min	0.28	20.9	0.13	3.9	0.24
		max	3.72	27.1	0.50	15	1.83
		median	0.34	22.6	0.22	6.6	1.5
number		6	6	6	6	6	

Key: Results in bold exceed consent limit

Again, the consent limit was exceeded in three of the four gauges collected during the 2013-2014 year.

January 2014 survey

The material collected at both sites during January gauging survey contained little, if any organic matter (algae, worms or vegetation) that could have contributed to the high particulate deposition rates recorded. The fine grey/brown material collected in both deposition gauges had an appearance consistent with resuspended yard dust (Photo 3).

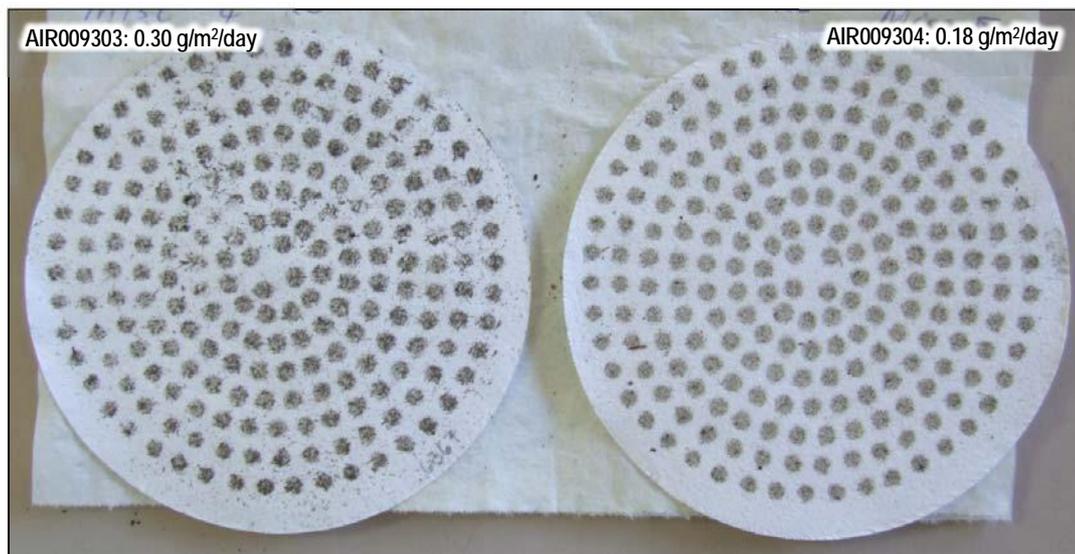


Photo 3 Filters from the Katere Surface Coatings deposition gauge survey January 2014

February 2014 survey

The material collected during the February survey at site AIR009304 contained some organic matter; the majority of the material again had an appearance consistent with dust off a metallised yard, resuspended by traffic movements and wind.

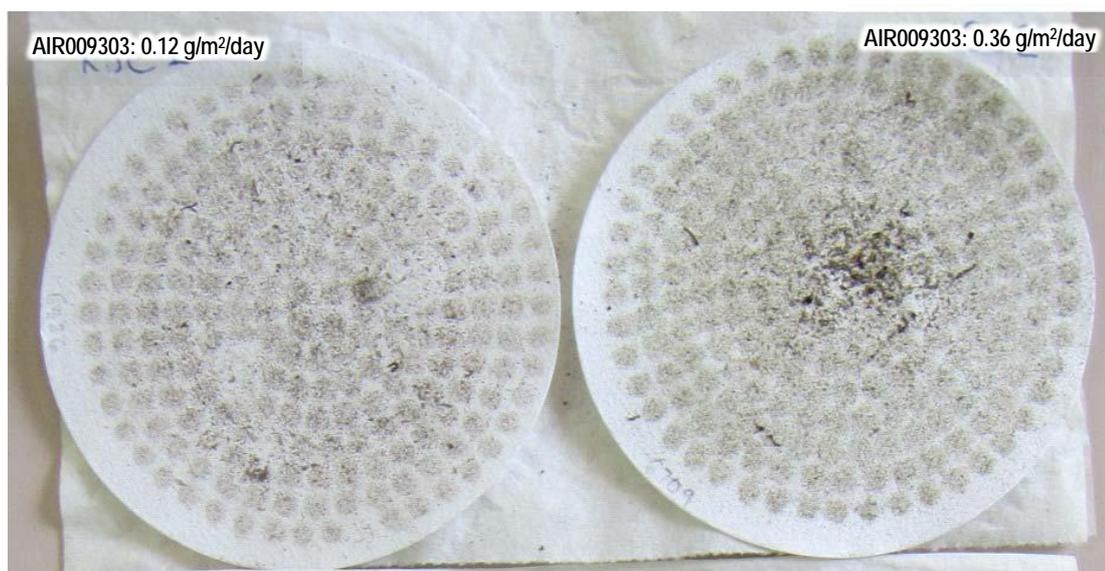


Photo 4 Filters from the Katere Surface Coatings deposition gauge survey February 2014

5.2.3 Investigations, interventions, and incidents

In the 2013-2014 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in their air discharge consent or provisions in the Regional Air Quality Plan.

5.3 Discussion

5.3.1 Discussion of site performance

For the second consecutive monitoring period, there were no complaints received during the 2013-2014 year in relation to the Company's activities.

Substantial improvements that were made at the site in the 2012-2013 year in relation to the treatment systems for both the blast booth and the paint shed have continued to produce significant reductions in emissions from the site.

Garnet was observed on the ground in the vicinity of the blast booth on three of the four routine monitoring inspections, which the Company was instructed to clean up. This is a breach of special condition 5 of the Company's consent, which requires that *"As far as is practicable, work areas and surrounding areas shall be cleared of accumulations of blasting material at the end of each blasting session and by the end of each working day"*. Accumulated blast media has the potential to impact on both air and water quality, if it is resuspended by vehicles or the wind during dry periods, or is washed into the stormwater system during rain. At the time of writing this report, the Company had been warned that if this matter was not resolved, an abatement notice would be issued.

In an attempt to protect the stormwater system and receiving environment, the Company has installed cloth filters in the stormwater catch pits. However, at all four inspections, the Company was instructed that these needed to be cleaned out.

Exceedances of the deposited particulate limit were recorded for both the January and February surveys, with the material collected having an appearance consistent with resuspended yard dust.

5.3.2 Environmental effects of exercise of consents

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity eg, vegetation pollens, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dusts may settle out within timeframes ranging from a few seconds to minutes.

The amount of dust and detritus generated at any industrial site is influenced by many factors. From past results of deposition gauging it is likely that factors including seasonal weather variations, vehicle traffic about the site, and the type of work being conducted will have some effect on the results.

The environmental effects of dusts include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. It has been found that background rates of dust deposition in rural areas of New Zealand are

typically 0.1-1.5 g/m²/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m²/30 days. From experience, rates above 3-4 g/m²/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources. The Council guideline value of 0.13 g/m²/day was incorporated as a condition of the Company's consent on 19 February 2009.

Abrasive blasting operations have the potential to create adverse effects on health and the environment as well as creating nuisance. The impact that sandblasting has is determined by the type of abrasive used (e.g. is it sand that is dust free with low silica content), the effectiveness of the blasting enclosure and treatment system, the procedures followed by staff when blasting outside the blasting room (e.g. temporary screening), and the items blasted (e.g. with coatings such as lead-based paints or larger rusted areas resulting in generation of extra detritus).

Deposition gauging was not previously programmed to be carried out for this activity, with the main emphasis being on measuring suspended particulates from point source discharges and ambient suspended particulate levels at the site boundary during site visits. However, with the inclusion of a deposited particulate limit on the renewed consent, deposition gauging was incorporated into the programme and was conducted around the Katere Surface Coatings permanent site for the 7th and 8th time during the year under review.

The particulate deposition rate was exceeded in three of the four gauges deployed during the year under review. However, there were no complaints received regarding dust impacting beyond the boundary of the property. The appearance of the deposited material collected during the surveys was consistent with that of dust being generated from the gravelled yard. It is noted that both gauging periods were relatively dry, particularly the February survey, during which there was only 11.5 mm of rain, 7mm of which fell on one day.

There were no off site emissions or odours noted at inspection, and there were no complaints related to paint odours and overspray. It appears that the new treatment system installed on the paint shed during the 2012-2013 year has continued to be effective in preventing the odour and overspray issues that resulted in a number of complaints during previous monitoring years.

The results of the 2013-2014 monitoring indicate that during this period there were no significant adverse effects occurring as a result of Katere Surface Coatings activities, however there were matters raised regarding housekeeping issues with the potential to result in off-site effects that have taken some time to resolve. At the time of writing this report the Company had been advised that an abatement notice would be issued if accumulations of blasting media were not addressed.

5.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 10.

Table 10 Summary of performance for Consent 4475-2, Katere Surface Coatings Limited discharge of emissions into the air

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Specifies which special conditions apply to which activities	N/A	N/A
All Activities		
2. Adoption of best practicable option to minimise effects on the environment	Inspection and discussion with consent holder	Accumulation of garnet on site and/or in stormwater treatment devices at all four inspections
3. No offensive, objectionable or toxic odour or dust beyond boundary.	Inspection and observation when inspecting officer is in the vicinity of the site on other business	Yes
4. Consideration of wind conditions to minimise of off-site emissions	Inspection	Yes
5. Clearance of blasting material	Inspection	Accumulation of garnet noted at 3 of 4 inspections
6. Sand has low active silica content and limited fine particles	N/A – garnet used	N/A
7. Avoidance of dry sand blasting	Inspection and liaison with Company. Dry sand has not been used	Yes
8. Compliance of operators with conditions	Inspection	No
Within the permanent facility		
9. Except as provided for by S.C. 12 to 14 blasting must be in enclosed facility	Inspection and discussion with consent holder	Yes
10. Treatment of emissions prior to discharge. Limit on emissions from enclosure of 125 mg/m ³	Inspection and point source suspended particulate monitoring.	Yes
11. Particulate deposition rate limit of 4 mg/m ² /day	Deposition gauging	3 of 4 gauges exceeded consent limit
Yard blasting at Katere Road site		
12. States provisions for occasional yard blasting as per S.C. 12 to 14	Inspection	Yes
13. Email notification to TRC 7days to 48hrs prior to yard operations	Inspection and observation when inspecting officer is in the vicinity of the site on other business.	Yes
14. Screening of items to be blasted	Discussion with consent holder. Water blasting used rather than dry abrasive blasting	Yes
Any site other than Katere Road		
15. Screening to contain emissions	No mobile blasting undertaken	N/A

Condition requirement	Means of monitoring during period under review	Compliance achieved?
16. Notification to District Council prior to blasting in residential areas	Discussion with consent holder, and review of the Council records. No notifications received as no mobile blasting undertaken	N/A
17. Email notification to TRC 7days to 48hrs prior to blasting in close proximity to watercourse	Discussion with consent holder, and review of the Council records. No notifications received as no mobile blasting undertaken	N/A
18. Notification to affected parties prior to blasting close to boundaries	No mobile blasting undertaken	N/A
19. Suspended and deposited particulate limits 3 mg/m ³ and 0.13 mg/m ² /day respectively	No mobile blasting undertaken	N/A
All Activities		
20. Provision for consent to lapse if not exercised	Consent exercised	N/A
21. Optional review provision re environmental effects	Next opportunity on consent for optional review June 2014	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Improvement required
Overall assessment of administrative performance in respect of this consent		High

An improvement in the Katere Surface Coating Limited's environmental performance is required. During the year under review the Company was instructed that the spent blasting media needed to be addressed and/or that the stormwater drain filters needed to be cleaned out at each of the four monitoring inspections. At the time of writing this report the Company had been advised that an abatement notice will be issued if the garnet is not cleaned up at the end of each day. An improvement in the control of wind blown yard dust is also desirable.

5.3.4 Recommendations from the 2012-2013 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring of consented activities of Katere Surface Coatings in the 2013-2014 year continues at the same level as in 2012-2013.

THAT the option for a review of resource consent 4475-2 in June 2014, as set out in condition 21 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

These recommendations were implemented.

5.3.5 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for air discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA, the obligations of the Act in terms of monitoring emissions and their effects, and subsequently reporting to the regional

community, the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere.

It is proposed that for 2014-2015, the monitoring remains unchanged.

5.4 Recommendation

1. THAT monitoring of consented activities of Katere Surface Coatings in the 2014-2015 year continues at the same level as in 2013-2014.

6. Ravensdown Fertiliser Co-operative Limited

6.1 Introduction

6.1.1 Process description

Ravensdown Fertilisers operate a storage, blending and distribution depot at the site which is bounded by Smart, Devon and Katere Roads in the Fitzroy area of New Plymouth. Urea and phosphate fertiliser products are transported to the Ravensdown storage facility by rail or by road from the port.

The product is received either into the "Intake" area or directly into the stores by tipping the truck out onto the floor within the store. Product unloaded at the "Intake" is then transferred to the stores by an overhead belt transfer system. In the case of the high analysis store, product is sometimes deposited onto the ground outside the store and transferred into the store by front end loader.

In general, products are dispatched by loading the product into a hopper, which feeds a mechanical elevator to the overhead belt system. This then carries the product to the load-out/weighbridges.

The closure of the fertiliser manufacturing plants at the Ravensdown site, in July 1997, eliminated the potential for emissions of gases such as sulphur dioxide and hydrogen sulphide into the air, but an unforeseen dust problem occurred. This was due to the dry fine grain nature of the superphosphate compared to the moist product that was stored after manufacture at the site prior to July 1997.

The main activities that result in the generation of dust are the receipt of product and load-out of product at the weighbridges. The principal potential consequences of these discharges are air-borne dust nuisance effect, soiling of property, and nutrient enrichment of the stormwater run-off in the vicinity of the site.

Ravensdown have taken the following steps to mitigate the dust problem:

- establishing two superphosphate receiving sheds, one at the north of the plant and one at the south of the plant;
- initiated procedures where the receiving shed will be selected according to the wind direction at the time of receipt;
- sealing both of these storage sheds.
- sealing roadways to make it easier to clean-up spilt product that could be resuspended by the wind.
- cones fitted to the end of the load-out chutes to improve the degree of containment as the product free falls into the trucks.

The manufacturing plant has been progressively stripped as part of decommissioning. The Company has been continuing to upgrade the buildings, particularly the roof areas. This is contributing to the continued remediation of dust emissions to the atmosphere caused by the storage, blending, packing and dispatch of fertiliser.

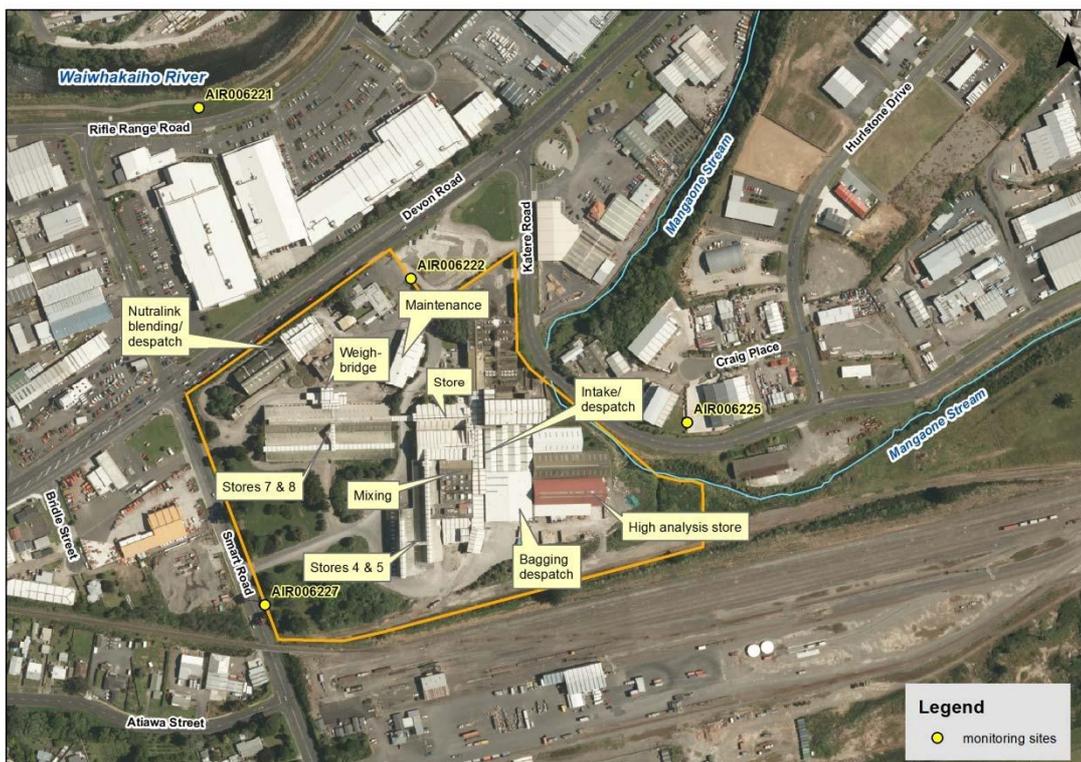


Figure 18 Ravensdown Fertiliser Co-operative Limited site and deposition gauge locations

6.1.2 Air discharge permit

Ravensdown holds air discharge permit 4024 to cover emissions to air from the manufacture, storage and distribution of fertilisers, sulphuric acid, chromium sulphate, and associated practices. The Council originally issued this permit to Farmers Fertilisers on 25 July 1995 as a resource consent under Section 87(e) of the Resource Management Act. The consent was transferred to Ravensdown Co-operative Limited on 21 July 1997. The consent was renewed to cover emissions to the air solely from the storage, blending and distribution of fertiliser was granted on 4 December 2008 for a period until 1 June 2026.

A summary of the conditions of the consent is provided below:

The conditions of the consent focus on ensuring that there are no effects off site that are more than minor in relation to dust and/or odour, or as a result of aerial discharges resulting in deposited contaminants on site which may then become entrained in the stormwater. This is achieved by:

- Requiring the consent holder to consider in advance, the potential for effects of the activities on site by adopting the best practicable option (special condition 1), taking into account wind direction (special condition 2), undertaking as much product transfer and blending of fertiliser under cover as possible (special condition 6), and supplying an odour management plan to the Council if potentially odorous product are introduced to the site (special condition 9).
- Prohibiting offensive or objectionable dust or odour (special condition 4), placing numerical limits on suspended and deposited particulate beyond the site boundary (special condition 3), and requiring that the consent holder keeps a

record of all incidents that result in, or have the potential to result in off site effects (special condition 7).

- Addressing housekeeping matters (special condition 5).
- Requiring notification to Council prior to making changes at the site that could adversely affect discharges from the site (special condition 8), and allowing the consent conditions to be reviewed in the light of this notification in addition to the standard review provisions to change limits and/or deal with adverse effects (special condition 10).

6.2 Results

6.2.1 Inspections

The site is inspected four times per year in relation to water discharge matters, with two of the routine compliance monitoring inspections per year scheduled to include a focus on air discharge matters. Any air related matters noted at the additional water focused inspection are also reported here.

9 September 2013

The site was inspected in overcast conditions following recent rain. The inspecting officer was met on site by the Store Manager. It was reported that there were no dust or odours found beyond the boundary of the property. It was noted that the rock store was to be demolished in November. This would include pulling up the floor, with any material underneath being removed and disposed of.

13 September 2013

An email was received from the Store Manager to inform the Council that the demolition of the rock store was to begin next week (16 September 2013) not November as stated in the 9 September inspection notice.

26 November 2013

A consent investigation visit was undertaken on this date. It was found that there were a number of trucks loading out, although it was indicated by the Store Manager that the site was relatively quiet at the time of the site visit.

The site buildings, activities, drainage etc were viewed and discussed, and it was noted that the demolition of the rock store was progressing.

It was found that there was a grain silo and grinder at the site now, and that palm kernel was being stored on site. The Company was informed that there were potential air related issues associated with these activities, which have been introduced onto the site since the air discharge consent was issued. The Company was advised that these changes should be notified to Council, as per special condition 8 of consent 4024-3, including the required assessment of environmental effects identifying potential effects and mitigation measures in place. It is noted that the special condition requires that Council be notified of changes prior to them occurring.

The following action was to be taken:

Notification to Council (could be emailed to worksnotification@trc.govt.nz) regarding the scale and nature of the new activities relating to the grain storage and grinding and storage and distribution of palm kernel as required by consent, and an assessment of

the potential environmental effects of these changes to the site activities and the mitigation measures in place.

16 June 2014

A meeting was held at the Council offices to discuss the air discharge consent requirements and options for Ravensdown's palm kernel (PKE) screening and grain crushing activities. The way in which the activities were undertaken, and the potential environmental effects were discussed.

It was outlined that Ravensdown receives PKE and grain by road from the New Plymouth Port facility, with the trucks carrying these products entering the site from Smart Road. They are delivered through a tunnel to an internal storage shed where they are unloaded. The PKE is placed in a screening plant that has a hammer mill for screening and breaking up the hard lumps of palm kernel. The grain is placed in a roller mill with a 6 tonne per hour capacity, although currently the wheat is crushed at a rate of 2 tonne per hour. The products are blended together to create animal nutritional products with the mixing undertaken by a front end loader on the floor of the store. The product is then loaded onto trucks and transported to the market, exiting the site from the Smart Road exit. It was confirmed that Ravensdown were monitoring the temperature of the PKE to avoid dampness and odour, and that all screening, crushing and blending were being carried out in buildings that had been sealed to prevent dust escaping. No air extraction system is used, and it was outlined that the only place dust could escape was through entrances to the tunnel that lead to the stores, and that a rapid shut roller door could be installed, if found necessary.

In subsequent correspondence it was identified that a variation to the existing consent was likely to be an appropriate way forward.

17 June 2014

Minimal odours were noted on site, and at the time of inspection, these did not give rise to any off site effects.

6.2.2 Results of receiving environment monitoring

Many industries emit dust from various sources during operational periods. In order to assess the effects of the emitted dust, industries have been monitored using deposition gauges.

Deposition gauges are basically buckets elevated on a stand to about 1.6m. The buckets have a solution in them to ensure that any dust that settles out of the air is not resuspended by wind.

Gauges are placed around the site and within the surrounding community.

During the year under review six deposition gauges were deployed at sample sites in the vicinity of the Ravensdown premises on two occasions. All the sites are shown in Figure 1, and those in closer proximity to the site are also shown in Figure 18. Their locations are described in Table 11. Material from the gauges was analysed for solid particulates, dissolved reactive phosphorus, particulate phosphorus, and conductivity. The deposition survey results for the year under review are presented in Table 12, together with a summary of historical results for comparison. The prevailing wind directions during the surveys are shown in Appendix II.

Table 11 Description of Ravensdown deposition gauge sample sites

Site Code	Location description
AIR006221	On the banks of the Waiwhakairo river, north of Harvey Normans
AIR006222	On Devon Road opposite Ravensdown's site entrance
AIR006227*	On the north side of the railway and the east side of Smart Road.
AIR006224	Property between Queens Road and Alberta Road, approximately 100 metres from the roadside
AIR006225	Vacant section on Craig Place off Hurlstone Drive
AIR006226	Site on the verge of roadway at the front of Toops carpark

Key: * (replaced AIR006223)

Guideline values used by the Council for dust deposition are 4g/m²/30 days or 0.13g/m²/day deposited matter. This limit has been incorporated into the Company's consent. Consideration is given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values.

During the 2013-2014 monitoring period two of the eleven gauges analysed exceeded the Company's consent limit of 0.13 grams per square metre per day.

January 2014 survey

During the January survey four of the five gauges analysed complied with the consent limit. The limit was exceeded only at site AIR006222, which is close to the site entrance on Devon Road. The particulate deposition rate recorded was equal to the historical maximum for this monitoring location. The results for the other sites were generally similar to or below their respective historical medians. The only sites affected by significant amounts of organic matter were sites AIR006225 and site AIR006224. The particulate deposition rate at site AIR006225 was below the consent limit, and the contents of the gauge at site AIR006224 were discarded due to the degree of organic contamination. The material collected at site AIR006222 had an appearance consistent with resuspended yard dust (Photo 5). During this survey the highest total deposited phosphorus concentration was found at AIR006222. The result obtained was more than twice the concentration recorded at any of the other sites, and was above median for this monitoring location.

Wind data shows that site AIR006222 was downwind of site activities for approximately 70 % of the time that the gauges were deployed.

February 2014 survey

The particulate deposition rate was complied with at all sites except AIR006222 during the February survey. At this monitoring location the particulate deposition rate was twice that permitted by the consent, and three times higher than that recorded in any of the other gauges in the vicinity of this site. The appearance of the material collected was again consistent with that of resuspended yard dust (Photo 6). Site AIR006222 was again downwind of site activities for approximately 70 % of the gauging period.

At the time of this survey the particulate deposition rates found in the other gauges in the vicinity of the Ravensdown site were similar to or considerably lower than their respective historical medians.

Again, the highest total deposited phosphorus recorded was at site AIR006222.

Table 12 Deposition gauge results from around the Ravensdown Fertiliser site 2013-2014

Site	Sample	Date	Conductivity mS/m/day	No. of days	Deposited particulate		Volume litres	Dissolved reactive phosphorus mg/m ² /day	Particulate phosphorus mg/m ² /day	Total deposited phosphorus mg/m ² /day
					g/m ² /day	g/m ² /30day				
AIR006221	TRC148700	7-Jan-14 to 28-Jan-14	0.21	21	0.02	0.6	0.2	<0.005	0.061	0.061
	TRC149227	4-Feb-14 to 25-Feb-14	0.09	21	0.01	0.3	0.6	0.130	0.045	0.175
	summary for data 1994- June 2013	min	0.16	14.9	<0.01	<0.3	0.17	0.005	0.0453	0.05
		max	1.2	35.1	0.39	11.7	6.36	5.7	1.1	5.80
		median	0.38	27.5	0.06	1.8	1.02	0.24	0.19	0.45
number		36	28	42	42	27	38	14	23	
AIR006222	TRC148697	7-Jan-14 to 28-Jan-14	0.5	21	0.40	12	0.9	1.420	2.396	3.82
	TRC149224	4-Feb-14 to 25-Feb-14	0.23	21	0.30	9	0.7	0.970	2.153	3.12
	summary for data 1994- June 2013	min	0.22	21	0.04	1.2	0.22	0.014	0.589	0.56
		max	1.5	35.1	0.40	12	5.79	5.3	3.24	6.99
		median	0.47	27.9	0.21	6.3	1.62	0.9	1.13	2.60
number		37	27	43	43	27	40	14	23	
AIR006224	TRC148701 ^b	7-Jan-14 to 28-Jan-14	-	-	-	-	-	-	-	-
	TRC149228	4-Feb-14 to 25-Feb-14	0.06	21	0.05	1.5	0.8	0.080	0.106	0.186
	summary for data 1994- June 2013	min	0.036	20.8	0.01	0.3	0.2	<0.005	0.15	0.07
		max	1.87	35	2.54	76.2	7.64	3.3	0.587	3.67
		median	0.42	27.9	0.08	2.4	1.96	0.1	0.35	0.50
number		33	27	39	39	25	36	12	21	
AIR006225	TRC148699	7-Jan-14 to 28-Jan-14	0.31	21	0.11	3.3	0.8	0.060	0.591	0.651
	TRC149226	4-Feb-14 to 25-Feb-14	0.10	21	0.09	2.7	0.5	0.230	0.652	0.882
	summary for data 1994- June 2013	min	0.092	20.9	0.01	0.3	0.12	<0.005	0.303	0.14
		max	1.3	35.1	1.57	47.1	6.5	3.54	1.863	4.08
		median	0.36	27.9	0.08	2.4	1.4	0.31	0.478	1.03
number		36	27	42	42	26	39	13	22	
AIR006226	TRC148702	7-Jan-14 to 28-Jan-14	0.32	21	0.12	3.6	0.7	0.410	0.227	0.637
	TRC149229	4-Feb-14 to 25-Feb-14	0.10	21	0.06	1.8	0.5	0.020	0.106	0.126
	summary for data 1994- June 2013	min	0.032	14.9	0.02	0.6	0.2	<0.005	0.12	0.08
		max	1.67	35.1	0.75	22.5	7.19	1.88	0.55	2.21
		median	0.3	27.5	0.12	3.6	1.3	0.03	0.254	0.36
number		37	28	43	43	27	40	14	23	
AIR006227	TRC148698	7-Jan-14 to 28-Jan-14	0.48	21	0.08	2.4	0.8	0.290	0.288	0.578
	TRC149225	4-Feb-14 to 25-Feb-14	0.21	21	0.09	2.7	0.6	0.800	0.440	1.24
	summary for data 1994- June 2013	min	0.25	21	0.03	0.9	0.2	0.02	0.27	0.39
		max	6.48	35	0.33	9.9	5.03	8.1	1.84	9.94
		median	0.85	27.5	0.10	3	1.2	1.00	0.548	2.22
number		24	24	24	24	24	24	14	23	

Key: Results in bold exceed consent limit

^b gauge contained an excessive amount of organic matter

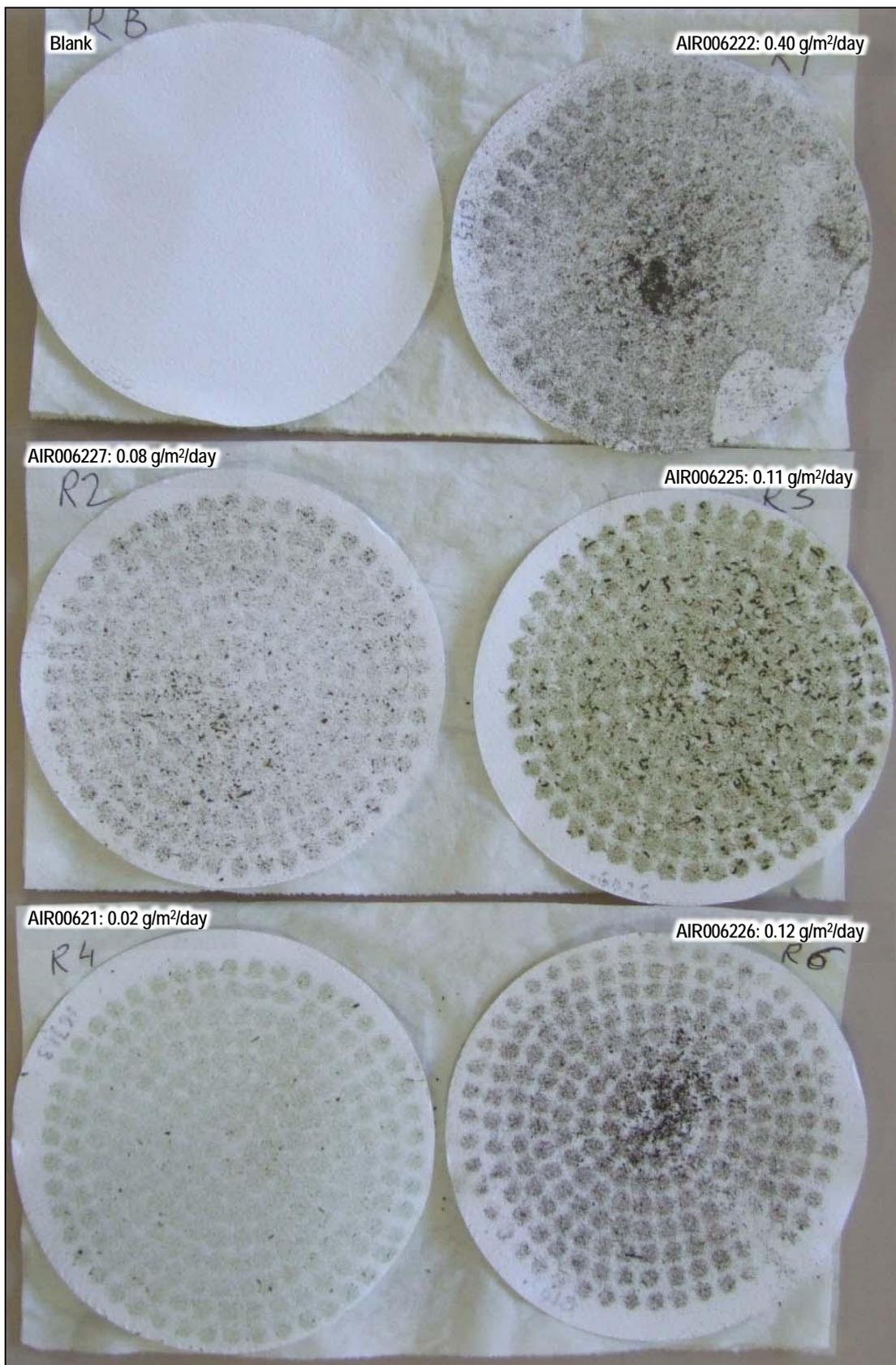


Photo 5 Filters from the Ravensdown Fertiliser January 2014 survey

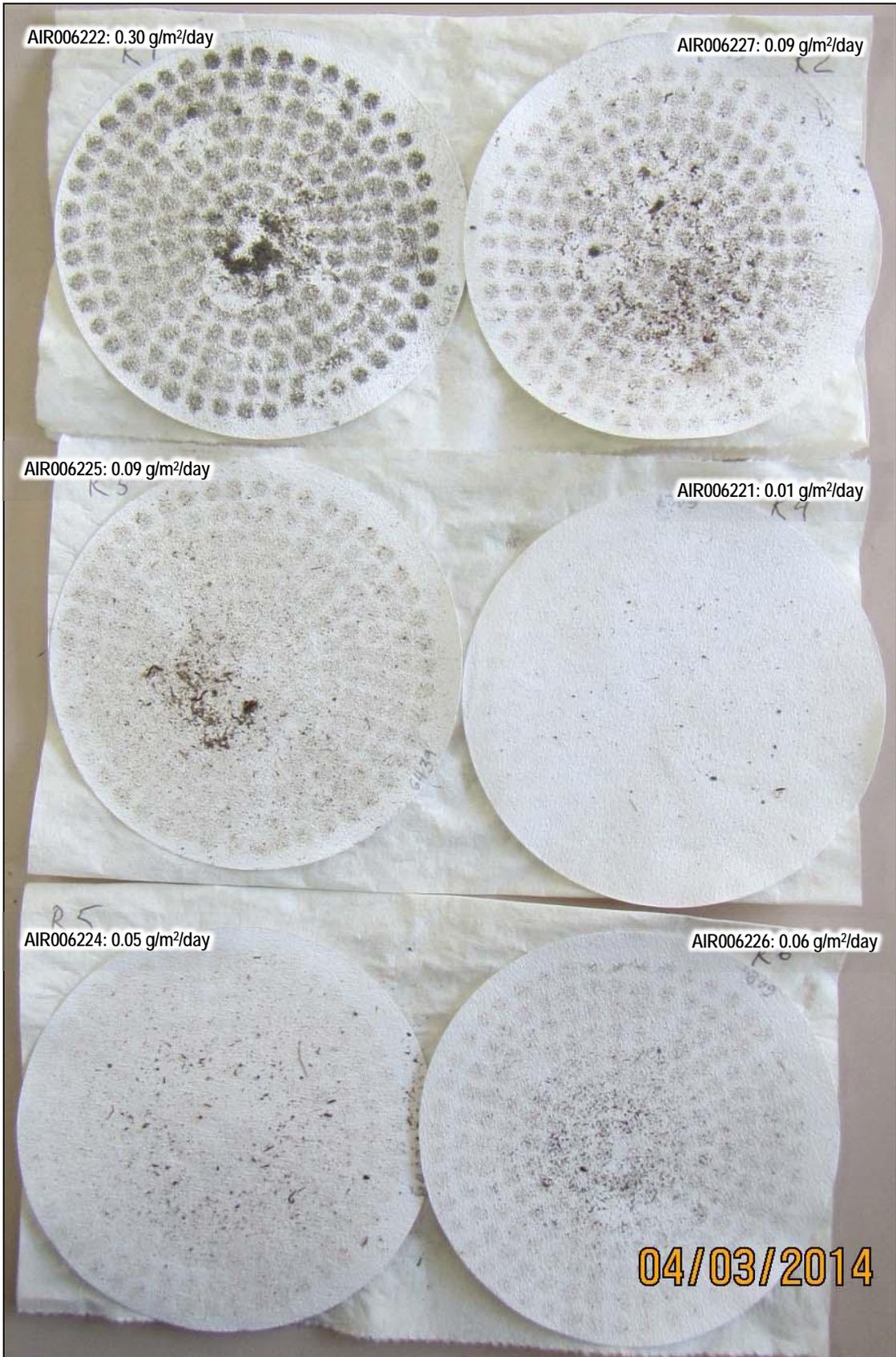


Photo 6 Filters from the Ravensdown Fertiliser February 2014 survey

6.2.3 Investigations, interventions, and incidents

In the 2013-2014 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in their air discharge consent or provisions in the Regional Air Quality Plan.

6.3 Discussion

6.3.1 Discussion of site performance

At inspection it was found that as far as control of emission to air is concerned the site was generally well managed, however deposition gauging results indicate that dust resuspended from the yard has the potential to result in off-site effects.

In the 2012-2013 Annual Report it was noted although the Company generally demonstrated a good level of environmental performance and compliance with their air discharge consent, as defined in Section 1.1.5, an improved control of the deposited particulate resulting from the Company's storage and distribution of palm kernel was desirable. There were no issues found with this aspect of Ravensdown's activities during the year under review, indicating that the desired improvement was achieved.

6.3.2 Environmental effects of exercise of consents

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity for example vegetation pollens, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dusts may settle out within timeframes ranging from a few seconds to minutes.

The amount of dust and detritus generated at any industrial site is influenced by many factors. From past results of deposition gauging it is likely that factors including seasonal weather variations, vehicle traffic about the site, and the type of work being conducted will have some effect on the results.

The environmental effects of dusts include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. It has been found that background rates of dust deposition in rural areas of New Zealand are typically 0.1-1.5 g/m²/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m²/30 days. From experience, rates above 3-4 g/m²/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources. The Council guideline value of 0.13 g/m²/day is incorporated as a condition of the Company's consent.

Deposition gauging was conducted for the 44th and 45th time during the 2013-2014 monitoring year around the Ravensdown Fertiliser site. The results obtained for this monitoring are illustrated in Figure 19.

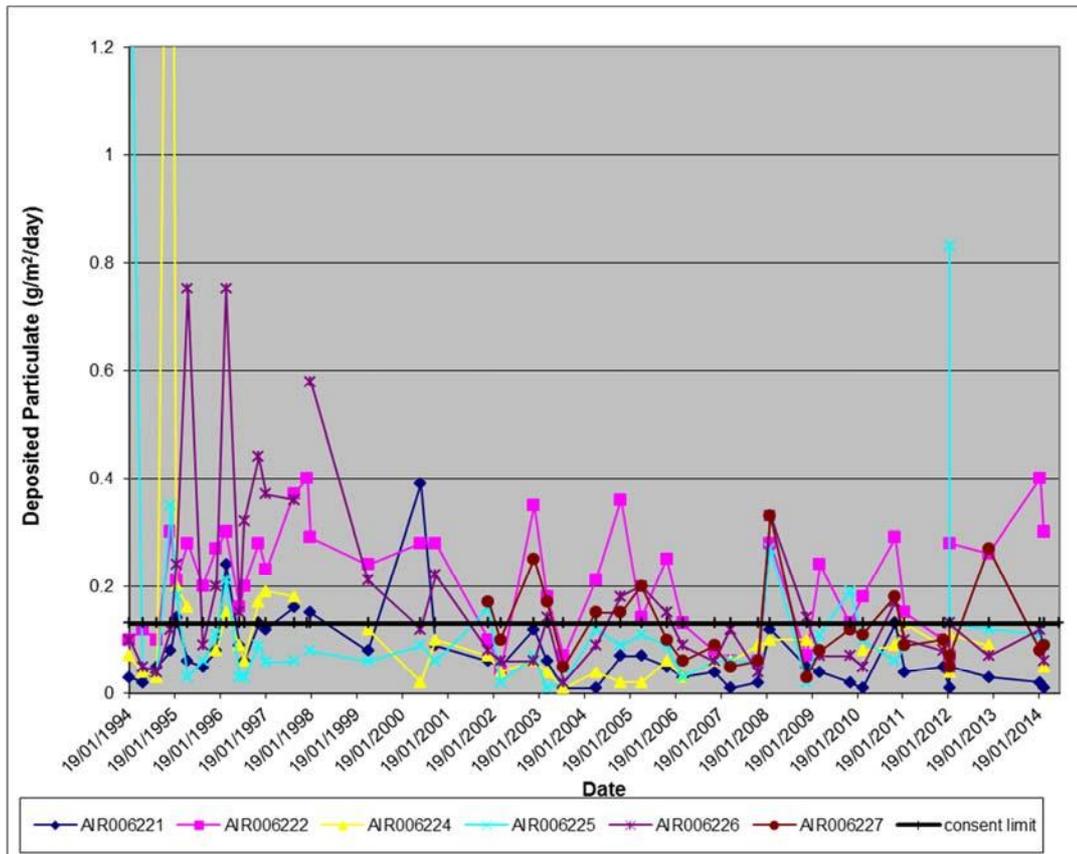


Figure 19 Deposition gauge results at Ravensdown Fertiliser's monitoring sites (January 1994 – June 2014)

Statistical analysis of the data indicates that 2 of the 4 statistically significant trends observed at the end of the 2010-2011 and 2011-2012 years have continued.

The statistically significant trend of increasing deposited dissolved reactive phosphorus has continued at site AIR006224 (Figure 20), but not at site AIR006222.

A statistically significant trend of decreasing particulate deposition rates has continued at site AIR006221 (Figure 20).

The statistically significant trend of increasing total deposited particulate at site AIR006224 was found not to have continued at the end of the 2013-2014 year.

The new statistically significant trend of decreasing particulate deposition rates that emerged at site AIR006226 at the end of the 2012-2013 year has continued (Figure 21).

The trends of decreasing particulate deposition rate at sites AR006222 and AIR006226, which are not in the immediate vicinity of the Ravensdown site, are likely to be attributable to the reduced site development work happening in these areas of the airshed.

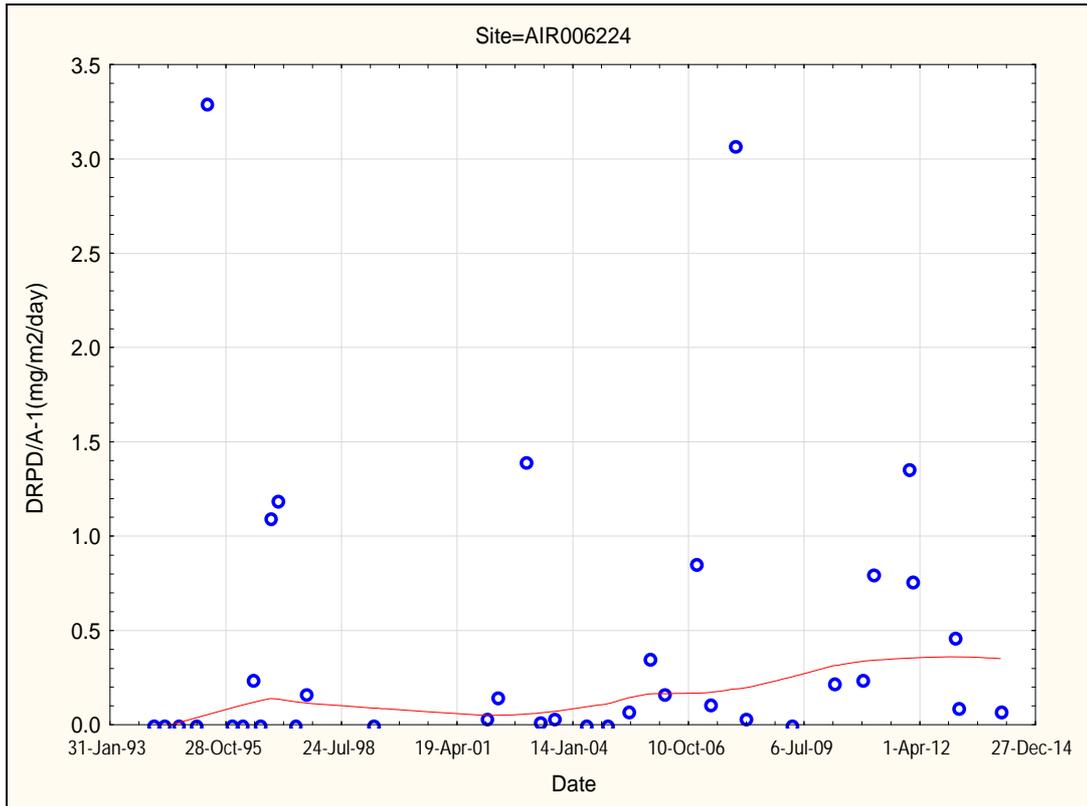


Figure 20 Deposited dissolved reactive phosphorus trend at Ravensdown's monitoring site AIR006224 (January 1994 – June 2014)

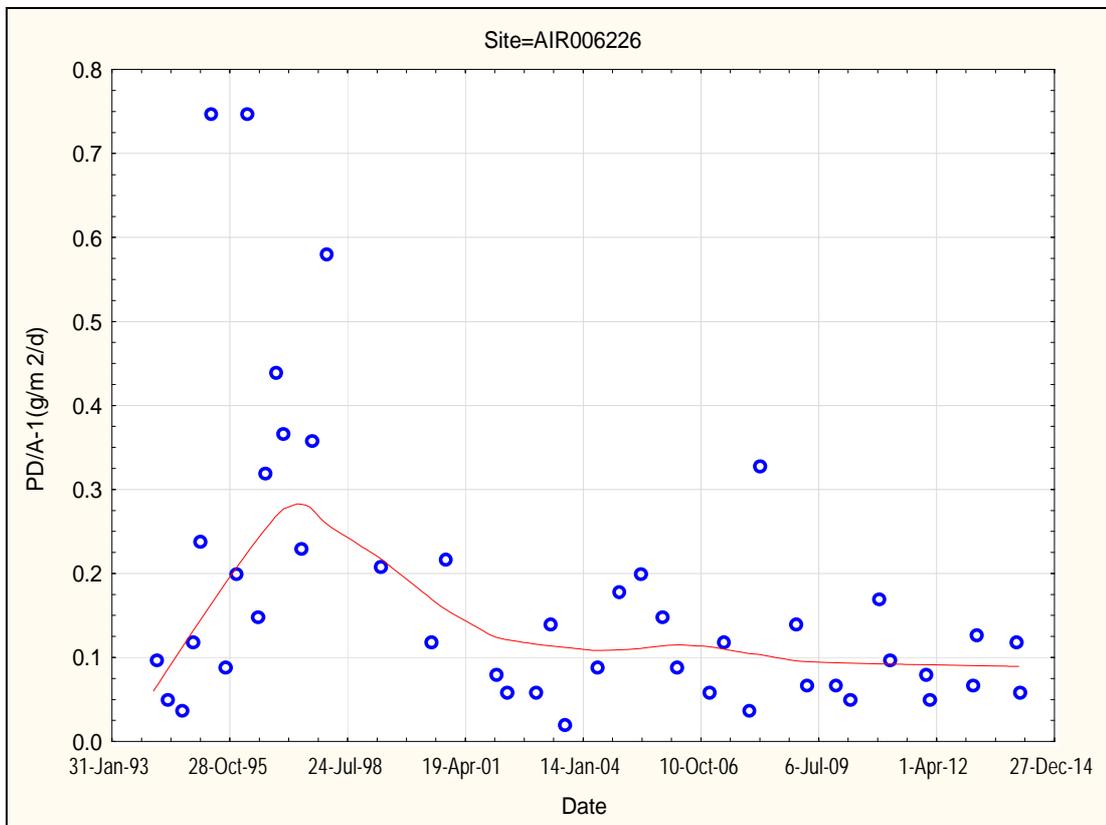


Figure 21 Deposited particulate trend at Ravensdown's monitoring site AIR006226 (January 1994–June 2014)

6.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 13.

Table 13 Summary of performance for Consent 4024-3, Ravensdown Fertiliser Co-operative Limited discharge of emissions into the air

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of action likely to minimise adverse effects on the environment	Inspection and liaison with consent holder	Yes
2. Take account of wind direction to minimise off site emissions	Inspection and liaison with consent holder. No complaints received	Yes
3. Suspended and deposited particulate limits	Suspended particulate monitoring at inspection and deposition gauging	2 of 6 deposition gauges in immediate vicinity exceeded limit
4. No objectionable, offensive of toxic dust or odour beyond boundary	Inspection and liaison with consent holder. No complaints received	Yes
5. Fertiliser spills to be cleaned up as soon as practicable but in any case by the end of the day	Inspection	Yes
6. Activities to be carried out inside effectively maintained buildings to minimise emissions	Inspection and liaison with consent holder	Yes
7. Record of dust complaints	Inspection and liaison with consent holder.	Yes
8. Notification of changes	Review of the Council records. Inspection and liaison with consent holder. No significant changes notified or found	N/A
9. Odour management plan to be prepared if change involves odorous materials	No changes	N/A
10. Provision for review	Next opportunity for review June 2014	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

During the year, Ravensdown Fertiliser Co-operative Limited generally demonstrated a good level of environmental performance and compliance, as defined in Section 1.1.5, with their air discharge consent, although improved control of yard dust is desirable to avoid the potential for excessive dust deposition off-site. No complaints concerning dust emissions were received.

6.3.4 Recommendations from the 2012-2013 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring of consented activities at Ravensdown Fertiliser Co-operative Limited in the 2013-2014 year continues at the same level as in 2012-2013.

THAT the option for a review of resource consent 4024-3 in June 2014, as set out in condition 10 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

These recommendations were implemented.

6.3.5 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for air discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the Resource Management Act, the obligations of the Act in terms of monitoring emissions and their effects, and subsequently reporting to the regional community, the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere.

It is proposed that for 2014-2015 the monitoring remains unchanged.

6.3.6 Recommendation

1. THAT monitoring of consented activities at Ravensdown Fertiliser Co-operative Limited in the 2014-2015 year continues at the same level as in 2013-2014.

7. Taranaki Drum and Pallet Recycling

7.1 Introduction

7.1.1 Process description

The consented activity at the site on Smart Road is the burning of 'clean' timber pallets ie, ones that have not been treated with tanalising solution (copper, chrome and arsenic). No other wastes are to be burned. The location of the site and firepit is shown in Figure 22.

The Company burns approximately 100 to 200 pallets, on any one occasion. The place of burning is in a pit located approximately 25 metres away from the nearest property boundary, 130 metres away from the nearest offsite dwelling and 120 metres away from the nearest road. The area in which the burning takes place is relatively isolated, situated on the slope of a small gully near the centre of the property.

The pallets are burnt during daylight hours, no more than twice a week, and in ideal wind conditions. The discharge is for approximately three hours and involves non-tanalised timber, so that the emissions comprise products of combustion, natural volatile oils from timber, and moisture. The prevailing winds in the area are from the south-east and west. These should not blow smoke directly towards any dwellings, the closest of which lie beyond the consent holder's own house, to the west. Winds from the east are rare.



Figure 22 Location of Taranaki Drum and Pallet Recycling site and firepit

The principal consequence of burning the clean pallets would be the potential for smoke. It is a requirement of the consent that the fire must be supervised and managed at all times. The frequency, time of day, and the types of material that can be burned have been restricted in order to manage air emission on site.

7.1.2 Air discharge permit

Taranaki Drum and Pallet Recycling holds air discharge permit 6073 to cover emissions into the air from the burning of pallets. This permit was issued by the Council on 17 September 2002 as a resource consent under Section 87(e) of the Resource Management Act. It is due to expire on 1 December 2020.

The aspects of the environmental effects of the emissions from the burning pit that are covered by the Resource Management Act, include any possibility of toxic emissions affecting the life supporting capacity of the air, the visual impact of any plume of smoke on amenity values in the area, and any noxious effects upon people downwind of the smoke plume. These aspects were taken into account in the formulation of the special conditions of the consent.

Special conditions 1 and 2 require the Company to adopt the best practicable option to prevent or minimise adverse environmental offsite effects, and manage the process so that discharges are maintained at a practicable minimum.

Special condition 3 requires that the fire pit is located no closer than 20 metres from any boundary.

Special conditions 4 and 5 describe the materials that may and may not be burnt in the fire pit to eliminate the potential for toxic effects.

Special conditions 6, 7, and 8 place controls on the times and frequency at which the fire pit may be used, and require that in addition, wind conditions must be taken into account to minimise adverse effects on neighbours and to reduce off-site impacts to what is considered an acceptable level.

Special condition 9 requires that discharges authorised by the consent do not give rise to odours, dust or smoke at or beyond the boundary that, in the opinion of the Council, is offensive or objectionable.

Special condition 10 is a review condition giving the Council the option to review the special conditions of the consent in June 2008 and/or June 2014.

7.2 Results

7.2.1 Inspections

26 August 2013

It was found that there was a large quantity of unburned pallets in the fire pit. No smoke, dust or odour was found beyond the boundary of the property.

19 February 2014

The inspection was undertaken in the presence of the consent holder. There was no burning occurring at the time of inspection. There were only two unburned pallets in the fire pit. No dust or odour was found beyond the boundary of the property.

21 May 2014

The fire pit was not in use at the time of inspection. There was a large volume of pallets in the fire pit to be burned. There were no prohibited materials reported to be present.

7.2.2 Investigations, interventions, and incidents

In the 2013-2014 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in their air discharge consent or provisions in the Regional Air Quality Plan.

7.3 Discussion

7.3.1 Discussion of site performance

During the year under review the inspecting officer was not able to carry out an inspection when the exercise of the air discharge consent was occurring, as despite the Company being requested on a number of occasions during previous monitoring years to notify the Council prior to undertaking a burn off, no notifications were received during the year under review.

7.3.2 Environmental effects of exercise of consent

Particulate emissions can arise from a number of sources, both natural and from human activity for example vegetation pollens, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dusts may settle out within timeframes ranging from a few seconds to minutes.

The potential neighbourhood effects from the activities undertaken on the site in relation air quality also include odour and smoke discharges. Due to the intermittent nature of the activity, and the consent holder not notifying the Council when burning was being undertaken, no burning operations were occurring at the times of inspection. No complaints regarding the burning operation have been received by either the Company or the Council during the year under review.

7.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 14.

Table 14 Summary of performance for Consent 6073-1, Taranaki Drum and Pallet discharge of emissions into the air

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of action likely to minimise adverse effects on the environment	Inspection and discussion with consent holder.	Yes
2. Minimisation of discharges through control of processes	Inspection and discussion with consent holder. No complaints received	Yes
3. Distance of combustion pit to boundary	Inspection of the site.	Yes
4. Restrictions on materials to be combusted	Inspection of residues and materials ready for burning in the fire pit	Yes
5. Materials not to be combusted	Inspection of residues and materials ready for burning in the fire pit	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
6. No fires to be lit after 12 noon	Inspection and observation when inspecting officer is in the vicinity of the site on other business. No fires observed.	Yes
7. Quenching of fires after 5pm	Discussion with consent holder at inspection	Yes
8. Consideration of wind direction to minimise of site effects	Inspection and observation when inspecting officer is in the vicinity of the site on other business. No complaints received. No fires observed.	Yes
9. Objectionable odour, dust or smoke not permitted at boundary	Inspection and observation when inspecting officer is in the vicinity of the site on other business. No complaints received.	Yes
10. Optional review provision re environmental effects	No further opportunities for review.	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

During the year, Taranaki Drum and Pallet demonstrated a high level of environmental performance and compliance with the resource consent, as defined in Section 1.1.5.

7.3.4 Recommendations from the 2012-2013 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring of consented activities at the Taranaki Drum and Pallet Recycling site in the 2013-2014 year continues at the same level as in 2012-2013.

THAT the option for a review of resource consent 6073-1 in June 2014, as set out in condition 10 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

These recommendations were implemented.

7.3.5 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for air discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the Resource Management Act, the obligations of the Act in terms of monitoring emissions and their effects, and subsequently reporting to the regional community, the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere.

It is proposed that for 2014-2015 the programme remains unchanged.

7.4 Recommendation

1. THAT monitoring of consented activities at the Taranaki Drum and Pallet Recycling site in the 2014-2015 year continues at the same level as in 2013-2014.

8. Airshed performance

8.1 Unauthorised discharges

During the year under review there were 43 air related incidents logged on the Council unauthorised incidents database relating to air quality matters in and around the Waiwhakaiho airshed, all of which were recorded as a result of complaints received by the Council. Eighteen of the forty three incidents were substantiated at the time of inspection, resulting in the identification of twenty nine unauthorised discharges. Eight abatement notices and twelve infringement notices were issued as a result of the incident investigations undertaken. In three other cases, although the complaint could not be substantiated at the time of investigation, issues that had the potential for effects were identified and preventative measures were agreed upon. The complaints related to a variety of air quality issues, namely odour, dust, or smoke.

All complaints discussed in this section, and the Council's investigations and enforcement, have been previously reported to Council and public.

Table 15 Summary of the number of unauthorised incidents discovered and complaints received relating to activities in the Waiwhakaiho airshed

Company	Number of substantiated unauthorised discharges	Number of unsubstantiated complaints	Abatement notices issued	Infringement notices issued
Waiwhakaiho airshed monitoring programme				
Downer EDI Works Limited	-	-	-	-
Fitzroy Engineering Group Limited	-	-	-	-
Katere Surface Coatings Limited	-	-	-	-
Ravensdown Fertiliser Co-operative Limited	-	-	-	-
Taranaki Drum and Pallet Recycling	-	-	-	-
Viterra (NZ) Limited	-	-	-	-
Other				
A Cummings	1	-	-	-
Darcey Keene Earthmoving Limited	3	1	1	1
Golf View Subdivision Limited	-	1	-	-
Graham Harris (2000) Limited (NEW PLYMOUTH)	4	1	2	1
ICL Construction Limited	1	-	-	1
Links The Coastal Development Limited	2	1	1	-
MK & BJE Watson	-	1	-	-
NPDC – Colson Road	-	1	-	-
P Snowden	1	-	-	-
Roebuck Construction	1	-	1	1
Taranaki Civil Construction Limited	1	-	1	1
W Eustace	12	14	1	6
Whitaker Civil Engineering Limited	3	-	1	1
Un sourced	-	4	-	-
Total	29	24	7	12

The activities of the consented industries monitored under this programme did not give rise to any of the air related incidents recorded during the year under review. The incidents and the results of the Council's investigations are described below.

A Cummings

On 9 February 2014 a complaint was received concerning dust discharging from a development site at Oropuriri Road, Bell Block. An inspection of the site found that objectionable amounts of dust were discharging from a number of sites in the Oropuriri/Parakau Road area. A letter of explanation was received and accepted.

Darcy Keene Earthmoving Limited (WAITARA)**1 February 2014**

On 1 February 2014 a complaint was received concerning dust discharging from an industrial subdivision under development on Oropuriri Road, Bell Block. Investigation found that the wind was coming out of the south-east, and it was visually evident that dust was discharging off site to the nearby residential area, affecting neighbouring properties. Abatement notices were issued requiring works to be undertaken to prevent objectionable or offensive dust discharging from the site. The Company was instructed that steps must be undertaken to ensure that no objectionable dust discharges beyond the subdivision site boundary, and were advised that the Compliance Manager would be notified. The Company was also advised that an abatement notice may be issued. A reinspection was undertaken later that day in response to further complaints regarding dust being objectionable beyond the subdivision site boundary. It was found that the trucks had stopped operating, and that this had helped to lessen the discharge of dust. However, due to a strong wind coming out of the south-east, the exposed soil was still creating dust, and was resulting in large discharges of dust at intermittent intervals beyond the site boundary. The occupier and contractor were contacted, and work was undertaken to turn the exposed soil, leaving wet clay uncovered which helped to minimise dust accumulating and discharging off site. It was, however, noted that due to the strong wind, the exposed soil was drying up quickly, and this was acting as only a short term solution. The Company was advised that the findings of the investigation would be reported to the Compliance Manager. An abatement notice was issued.

9 February 2014

On 9 February 2014 a complaint was received concerning dust discharging from a development site at Oropuriri Road, Bell Block. An inspection of the site found that objectionable amounts of dust were discharging from a number of sites in the Oropuriri/Parakau Road area. An abatement notice was already in the process of being issued as a result of another incident with objectionable dust at this site. A letter of explanation was received and accepted.

20 February 2014

On 20 February 2014 a complaint was received concerning dust discharging from earthworks on an industrial subdivision development at Oropuriri Road, Bell Block. Investigation found that objectionable dust was discharging beyond the boundary of the site in contravention of the previously issued abatement notice, and photographs were taken. Dust suppression measures were being used on site, however they were having little effect. There was a sprinkler in position and this was wetting the road approximately 50 meters before the site entrance, but it was having little effect. There were no other visible controls working to minimise the discharge of dust for the duration of the inspection. The Company was instructed that controls must be put in place and be operated and managed to minimise the discharge of dust off site and the roads where the trucks are travelling along. An infringement notice was issued.

The site was reinspected on 21 February 2014. It was found that there was no noticeable dust beyond the site boundary, but that there was still some coming off the road. The Company owner was spoken to and the investigating officer was informed that the site was being capped with soil, controls were being put in place, and the road would be cleaned. The Company was informed that the site looked to be satisfactory at the time of inspection. A further reinspection was undertaken on 27 May 2014. It was found that a large percentage of the exposed earth had been stabilised with vegetation, which was showing good growth. It was noted that during the inspection the site was being used by Taranaki Civil Construction Limited as access to an area behind this site. Taranaki Civil were carting fill between two different sites. The Company was informed that the site was satisfactory, and that the abatement notice was being complied with at time of inspection.

6 March 2014

On 6 March 2014 a complaint was received concerning ongoing dust problems from earthworks in the construction of a subdivision at the end of Links Drive New Plymouth. Investigation of the site found that there was no objectionable dust emanating beyond the earthworks site, however due to the recent weather condition the Company was advised that if controls are not maintained dust could become objectionable off site. The Company was instructed that following action was to be taken: Please ensure controls are in place and maintained, and that the site is monitored to minimize any potential dust becoming objectionable.

Golfview Subdivision Limited

On 17 January 2014 a complaint was received regarding dust from a subdivision on Pohutukawa Place, Bell Block. Investigation found no dust discharging beyond the boundary of the property.

Graham Harris (2000) Limited (NEW PLYMOUTH)

14 January 2014

On 14 January 2014 a complaint was received regarding dust from a subdivision on Devon Road, New Plymouth. An inspection was undertaken as the result of a complaint regarding dust from a subdivision near the Waiwhakaiho hill. Investigation found that only noticeable dust was discharging beyond the boundary of the property, and it was noted that a water cart had been used on site until 5pm.

1 February 2014

On 1 February 2014 a complaint was received concerning dust discharging from an industrial subdivision under development on Oropuriri Road, Bell Block. It was found that Graham Harris Ltd were operating at two sites, one on Parakau Road and one on Oropuriri Road. It was found that dust was emanating beyond the site boundary from exposed soil at a subdivision. The wind was coming out of the south-east, and it was visually evident that dust was discharging off site to the nearby residential area. The Company was instructed that steps must be undertaken to ensure that no objectionable dust discharges beyond the subdivision site boundary. The Company was informed that the Compliance Manager would be notified and an abatement notice may be issued. Reinspection was undertaken later that day in response to further complaints regarding dust being objectionable beyond the subdivision site boundary. It was found that the dust was still a problem, with strong winds coming out of the south-east resulting in large discharges of dust at intermittent intervals beyond the site boundary. It was noted that a water tanker was being used to

try and minimise the dust on both sites, but due to the strong winds, the exposed soil was drying up quickly and this was acting as only a short term solution. The Company was advised that the finding of the investigation would be reported to Compliance Manager.

9 February 2014

On 9 February 2014 a complaint was received concerning dust discharging from a development site at Oropuriri Road, Bell Block. An inspection of the site found that objectionable amounts of dust were discharging from a number of sites in the Oropuriri/Parakau Road area. An abatement notice was already in the process of being issued as a result of another incident with objectionable dust at this site. A letter of explanation was received and accepted.

20 February 2014

On 20 February 2014 a complaint was received concerning dust discharging from earthworks on an industrial subdivision development, and truck movements at Oropuriri Road, Bell Block. Investigation found that there was significant amount of movement on and off the sites on Parakau & Oropuriri road. There was no noticeable dust emanating beyond the site boundary between the main road [Devon Road] and Oropuriri road. Vegetation was starting to grow, and a water cart was being used at time of inspection to minimise the discharge of dust. However, due to a lot of vehicle movement along Oropuriri Road entering and leaving a number of sites, there was significant dust being created that was found to be objectionable. The Company was instructed that controls would need to be put in place and be managed to minimise any objectionable dust discharging both off site and nearby road.

8 April 2014

On 8 April 2014 several complaints were received concerning dust from a subdivision development on Oropuriri Road, Bell Block. Inspection found noticeable dust discharging beyond the boundary of the property in this area as there were no trucks operating. The Company was instructed that a water cart must be used to minimise the dust discharging from the site, and that the Company must ensure that no dust discharges beyond the boundary of the property. Reinspection later that day found that with strong winds coming from the south-east, and the accumulation of dust from this site and number of other sites (occupied by other contractors), the discharge to air quickly became objectionable and offensive beyond the site boundary. It was noted that there was no one on site during the inspection. After a conversation with a Company representative at another of their sites it was reported that a water cart was being used between the two sites. The Company was instructed that they must ensure that controls are in place and maintained to ensure any discharge of contaminants to air do not become objectionable or offensive, and the Regional Air Quality Plan for Taranaki is being complied with. An abatement notice and infringement notice were subsequently issued. A reinspection on 27 May 2014 found that there was nothing operating on site at the time of inspection. The exposed earth was damp due to the recent weather. The site was tidy and looked to be satisfactory. The Company was informed that the abatement notice was being complied with at time of inspection. It was requested that the Company ensure that they continue to comply with the abatement notice, and the Regional Fresh Water and Air Quality Plans for Taranaki.

ICL Construction Limited

On 18 March 2014 a complaint was received concerning a fire on an industrial site on Rifle Range Road, New Plymouth. An inspection of the site found that a fire had been lit in an incinerator. Staff were advised to put the fire out immediately and advised that resource consent was required before any further fires could be lit. A resource consent application was submitted but later withdrawn once the definition of an acceptable incinerator was explained to the applicant. An infringement fine was issued.

**Links The Coastal Development Limited
1 February 2014**

On 1 February 2014 a complaint was received concerning dust discharging from an industrial subdivision under development on Oropuriri Road, Bell Block. Investigation found that the wind was coming out of the south-east, and it was visually evident that dust was discharging off site to the nearby residential area, affecting neighbouring properties. Abatement notices were issued requiring works to be undertaken to prevent objectionable or offensive dust discharging from the site. The Company was instructed that steps must be undertaken to ensure that no objectionable dust discharges beyond the subdivision site boundary, and were advised that the Compliance Manager would be notified. The Company was also advised that an abatement notice may be issued. A reinspection was undertaken later that day in response to further complaints regarding dust being objectionable beyond the subdivision site boundary. It was found that the trucks had stopped operating, and that this had helped to lessen the discharge of dust. However, due to a strong wind coming out of the south-east, the exposed soil was still creating dust, and was resulting in large discharges of dust at intermittent intervals beyond the site boundary. The occupier and contractor were contacted, and work was undertaken to turn the exposed soil, leaving wet clay uncovered which helped to minimise dust accumulating and discharging off site. It was, however, noted that due to the strong wind, the exposed soil was drying up quickly, and this was acting as only a short term solution. The Company was advised that the findings of the investigation would be reported to the Compliance Manager. An abatement notice was issued.

20 February 2014

On 20 February 2014 a complaint was received concerning dust discharging from earthworks on an industrial subdivision development at Oropuriri Road, Bell Block. Investigation found that objectionable dust was discharging beyond the boundary of the site. Photographs were taken. Dust suppression measures were being used on the site, however they were having little effect. The discharge was in contravention of the abatement notice issued as a result of an earlier incident. An infringement notice was issued to one of the contractors working on the site.

6 March 2014

On 6 March 2014 a complaint was received concerning ongoing dust problems from earthworks in the construction of a subdivision at the end of Links Drive New Plymouth. Investigation of the site found that there was no objectionable dust emanating beyond the earthworks site, however due to the recent weather condition the Company was advised that if controls are not maintained dust could become objectionable off site. The Company was instructed that following action was to be taken: Please ensure controls are in place and maintained, and that the site is monitored to minimize any potential dust becoming objectionable.

MK & BJE Watson

On 11 February 2014 a complaint was received regarding a neighbour likely to burn materials in a large pile at a property on Mangorei Road, New Plymouth. Investigation found that the pile had not been ignited at this time. A discussion was held with the property owner regarding this type of activity and the relevant regional rules. It was outlined by the property owner that the materials in the fire pile were all generated on the property, from the two houses and accompanying sheds/outbuildings that are on the lifestyle-block property. A spring clean had generated the materials, which were in a pile waiting to be lit. Materials that would be prohibited from being burnt were outlined to the property owner. It was agreed the fire would be managed to ensure smoke did not impact on any neighbouring properties and that no materials would be brought onto site to be burnt to ensure compliance with the Regional Air Quality Plan for Taranaki.

New Plymouth District Council

On 26 June 2014 a complaint was received regarding odour being emitted from the Colson Road landfill, New Plymouth. Investigation found that although a slight odour was detected off site, it was found not to be objectionable and therefore was authorised by consent.

Peter Snowden

On 1 February 2014 a complaint was received concerning dust discharging from an industrial subdivision under development on Oropuriri Road, New Plymouth. Two abatement notices (Darcey Keene Earthmoving Limited and Links The Coastal Development Limited) and one infringement fine (Darcey Keene Earthmoving Limited) were issued. The results of the investigation are discussed in more detail in the unauthorised discharges linked to these companies.

Roebuck Construction Ltd

On 25 November 2013 a complaint was received regarding burning of materials on a section in the industrial area on Hurlstone Drive, New Plymouth. It was found that unauthorised materials such as tanalised timber, tin, copper, plastic coated wire, galvanised metal and aerosol cans were being burnt on the property in an open fire. The material on the property had been collected from other properties in the region. This was in contravention of the Regional Air Quality Plan for Taranaki. An abatement notice and an infringement fine were issued.

Taranaki Civil Construction Limited (Inglewood)

On 8 April 2014 several complaints were received concerning dust from a subdivision development on Oropuriri Road, Bell Block. Inspection found objectionable dust discharging beyond the boundary of the property from this area. There was a Taranaki Civil digger and two truck and trailer units operating at the time of inspection. The Company was instructed that the following action was to be taken: Ensure no dust discharges beyond the boundary of the property. Further investigation of the subdivision was undertaken later in the day due to further complaints received concerning objectionable and offensive dust emanating beyond the site boundary. With strong winds coming from the south-east and the accumulation of dust from this site, and number of other sites [occupied by other contractors], it was found that the discharge to air quickly became objectionable and offensive beyond the site boundary. No one was onsite at time of inspection and no controls were in place to minimise

objectionable and offensive discharge of contaminants to air. The Company was instructed that the following action was to be taken: Ensure controls are in place and maintained to ensure any discharge of contaminants to air do not become objectionable or offensive and the Regional Air Quality Plan for Taranaki is being complied with. Photographs were taken and the Company was informed that an abatement notice may be issued. Both an abatement notice and infringement notice were subsequently issued. The site was reinspected on 27 May 2014. It was found that excavating was being undertaken on site, with fill being carted off site to an area behind Darcy Keene Earthmovings site on Parakau Road. Oropuriri Road and Parakau Road looked to have been maintained to minimise the discharge of silt and sediment including the deposit of clay beyond the site boundary. Exposed earth was damp due to the recent weather conditions. The Company was informed that the activities looked to be satisfactory, and that the abatement notice was being complied with at time of inspection. The Company was asked to ensure that they continue to comply with the abatement notice, and the Regional Fresh Water and Air Quality Plans for Taranaki.

**W Eustace
8 July 2013**

On 8 July 2013 a complaint was received regarding odour from Colson Road, Fitzroy. An odour survey was carried out in and around the desludging plant at Colson Road, Fitzroy. There was no odour found off site.

14 August 2013

On 14 August 2013 a complaint was received regarding an odour emanating from a septage treatment plant on Colson Road, New Plymouth. An odour survey was undertaken in the vicinity of the septage treatment plant and no odour could be found.

9 September 2013

On 9 September 2013 a complaint was received regarding an odour emanating from a septage treatment plant on Colson Road, New Plymouth. An odour survey undertaken in the vicinity of the septage treatment plant found constant noticeable odours beyond the boundary of the property. Abatement Notice 12065 was issued on the basis that the discharge contravened section 15(1)(c) of the Resource Management Act 1991. The abatement notice required that no odours associated with the treatment of sewage discharge beyond the boundary of the site. Reinspection found that the notice was being complied with at the time of inspection.

14 September 2013

On 14 September 2013 a complaint was received concerning offensive odours discharging from a septage treatment facility on Colson Road. An odour survey was carried out from the complainant's property. Noticeable sewage type odours were detected. An inspection of the septage treatment site found that a door to the treatment shed was open. Staff were requested to keep the door shut at all times. An abatement notice had been sent to Mr Eustace the previous evening as a result of the unauthorised discharge on 9 September 2014, requesting that no odour discharge from the site.

10 October 2013

On 10 October 2013 a complaint was received concerning an 'offensive odour' emanating from a septage treatment facility on Colson Road, New Plymouth. An odour survey was undertaken, within five minutes of the complaint, and no odour could be found that could be attributed to the site. There was a noticeable, rotting vegetation type odour that could have been from the nearby transfer station. The

officer remained in the area for 10-15 minutes and still no odour could be found from the site.

9 November 2013

On 9 November 2013 a complaint was received regarding odours on Colson Road, New Plymouth. No odour was detected from the site.

21 November 2013

On 21 November 2013 a complaint was received concerning dust discharging off a driveway and onto the complainants' property. Investigation found there was only one truck movement observed within a 20 minute survey period. Dust was observed to have been generated from the truck when it was leaving the site. The dust discharged offsite, however, the amount of dust generated by this truck at the time of inspection was not considered to have been objectionable.

22 November 2013

On 22 November 2013 a complaint was received regarding dust on Colson Road, New Plymouth. No off site effects were found.

29 November 2013

On 29 November 2013 a complaint was received regarding objectionable odour discharging beyond the boundary of a site used for processing septage sludge. Investigation found objectionable odours beyond the boundary of the site that were in contravention of abatement notice 12065 issued on 13 September 2013. An infringement notice was issued.

2 December 2013

On 2 December 2013 a complaint was received concerning odour emanating from a septage treatment facility on Colson Road, New Plymouth. An odour survey was undertaken and no odours were found beyond the boundary of the site.

18 December 2013

On 18 December 2013 a complaint was received regarding objectionable odours discharging beyond the boundary of a site used for processing septage sludges. An odour survey that was conducted beyond the site boundary found noticeable sewage odours were frequently present. Constant sewage odours were found onsite when directly behind the shed in which the septage solids are stored.

19 December 2013

On 19 December 2013 a complaint was received regarding odours discharging beyond the boundary of a site used for processing septage sludges. An odour survey conducted beyond the site boundary found extremely light and intermittent sewage odours mixed with a sweet smell from the deodorisers which were operating at the site boundary.

23 December 2013

On 23 December 2013 a complaint was received concerning odour in the Colson Road area. An odour survey was conducted beyond the boundary of the septage treatment facility at 56 Colson Rd. The wind was moderate south west to west gusting at times. A strong odour was detected from the corner closest to the road where black plastic had been placed on the building. A ten minute odour survey was conducted where constant objectionable and offensive sewage odour was found. No boundary

deodorisers were in action during this time. An upwind check found only a small timber odour from a saw mill/ wood chip site. The responsible party was instructed that following action was to be taken: Abatement Notice No. 12065 had been issued to this address requiring no odour discharges beyond the boundary. This was not being complied with at the time of inspection. Ensure this abatement notice is continued to be complied with. The complainant was spoken with post inspection of the septage plant to inform him of findings and actions likely to be taken. It was reported that the complainant was very agitated with progress.

24 December 2013

On 24 December 2013 three complaints were received regarding odours in the Colson Rd area. A 30 minute odour survey was conducted and offensive odours were found to be occurring beyond the boundary of the septage treatment facility at 56 Colson Road. At the time of investigation, a small flat bed truck was removing the solids from the desludging section of the on site shed, and the solids were then transported up Colson Rd to the landfill. At intervals coinciding with the shed doors opening, the truck leaving with solids and the truck returning from the landfill, objectionable and offensive odour was found beyond the boundary. The responsible party was instructed that following action was to be taken: Abatement Notice No 12065 must be complied with at all times, no objectionable and or offensive odours are permitted beyond the premise boundaries. An infringement notice was subsequently issued.

26 December 2013

On 26 December 2013 a complaint was received regarding an offensive odour in the Colson Rd area. The investigating officer found no odour at the complainant's address. A roadside survey immediately outside the sludge plant found a light odour, but this lacked the intensity to be offensive or objectionable. The complainant was informed that no odour was detected at his property at the time of investigation, and therefore no further action could be taken at this time.

17 February 2014

On 17 February 2014 a complaint was received concerning odour emanating from a septage treatment facility on Colson Road, New Plymouth. The complaint was not substantiated at the time of investigation.

5 March 2014

On 5 March 2014 a complaint received concerning odour emanating from a septage treatment facility on Colson Road, New Plymouth. An odour survey was undertaken, and an odour was found beyond the boundary of the site that was in contravention of Abatement Notice 12065. An infringement notice was issued.

11 March 2014

On 11 March 2014 a complaint was received concerning odour emanating from a septage treatment facility on Colson Road, New Plymouth. An odour survey was undertaken in the area and no odour was found beyond the boundary of the site, with only a faint odour was occurring on the site. It was noted that the wind was blowing away from the complainants' property at the time of investigation.

12 March 2014

On 12 March 2014 a complaint was received regarding odour emanating from a septage treatment facility on Colson Road, New Plymouth. An odour survey was

undertaken and objectionable odour was found beyond the boundary of the site that was in contravention of Abatement Notice 12065. An infringement notice was issued.

14 March 2014

On 14 March 2014 a complaint was received regarding odour from a septage treatment facility on Colson Road, New Plymouth. An odour survey was undertaken and a noticeable odour was found beyond the boundary of the site that was in contravention of Abatement Notice 12065. An infringement notice was issued.

16 March 2014

On 16 March 2014 a complaint was received regarding odours on Colson Road, New Plymouth. The investigation found no odours.

19 March 2014

On 19 March 2014 a complaint was received concerning odour discharging from a septage treatment facility on Colson Road, New Plymouth. An inspection of the site and surrounding area found that odours were discharging offsite from the septage dewatering shed, in breach of Rule 55 of the Regional Air Quality Plan for Taranaki. An infringement notice was issued and a meeting was held with Mr Eustace in which he was advised that any further confirmed odour instances may result in an abatement notice being issued to cease operations.

30 March 2014

On 30 March 2014 a complaint was received regarding odours on Colson Road, New Plymouth. No odours were found at the time of investigation.

22 April 2014

On 22 April a complaint was received regarding odour on Colson Road thought to be originating from the de-sludging facility. At the time of investigation there was a slight breeze from the south west. The de-sludging shed was found to have deodorisers in operation on the roof. Additional sealing had been completed on the joins of the shed and around the main doors, and the smaller access door had a plastic curtain in use to minimise the amount of odour escaping. Contact was not made with occupier of the de-sludging operation as unloading of waste material was being carried out at the time of inspection. A slight odour was found at the boundary of the property. The Company was reminded that objectionable or offensive odours were not permitted beyond the property boundary. At the time of inspection the site was found to be compliant.

30 April 2014

On 30 April 2014 a complaint was received regarding an odour emanating from the septage treatment plant on Colson Road, New Plymouth. An odour survey in the vicinity of the septage treatment shed found only noticeable odours at the boundary of the property, that were permitted under the Regional Air Quality Plan.

17 June 2014

On 17 June 2014 a complaint was received concerning odour emanating from 56 Colson Road. An inspection of 56 Colson Road and the surrounding area was undertaken. No odours attributable to 56 Colson Road were detected offsite.

**Whitaker Civil Engineering Limited
1 February 2014**

On 1 February 2014 a complaint was received concerning dust discharging from an industrial subdivision under development on Oropuriri Road, Bell Block. Investigation found that the wind was coming out of the south-east, and it was visually evident that dust was discharging off site to the nearby residential area, affecting neighbouring properties. Abatement notices were issued requiring works to be undertaken to prevent objectionable or offensive dust discharging from the site. The Company was instructed that steps must be undertaken to ensure that no objectionable dust discharges beyond the subdivision site boundary, and were advised that the Compliance Manager would be notified. The Company was also advised that an abatement notice may be issued. A reinspection was undertaken later that day in response to further complaints regarding dust being objectionable beyond the subdivision site boundary. It was found that the trucks had stopped operating, and that this had helped to lessen the discharge of dust. However, due to a strong wind coming out of the south-east, the exposed soil was still creating dust, and was resulting in large discharges of dust at intermittent intervals beyond the site boundary. The occupier and contractor were contacted, and work was undertaken to turn the exposed soil, leaving wet clay uncovered which helped to minimise dust accumulating and discharging off site. It was, however, noted that due to the strong wind, the exposed soil was drying up quickly, and this was acting as only a short term solution. The Company was advised that the findings of the investigation would be reported to the Compliance Manager.

20 February 2014

On 20 February 2014 a complaint was received concerning dust discharging from earthworks on an industrial subdivision development at Oropuriri Road, Bell Block. The complaint related to objectionable dust emanating beyond the site boundary of the excavations being undertaken, and dust from the movement of trucks on Parakau Road and Oropuriri Road. Investigation found that there was significant amount of movement on and off the site, on the corner of Parakau & Oropuriri Roads. While there were sprinklers in place at the entrance of the site, which were continuously being moved and the trucks were moving around the site very slowly, and this was considered to be minimising the discharge of dust, there was still a significant amount of dust being created along Oropuriri Road that was coming off all sites. The Company was instructed that the following action was to be taken: Controls need to be put in place and be managed to minimise any objectionable dust discharging both off the site and the nearby road. The site was reinspected on 21 February 2014. It was found that there was no noticeable dust beyond the site boundary, but that there was still some coming off the road. The Company was advised that although another contractor (Darcy Keene Earthmoving) had said that they would clean the road, it was up to all companies to maintain the road to minimise the discharge of dust.

8 April 2014

On 8 April 2014 several complaints were received concerning dust from a subdivision development on Oropuriri Road, Bell Block. The site was inspected at 8:30 am and it was found that there was no objectionable or offensive dust discharging beyond the boundary of this property as there was a sprinkler in use on the site, and no trucks were operating at the time of inspection. The Company was instructed to ensure that no dust discharges beyond the boundary of the property. The site was reinspected later in the morning due to further complaints. Investigation found that, with strong winds

coming from the south-east and the accumulation of dust from this site, and number of other sites [occupied by other contractors], the discharge to air quickly became objectionable and offensive beyond the site boundary. Photographs were taken. It was noted that the only vehicle movement at the time of inspection was a water cart in operation to try to minimise the discharge of dust. The Company was instructed that the following action was to be taken: Ensure that controls are in place and maintained to ensure any discharge of contaminants to air do not become objectionable or offensive, and the Regional Air Quality Plan for Taranaki is being complied with. The Company was advised that an abatement notice may be issued. Both an abatement notice and infringement notice were subsequently issued. The site was reinspected on 27 May 2014 to check for compliance with the abatement notice. It was found that there was nothing operating on site at the time of inspection. The exposed earth was damp due to the recent weather conditions. The Company was advised that the site looked to be satisfactory and the abatement notice was being complied with at time of inspection. The Company was asked to ensure that they continue to comply with the abatement notice, and the Regional Fresh Water and Air Quality Plans for Taranaki.

**Un sourced
16 October 2013**

On 16 October 2013 an odour complaint was received from Colson Road, Fitzroy. An odour survey was conducted along Colson Road, but the investigating officer was unable to identify the exact source of the odour. It was noted that the odour was intermittent and barely detectable.

4 February 2014

On 4 February 2014 a complaint was received regarding overspray from a helicopter near the Merrilands Domain, Mangorei Road, New Plymouth. Investigation could not find the source of this complaint. No effects were found as a result of any agricultural spraying in the area.

1 May 2014

On 1 May 2014 a complaint was received about smoke on Rifle Range Road in the Waiwhakaiho Valley. An inspection of the complainants' site found noticeable smoke odour. The complainant advised that the smoke had lifted. Burning vegetation on a nearby property may have been the cause (there were a number of fires in the area). The occupier was advised of the complaint.

26 June 2014

On 26 June 2014 an odour complaint was received from Smart Road, Glen Avon. The investigating officer called to the complainant's property, but found no odour. Investigation continued at the Colson Road landfill, which was a potential odour source in the vicinity of the complaint. The Manager of the landfill outlined that there had been an objectionable odour present at the site first thing that morning, so the truck had been mobilised to spray deodorant from the landfill entrance to the Colson Road Smart Road junction. It was noted that at the time the weather conditions were foggy with very little wind movement. It was reported that there were no objectionable odours found at time of investigation, and therefore the complaint could not be substantiated.

8.2 Deposition gauging

With the transient nature of effects upon air quality an airshed approach to air quality in the industrial area in question is a good way of assessing performance. This airshed approach was continued for this monitoring period as adopted following the recommendations in the 2000-2001 annual reports for dischargers in the area.

The deposition gauges were put in place and retrieved at all sites at the same time, including the Council's state of the environment monitoring (SEM) sites. The gauges for the near-by Colson Road landfill site were also deployed for the same period. The wind direction and speed for each of the sampling periods are shown in Appendix II. These were recorded at New Plymouth waste water treatment plant, which is in the same area.

8.2.1 Results of deposition gauging

Many industries emit dust from various sources during operational periods. In order to assess the effects of the emitted dust, industries have been monitored using deposition gauges.

Deposition gauges are basically buckets elevated on a stand to about 1.6m. The buckets have a solution in them to ensure that any dust that settles out of the air is not resuspended by wind.

Gauges are placed around the sites and within the surrounding community, with the gauges left in place for between two weeks and a month, on two separate occasions.

The rate of dustfall is calculated by dividing the weight of insoluble material (grams) collected by the cross-sectional area of the gauge (metres²) and the number of days over which the sample was taken. The units of measurement are grams/metre²/day.

Guideline values used by the Council for dust deposition are 4g/m²/30 days or 0.13g/m²/day deposited matter. Consideration is given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values.

Material from the gauges was analysed for solid particulates with the monitoring locations, and results for the year under review shown in Figure 23.

For an industrial area such as this, relatively high deposition rates are expected due to handling and processing of various types of materials such as aggregates, bitumen, timber, abrasive-blasting garnet, fertiliser and associated process by-products.

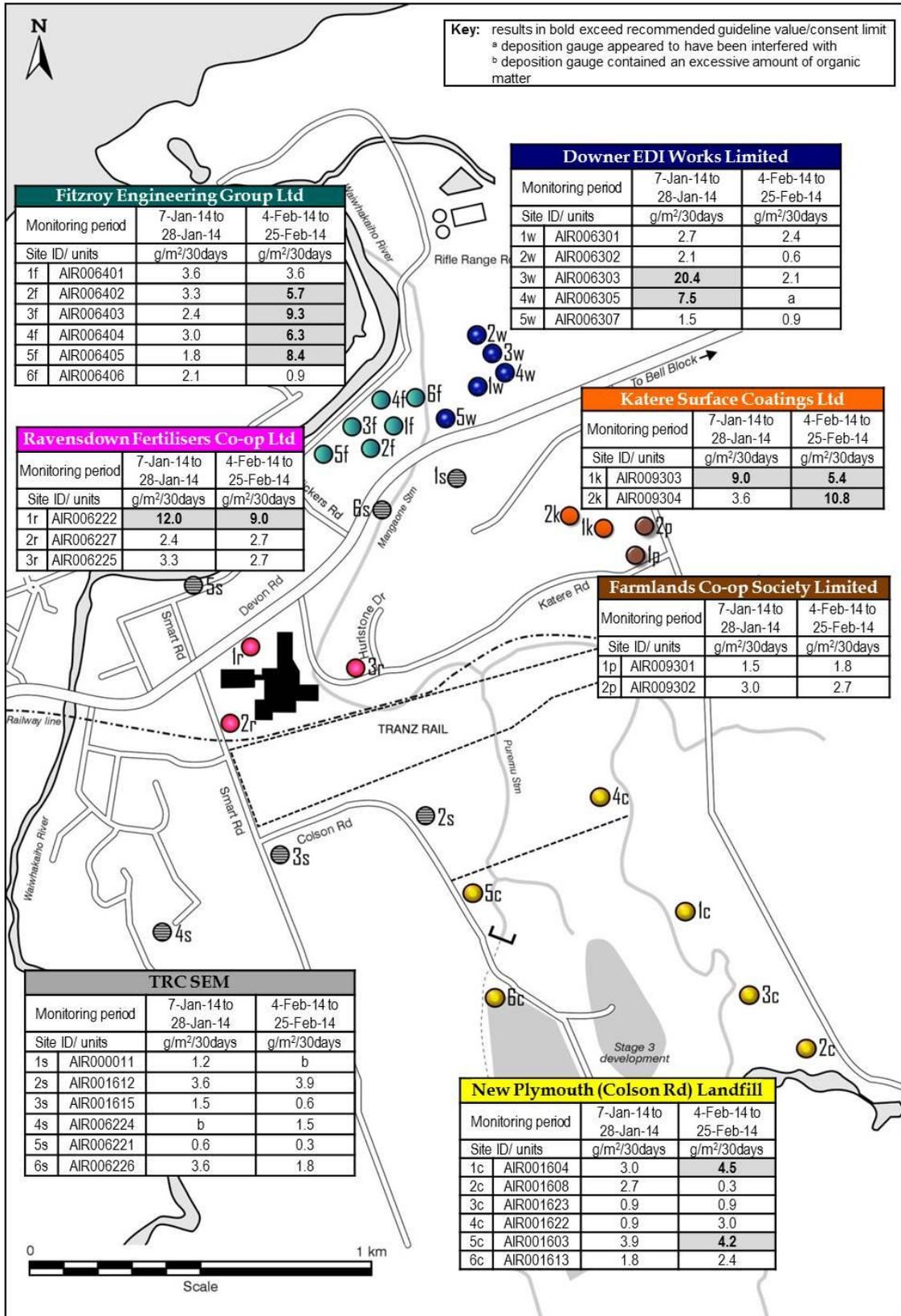


Figure 23 Dust deposition for the Waiwhakaiho airshed in the 2013-2014 monitoring period

8.3 Discussion

8.3.1 Environmental effects of exercise of air discharge permits

8.3.1.1 Neighbourhood effects

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity, for example vegetation pollens, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dusts may settle out within timeframes ranging from a few seconds to minutes.

The environmental effects of dusts include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. It has been found that background rates of dust deposition in rural areas of New Zealand are typically 0.1-1.5 g/m²/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m²/30 days. From experience, rates above 3-4 g/m²/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources.

Ambient air quality (SEM sites) in the airshed during the year under review was very good. During the 2013-2014 year none of the "TRC SEM" samples exceeded the 4g/m²/30 days guideline.

Figure 24 shows the number of guideline exceedances relative to the number of SEM gauges successfully deployed and analysed since the 2001-2002 monitoring year.

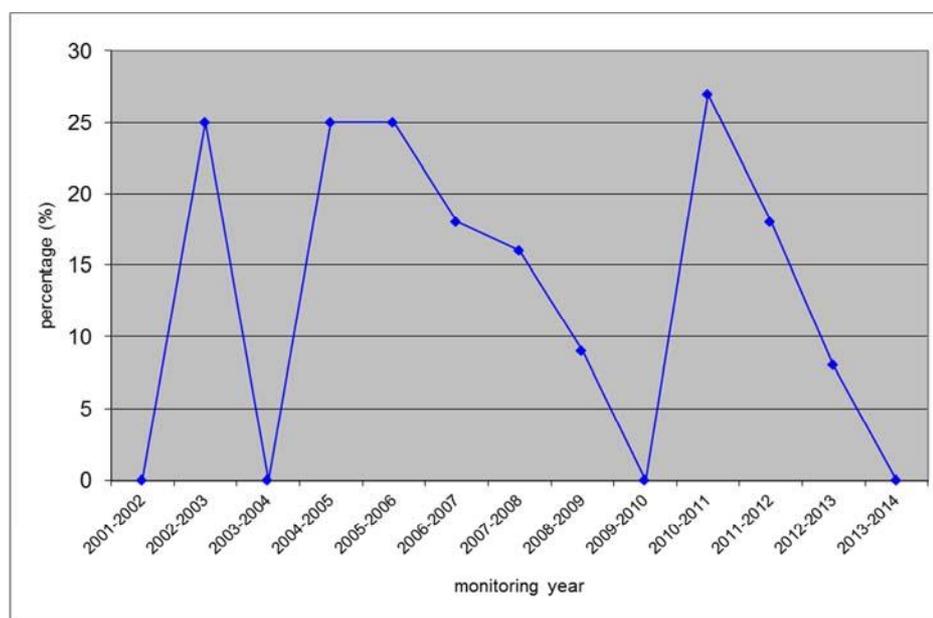


Figure 24 Percentage of SEM gauges exceeding the guideline each monitoring year (2001-2014)

The air quality in the airshed as a whole was generally good during both the January and February gauging periods.

January 2014 survey

In the case of the January survey, 14% of the gauges analysed were in excess of the guideline value. As with previous years, the higher particulate deposition rates were again found to be at monitoring locations in close proximity to industrial sites. The

highest results were found at monitoring locations near Katere Surface Coatings Limited, Ravensdown Fertiliser Co-operative Limited, and Downer EDI Works Limited. During this survey there was no clear relationship between the locations of the gauges where the guideline was exceeded, and particular activities occurring on the premises being monitored. This was due to the fact that the wind direction was very variable during the gauging period, with winds predominantly from the south round to the west for 45 % of the time, and from the north east round to the south east for 33 % of the time. The wind strength was above 20 km/hr for only 5 % of the gauging period.

February 2014 survey

In the case of the February 2014 survey 32 % of the gauges returned results that were in excess of the guideline value. On this occasion the exceedances were again predominantly at monitoring sites located close to the industrial sites, with the highest results in the vicinity of the Ravensdown Fertiliser Co-operative Limited, Katere Surface Coatings, and Fitzroy Engineering Group Limited sites. Exceedances were also found in the vicinity of the Downer EDI Works Limited site and the Colson Road landfill. The prevailing wind directions observed during this gauging period were from the north east to the east (30 % of the time) and the south to west (45 % of the time), with the strongest winds from the east. In the case of the Fitzroy Engineering gauges, it is noted that the majority of the material collected was very fine grit, indicating that it may have taken longer to settle out, and during the gauging period there were a number of dust complaints relating to an industrial subdivision located to the east of this site.

Figure 25 illustrates a fairly consistent finding that the median particulate deposition rates for the "TRC-SEM" sites are generally lower than the median particulate deposition rate for the airshed as a whole. It can also be seen from Figure 25 that the maximum 2013-2014 particulate deposition rate is still below the 2004-2008 levels when development in the air shed intensified significantly.

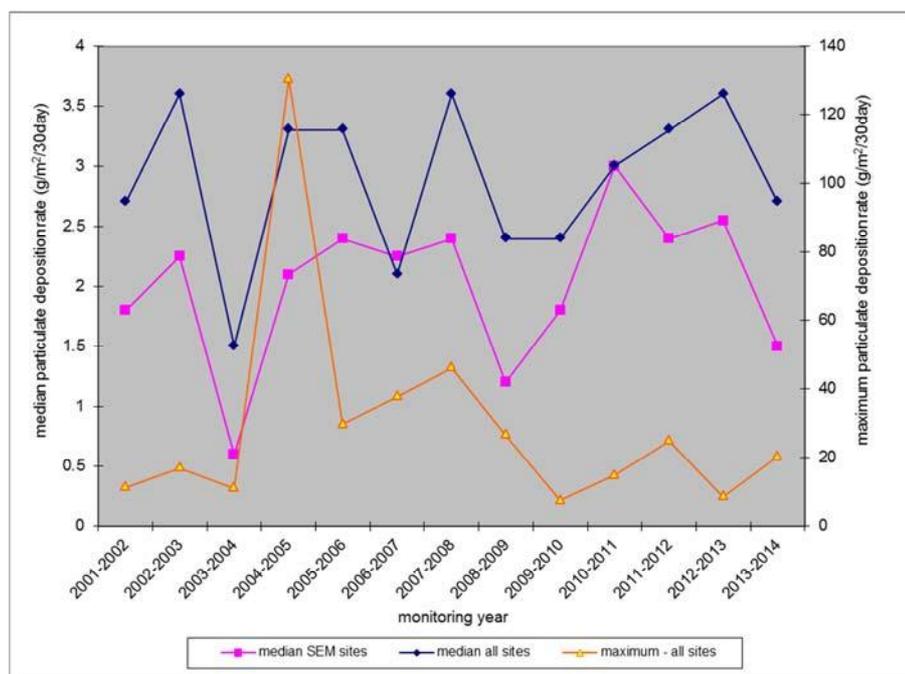


Figure 25 Summary of historical data for deposition rates within the Waiwhakaiho airshed

9. Summary of recommendations

1. THAT monitoring of consented activities at the Downer EDI Works Limited site in the 2014-2015 year continues at the same level as in 2013-2014.
2. THAT monitoring of consented activities at Farmlands Co-operative Society Limited's feedmill in the 2014-2015 year continues at the same level as in 2013-2014.
3. THAT monitoring of consented activities at the Fitzroy Engineering Group Limited site in the 2014-2015 year continues at the same level as in 2013-2014.
4. THAT monitoring of consented activities of Katere Surface Coatings in the 2014-2015 year continues at the same level as in 2013-2014.
5. THAT monitoring of consented activities at the Taranaki Drum and Pallet Recycling site in the 2014-2015 year continues at the same level as in 2013-2014.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m.
DRP	Dissolved reactive phosphorus.
g/m ³	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by the Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by the Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
l/s	Litres per second.
mS/m	Millisiemens per metre.
NO _x	oxides of nitrogen
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
PM ₁₀	Relatively fine airborne particles (less than 10 micrometre diameter).
QPR	Quality Pavement Repair - a high performance permanent repair material for repairing potholes, filling utility cuts and repairing damaged asphalt
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act</i> 1991 and including all subsequent amendments.
Temp	Temperature, measured in °C (degrees Celsius).
UI	Unauthorised Incident.
UIR	Unauthorised Incident Register - contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.

For further information on analytical methods, contact the Council's laboratory.

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Appendix I

**Resource consents for discharges to air
held by industries in the
Waiwhakaiho airshed (alphabetical order)**

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Downer EDI Works Limited
P O Box 272
NEW PLYMOUTH

Consent Granted
Date: 29 March 2005

Conditions of Consent

Consent Granted: To discharge emissions into the air from the manufacture of hot mix asphalt paving mixes and associated activities at or about (NZTM) 1696853E-5677925N

Expiry Date: 1 June 2020

Review Date(s): June 2006, June 2008, June 2014

Site Location: Rifle Range Road, New Plymouth

Legal Description: Lot 3 DP 20360

Catchment: Waiwhakaiho

Tributary: Mangaone

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. This consent shall be exercised generally in accordance with the information submitted in support of application 3225 and to ensure the conditions of this consent are maintained. Where there is any conflict between the information supplied in support of application 3225 and the conditions of this consent, the conditions of this consent shall prevail.
2. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effects on the environment arising from the exercise of this consent.
3. Prior to undertaking any alterations to the plant, processes or operations, which in the opinion of the Chief Executive, Taranaki Regional Council, may significantly change the nature or quantity of contaminants emitted from the site, the consent holder shall gain the approval of the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act, 1991.
4. Recycled asphalt shall not be processed at the site. This does not prohibit the consent holder from seeking approval for this purpose at a later date as described in special condition 3.
5. The drum burner shall be maintained by a trained service person at least every six months to optimise combustion efficiency and to reduce noxious emissions to air.
6. The consent holder shall not operate the asphalt plant using waste oil. This does not prohibit the consent holder from seeking approval for this purpose at a later date as described in special condition 3.
7. The asphalt plant shall not be operated on any fuel containing more than 0.3 % sulphur (weight/weight basis).
8. All gas streams ventilated or otherwise discharged from the asphalt plant shall be treated to reduce the concentration of total particulate matter to less than 125 milligrams per cubic metre, normal temperature and pressure, at any time.

Consent 4060-4

9. The consent holder shall have emissions tests conducted on discharges from the asphalt plant stack to demonstrate compliance with special condition 8. These tests shall;
 - a) be conducted by 1 June 2005 and every twelve months thereafter for the duration of the consent, and
 - b) comprise not less than three separate samples taken during production conditions that give rise to maximum emissions from the asphalt plant stack, and
 - c) be reported to the Chief Executive, Taranaki Regional Council, within 20 working days of the samples being taken. The report shall include the results of the tests, the relevant operating parameters including pressure drop over the scrubber and the production rate over the period of each test, all the raw data and all the calculations.
10. The emissions tests shall be carried out in accordance with Australian Standard 4323.2-1995, or any other equivalent method subject to the written approval of the Chief Executive, Taranaki Regional Council, and these tests shall be performed to the satisfaction of the Chief Executive, Taranaki Regional Council.
11. The discharge of particulate material from the site shall not raise the particulate deposition rate at or beyond the site boundary, above 4 grams per square metre per 30 days.
12. Any discharge to air from the exercise of this consent shall not give rise to any offensive or objectionable odour at or beyond the boundary of the property.
13. For the purposes of condition 12, without restriction, an odour shall be deemed to be offensive or objectionable if:
 - a) it is held to be so in the opinion of an enforcement officer of the Taranaki Regional Council, having regard to the duration, frequency, intensity and nature of the odour; and/or
 - b) an officer of the Taranaki Regional Council observes that an odour is noticeable, and either it lasts longer than three (3) hours continuously, or it occurs frequently during a single period of more than six (6) hours; and/or
 - c) no less than three individuals from at least two different properties, each declare in writing that an objectionable or offensive odour was detected beyond the boundary of the site, provided the Council is satisfied that the declarations are not vexatious and that the objectionable or offensive odour was emitted from the site as specified in (b). Each declaration shall include the individuals' names and addresses, the date and time the objectionable or offensive odour was detected, the location of the individual when it was detected and the prevailing weather conditions during the event. The declarations shall be signed and dated.

Consent 4060-4

14. The discharge of suspended particulate matter from the site shall not increase the ambient concentration of suspended particulate matter by more than 3 milligrams per cubic metre (measured under ambient conditions), determined by measurements at the upwind and downwind boundaries of the property.
15. The discharge must not result in noxious, toxic levels, or dangerous levels of airborne contaminants at or beyond the boundary of the property, including but not limited to any risk of fire or explosion.
16. The consent holder shall control all emissions to the atmosphere from the site, so as to ensure that the maximum ground level concentration of nitrogen dioxide measured under ambient conditions does not exceed 200 micrograms per cubic metre [one-hour average] with 99.9 percentile compliance across all monitoring data, up to a maximum limit of 300 micrograms per cubic metre [one-hour average], or 100 micrograms per cubic metre [twenty-four hour average], at or beyond the boundary of the site.
17. The consent holder shall control all emissions to the atmosphere from the site, so as to ensure that the maximum ground level concentration of sulphur dioxide measured under ambient conditions does not exceed 350 micrograms per cubic metre [one-hour average] with 99.9 percentile compliance across all monitoring data, up to a maximum limit of 570 micrograms per cubic metre [one-hour average], or 120 micrograms per cubic metre [twenty-four hour average], at or beyond the boundary of the site.
18. Stockpiles of aggregate and crusher dust liable to produce windblown dust shall be treated, or shielded to minimise dust emissions to the satisfaction of the Chief Executive, Taranaki Regional Council.
19. The yard and any roadways in the yard shall be sealed, maintained, and cleaned to minimise windblown dust to the satisfaction of the Chief Executive, Taranaki Regional Council.
20. Any smoke discharged from the site shall not occur for longer than a total of three minutes in any sixty minute period.
21. All equipment used to avoid, remedy, or mitigate any effect on the environment from the discharge of emissions into the air shall be maintained in optimum condition and shall be operated within optimum design parameters at all times the plant is in operation, to the satisfaction of the Chief Executive, Taranaki Regional Council.
22. The consent holder shall visually inspect the water scrubber and settling pond at least once per month, and maintain as necessary to avoid, remedy or mitigate discharges to air.

Consent 4060-4

23. The consent holder shall maintain a log, recording:
- a) dates when the scrubber was inspected and any maintenance undertaken;
 - b) dates when the settling pond was inspected and any maintenance undertaken;
 - c) dates of burner maintenance; and
 - d) complaints received including name and address of complainants, date received and any remedial action in response to the complaint.
24. The log required in terms of special condition 23 shall be made available to the Chief Executive, Taranaki Regional Council upon request.
25. Air temperatures in the hotmix drum shall not exceed 200 degrees Celsius. The drum shall have an audible temperature alarm which shall sound if at any time the drum temperature exceeds 200 degrees Celsius and corrective action shall be taken. All incidents of temperature exceedance must be recorded in the log required in terms of special condition 23.
26. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2006 and/or June 2008 and/or June 2014, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 23 March 2009

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Farmlands Co-operative Society Limited
23 Sir William Pickering Drive
CHRISTCHURCH 8053

Decision Date: 12 April 2002

Commencement Date: 12 April 2002

Conditions of Consent

Consent Granted: To discharge emissions into the air from the milling and blending of grain and animal meals and associated activities at or about (NZTM) 1697412E-5677349N

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2014

Site Location: 99 Katere Road, New Plymouth

Legal Description: Lot 2 DP 15406 Blk VI Paritutu SD

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment.
2. No alteration shall be made to plant equipment or processes which may substantially alter the nature, quantity or likelihood of discharges to atmosphere without prior consultation with the Chief Executive, Taranaki Regional Council.
3. Within three months of the granting of this consent the consent holder shall prepare and maintain to the satisfaction of the Chief Executive, Taranaki Regional Council, a management plan addressing the measures adopted to prevent an accumulation of dust within the stormwater catchment as a result of normal operations and emission incidents.
4. The discharge concentration of dust from any point source shall be less than 125 mg/m³ normal temperature and pressure (NTP).
5. The dust deposition rate beyond the property boundary arising from the discharge shall be less than 4.0 g/m²/30 days.
6. Any discharge to air from the premises shall not give rise to any offensive, objectionable, noxious or toxic levels of dust or odour at or beyond the boundary of the property, and in any case, suspended particulate matter shall not exceed 3 mg/m³ (measured under ambient conditions) beyond the boundary of the site.
7. The consent holder shall keep, and make available to the Chief Executive, Taranaki Regional Council, upon request, a record of the time, duration and cause of all dust or smoke emissions incidents having actual or potential off-site impacts.
8. As far as is practicable yard areas of the site shall be cleared of accumulations of dust.

Consent 4051-5

9. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2008 and/or June 2014, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 10 December 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Fitzroy Engineering Group Limited
Private Bag 2053
NEW PLYMOUTH

Consent Granted
Date: 21 November 2006

Conditions of Consent

Consent Granted: To discharge emissions into the air from abrasive blasting operations and associated activities at the factory site and from yard blasting operations at or about GR: P19:068-394 and mobile abrasive blasting at various locations throughout the Taranaki region

Expiry Date: 1 June 2020

Review Date(s): June 2007, June 2008, June 2010, June 2014

Site Location: Rifle Range Road, New Plymouth

Legal Description: Pt Lot 1 DP 12331 C/T E2/740

Catchment: Waiwhakaiho

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

All operations

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment.
2. The exercise of this consent shall be undertaken generally in accordance with the information submitted in support of application 1584. In the case of any contradiction between the information submitted in support of application 1584 and the conditions of this consent, the conditions of this consent shall prevail.
3. Sand used for dry blasting must contain less than 5% by dry weight free silica, and less than 2% by dry weight dust able to pass a 0.15 mm sieve.
4. Any discharge to air from the exercise of this consent shall not give rise to any offensive, objectionable or toxic levels of dust or odour at or beyond the boundary of the property on which the abrasive blasting or associated activity is occurring, and in the case of blasting undertaken at the Rifle Range Road site, suspended particulate matter shall not exceed 3 mg/m³ (measured under ambient conditions) beyond the boundary of the leased site as shown in attachment A.
5. All abrasive blasting is to be conducted with taking into account wind direction and wind strength, such that off-site emissions are kept to a practicable minimum.
6. As far as is practicable, work areas and surrounding areas shall be cleared of accumulations of sand and any other blasting material at the end of each blasting session and by the end of each working day.
7. Dry sand blasting shall be used only when specified by a client. High pressure water blasting, wet sand blasting, garnet blasting, vacuum blasting or an equivalent alternative process must be used when practicable.

Consent 4025-3

8. The discharge of particulate material from the site shall not raise the particulate deposition rate at or beyond the boundary of the leased site of the permanent facility at Rifle Range Road, New Plymouth, above a mean daily rate of 0.13 g/m²/day collected over a minimum of 21 days.
9. The consent holder shall ensure that all operators of abrasive blasting equipment understand and comply with the all the conditions of this consent prior to the commencement of any work for which this consent is required.

Operations conducted within permanent facilities

10. As far as is practicable, all abrasive blasting on the consent holder's permanent site at Rifle Range Road, New Plymouth, shall be carried out in an enclosed booth or shed.
11. All emissions from abrasive blasting, surface preparation or surface coating operations and all other associated emissions from abrasive blasting at the permanent site at Rifle Range Road, New Plymouth, shall be contained and treated, as far as is practicable, prior to discharge from any operations enclosure.
12. All gas streams ventilated or otherwise emitted from an enclosure shall be treated to a concentration of total particulate matter of less than 125 milligrams per cubic metre [discharge corrected to 0 degrees Celsius and dry gas] at any time.
13. The consent holder shall have emissions tests conducted on discharges from the "garnet shed", and any other treatment stack at the request of the Chief Executive, Taranaki Regional Council, to demonstrate compliance with special condition 12. These tests shall;
 - a) be conducted by 1 June 2007 and every twelve months thereafter for the duration of the consent, and
 - b) comprise not less than three separate samples taken during operating conditions that give rise to maximum emissions from the stack, in the case of the "garnet shed" no less than three blasting nozzles must be in use, and
 - c) be reported to the Chief Executive, Taranaki Regional Council, within 20 working days of the samples being taken. The report shall include the results of the tests, the relevant operating parameters over the period of each test, all the raw data and all the calculations.
14. The emissions tests referred to in special condition 13 shall be carried out in accordance with Australian Standard 4323.2-1995, or any other equivalent method subject to the written approval of the Chief Executive, Taranaki Regional Council, and these tests shall be performed by a party independent from the consent holder, appropriately qualified and experienced in such testing to the satisfaction of the Chief Executive, Taranaki Regional Council.

Consent 4025-3

15. Within three months of the granting of this consent the consent holder shall prepare, and thereafter maintain, to the satisfaction of the Chief Executive, Taranaki Regional Council, an operation, management and maintenance plan detailing the Company's procedures including but not limited to staff training, general housekeeping and yard maintenance, blasting operations, monitoring and maintenance of the blasting buildings and air discharge treatment systems, the recording of training, monitoring and maintenance undertaken, the recording of complaints made directly to the Company, and the frequency of review of the plan.
16. The consent will be exercised in accordance with the procedures set out in the operation and management plan, and the consent holder shall subsequently adhere to and comply with the procedures, requirements, obligations and all other matters specified in the operation and management plan, except by specific agreement of the Chief Executive, Taranaki Regional Council. In the case of any contradiction between the operation and management plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.
17. The monitoring, maintenance and complaints records required by special condition 15 shall be made available to the Chief Executive, Taranaki Regional Council upon request.
18. If the management practices for the control of windblown dust from the yard areas is not implemented within one month of the approval of the management plan, or is not effective at controlling windblown dust such that compliance with special conditions 4 and 8 is achieved, then special condition 19 shall apply.
19. Subject to special condition 18, the yard and any roadways in the yard shall be sealed, maintained and cleaned to minimise windblown dust to the satisfaction of the Chief Executive, Taranaki Regional Council.
20. The consent holder shall notify the Chief Executive, Taranaki Regional Council, not less than 24 hours and not more than 7 days prior to using more than three blasting nozzles simultaneously in the "garnet shed".
21. The consent holder shall notify the Chief Executive, Taranaki Regional Council in writing at least 24 hours and not more than 7 days prior to operation of the grit room.
22. The final discharge after any pre-treatment at the permanent site at Rifle Range Road, New Plymouth, shall not contain lead [Pb] or Pb components at a concentration greater than 0.7 milligrams per cubic metre as Pb, chromium [Cr] or Cr compounds at a concentration of 1.5 milligrams per cubic metre as Cr, or zinc [Zn] or Zn compounds at a concentration of 15 milligrams per cubic metre as Zn [discharge corrected to 0 degrees Celsius and dry gas], at any time.
22. The consent holder and staff of the Taranaki Regional Council shall meet once per year with the consent holder, Landlord, and any other interested party at the discretion of the Chief Executive, Taranaki Regional Council, to discuss any matter relating to the exercise of this consent, and in order to facilitate ongoing consultation, unless it is agreed by the consent holder, Landlord and Chief Executive, Taranaki Regional Council that a meeting is not necessary at that time.

Yard operations

23. From time to time the consent holder may receive for abrasive blasting or other surface treatment, an item that because of its bulk, weight, or other factor, cannot be treated inside the appropriate enclosed facility. Such yard operations shall not be permitted on a frequent or continual basis, other than with the written approval of the Chief Executive, Taranaki Regional Council.
24. The consent holder shall specifically notify the Landlord and Chief Executive, Taranaki Regional Council not more than 7 days and not less than 48 hours prior to commencing any yard operation as described in special condition 23.
25. All items which cannot be treated within properly enclosed facilities shall be screened by means of covers, tarpaulins, cladding or other means, as completely as practicable, to contain dust emissions and depositions and to restrict the spread of all blasting debris.

Mobile operations

26. All items or premises to be blasted from a mobile blasting unit shall be screened by means of covers, tarpaulins, cladding, or other means, as completely as practicable, to contain dust emissions and depositions and to restrict the spread of all blasting debris and materials to the satisfaction of the Chief Executive, Taranaki Regional Council.
27. Where abrasive blasting or surface coating from a mobile blasting unit is to take place within 100 metres of a watercourse, the consent holder shall notify the Chief Executive, Taranaki Regional Council, not more than 7 days and not less than 48 hours prior to any operation commencing. The Chief Executive, Taranaki Regional Council, may require additional measures to prevent, minimise or mitigate any potential for adverse environmental effects. The consent holder shall ascertain such measures prior to commencing an abrasive blasting operation, and comply with any and all such measures at all times.
28. The discharge shall not give rise to any of the following effects in any surface watercourse:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life;
 - f) an increase in suspended solids of more than 10 grams per cubic metre;
 - g) turbidity above 4 nephelometric turbidity units [NTU], except that if the turbidity within the water body is above 3.2 NTU, no more than 25% increase in NTU;
 - h) any increase in the concentration of zinc, lead, arsenic, chromium or thorium-based products.

Consent 4025-3

29. Dry abrasive blasting from a mobile blasting unit shall not be conducted within 200 metres of any dwelling place or property boundary until either public notice or individual notice to the owners or occupiers of those dwellings or properties has been given.
30. The suspended particulate matter shall not exceed 3 mg/m³ [measured under ambient conditions], and the deposition of dust shall not exceed a mean daily rate of 0.13 g/m²/day beyond the property boundary or beyond 50 metres of the discharge when sited on public amenity areas, whichever is less.

Review

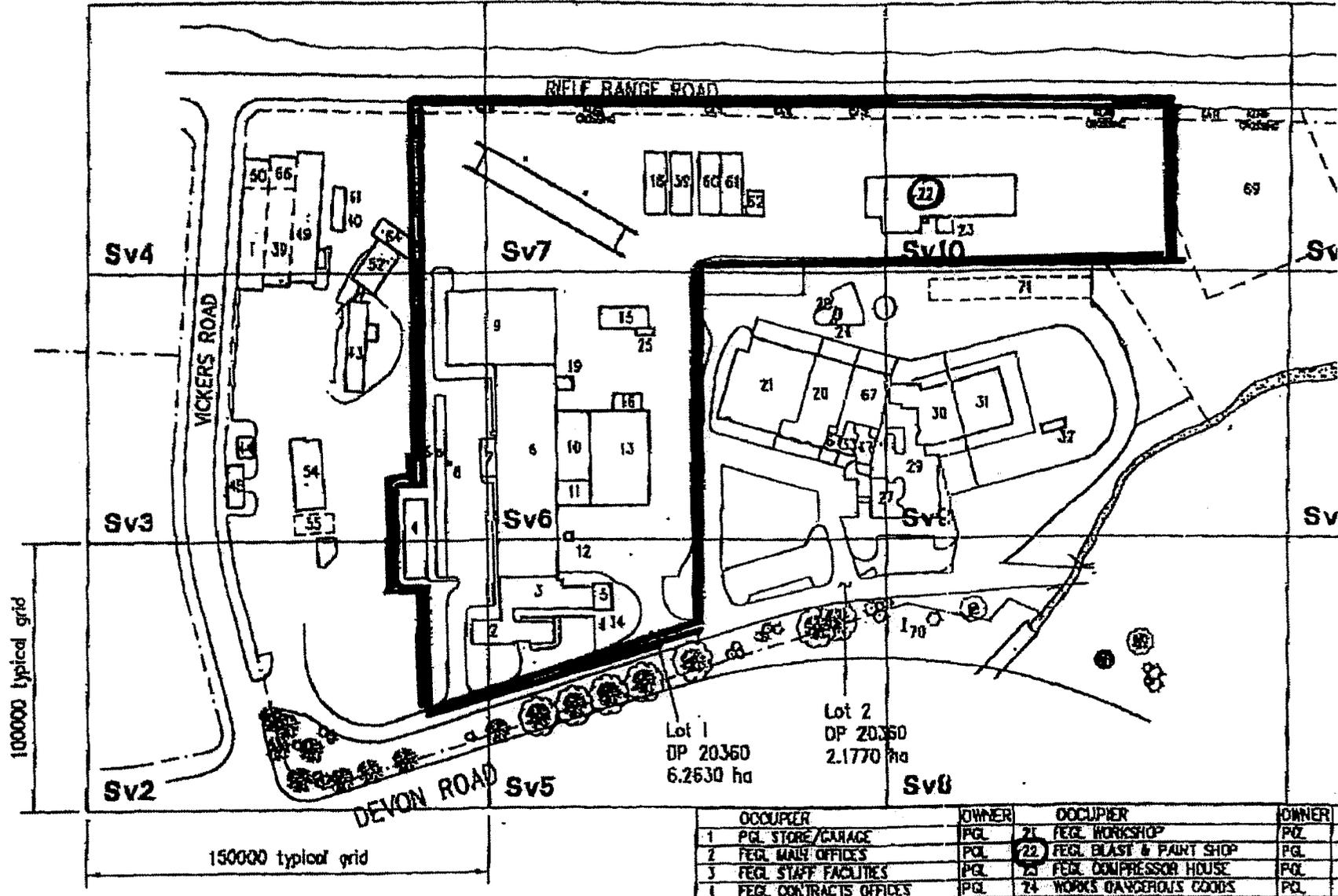
31. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2007 and/or June 2008 and/or June 2010 and/or June 2014, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.
32. Condition 14 of this resource consent may be reviewed at any time, consequent to any amendment or revision of Australian Standard 4323.2-1995.

Signed at Stratford on 21 November 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

WAIHAKAIHO RIVER



100000 typical grid

150000 typical grid

Lot 1
DP 20360
6.2630 ha

Lot 2
DP 20360
2.1770 ha

OCCUPIER	OWNER	OCCUPIER	OWNER
1 PGL STORE/GARAGE	PGL	21 FEGL WORKSHOP	POZ
2 FEGL MATH OFFICES	PGL	22 FEGL BLAST & PAINT SHOP	PGL
3 FEGL STAFF FACILITIES	PGL	23 FEGL COMPRESSOR HOUSE	PGL
4 FEGL CONTRACTS OFFICES	PGL	24 WORKS DANGEROUS GOODS	PGL

Attachment A

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Katere Surface Coatings Limited
 P O Box 3258
 Fitzroy
 NEW PLYMOUTH

Consent Granted 18 February 2009
Date:

Conditions of Consent

Consent Granted: To discharge emissions to air from abrasive blasting and surface coating activities at a permanent site located at Katere Road, New Plymouth at or about (NZTM) 1697260E-5677411N and from mobile operations throughout the Taranaki region including within the Coastal Marine Area at Port Taranaki

Expiry Date: 1 June 2020

Review Date(s): June 2014

Site Location: Katere Road, New Plymouth & Various locations throughout the Taranaki region

Legal Description: Lot 2 DP 16705 & Various locations throughout the Taranaki region

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The conditions of this consent shall apply to the various operations of the consent holder as follows;
 - Special Conditions 2-8, 20, and 21 apply to all operations.
 - Special Conditions 9-11 apply to operations conducted within the permanent facility at Katere Road, New Plymouth.
 - Special Conditions 12-14 apply to yard operations conducted at the permanent facility at Katere Road, New Plymouth.
 - Special Conditions 15-19 apply to operations conducted at any site other than the permanent facility at Katere Road, New Plymouth.

All operations

2. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
3. Any discharge to air from the exercise of this consent shall not give rise to any offensive, objectionable or toxic levels of dust or odour at or beyond the boundary of the property on which the abrasive blasting or associated activity is occurring.
4. All abrasive blasting is to be conducted taking into account wind direction and wind strength, such that off-site emissions are kept to a practicable minimum.

Consent 4475-2

5. As far as is practicable, work areas and surrounding areas shall be cleared of accumulations of blasting material at the end of each blasting session and by the end of each working day.
6. Sand used for dry abrasive blasting shall contain:
 - (i) less than 5% by dry weight free silica; and
 - (ii) less than 2% by dry weight dust able to pass through a 0.15 micron sieve.
7. Dry sand blasting shall only be used only when it is the only method suitable for the job.
8. The consent holder shall ensure that all operators of abrasive blasting equipment understand and comply with the all the conditions of this consent prior to the commencement of any work for which this consent is required.

Operations conducted within the permanent facility located at Katere Road, New Plymouth

9. Except as provided for in conditions 12 to 14, all abrasive blasting on the consent holder's permanent site at Katere Road, New Plymouth shall be carried out in an enclosed booth or shed.
10. All emissions from abrasive blasting, surface preparation or surface coating operations and all other associated emissions from abrasive blasting within the permanent site at Katere Road, New Plymouth shall be contained and treated, as far as is practicable, prior to discharge from any operations enclosure. All gas streams ventilated or otherwise emitted from an enclosure shall be treated to a concentration of total particulate matter of less than 125 mg/m³ [natural temperature & pressure] corrected to dry gas basis, at any time.
11. The dust deposition rate beyond the property boundary of the permanent site at Katere Road, New Plymouth arising from the discharge, shall be less than 4.0 g/m²/30 days.

Yard operations conducted at the permanent facility located at Katere Road, New Plymouth

12. From time to time the consent holder may receive for abrasive blasting or other surface treatment, an item that because of its bulk, weight or other factor cannot be treated inside the appropriate enclosed facility. Subject to conditions 12 to 14 such items may be treated outside the enclosed facility (termed 'yard operations').

Consent 4475-2

13. The consent holder shall specifically notify the Chief Executive, Taranaki Regional Council not more than 7 days and not less than 48 hours prior to commencing any yard operation as described in special condition 12. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable only if the consent holder does not have access to email.
14. All items which cannot be treated within properly enclosed facilities shall be screened by means of covers, tarpaulins, cladding or other means, as completely as practicable, to contain dust emissions and depositions and to restrict the spread of all blasting debris.

Operations conducted at any site other than the permanent facility at Katere Road, New Plymouth

15. All items to be blasted shall be screened by means of covers, tarpaulins, cladding, or other means to contain dust emissions and deposits to the satisfaction of the Chief Executive, Taranaki Regional Council.
16. Prior to undertaking abrasive blasting within residential areas, the consent holder shall notify the relevant District Council.
17. Where abrasive blasting or surface coating is to take place within 100 metres of a watercourse, the consent holder shall notify the Chief Executive, Taranaki Regional Council, not more than 7 days and not less than 48 hours prior to any operation commencing. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable only if the consent holder does not have access to email.
18. Dry abrasive blasting that is to be conducted within 200 metres of any dwelling place or property boundary may only take place after either public notice or individual notice to all affected owners or occupiers has been given.
19. The suspended particulate matter shall not exceed 3 mg/m³ [measured under ambient conditions], and the deposition of dust shall not exceed 0.13 g/m²/day beyond the boundary of the property on which the activity is occurring or beyond 50 metres of the discharge when sited on public land, whichever is less.

Review

20. This consent shall lapse on 31 March 2014, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Consent 4475-2

21. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2014, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 18 February 2009

For and on behalf of
Taranaki Regional Council

Chief Executive

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Ravensdown Fertiliser Co-operative Limited
P O Box 41
NEW PLYMOUTH

Consent Granted
Date: 4 December 2008

Conditions of Consent

Consent Granted: To discharge emissions into the air from the storage,
blending and distribution of fertiliser at or about (NZTM)
1696333E-5677008N

Expiry Date: 1 June 2026

Review Date(s): June 2014, June 2020 and/or within six months of
receiving notification in relation to condition 8

Site Location: Smart Road, New Plymouth

Legal Description: Lot 2 DP 339878 Sec 18 Pt Secs 142, 143, 166 & 175 Pt
Sbdn 5 of Sec 162 Hua Dist Blk VI Paritutu SD

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. Notwithstanding any other condition, the consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. All activities permitted by this consent are to be conducted taking into account wind direction and wind strength, such that off-site emissions are kept to a practicable minimum.
3. The suspended particulate matter shall not exceed 3 mg/m^3 [measured under ambient conditions], and the deposition of dust shall not exceed $0.13 \text{ g/m}^2/\text{day}$ or $4.0 \text{ g/m}^2/30 \text{ days}$ beyond the property boundary.
4. Notwithstanding condition 3, any discharge to air from the exercise of this consent shall not give rise to any offensive, objectionable or toxic levels of dust or odour at or beyond the boundary of the property.
5. To avoid re-suspension of dust and stormwater contamination, any fertiliser spilt outside the buildings shall be cleaned up as soon as is practicable and in any case, by the end of each working day.
6. As far as is practicable, all intake, blending and dispatch of fertiliser shall be carried out within buildings that are maintained to prevent or minimise any discharges to the environment from the exercise of this consent.
7. The consent holder shall keep, and make available to the Chief Executive, Taranaki Regional Council, upon request, a record of the time, duration and cause of all dust incidents having actual or potential off-site impacts.

Consent 4024-3

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the activities at the site, which could adversely alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable if the consent holder does not have access to email.
9. If potentially odorous products are to be received at the site that were not specified in application 5015, then the consent holder shall notify the Chief Executive, Taranaki Regional Council in accordance with condition 8 and shall in addition provide an odour management plan to the satisfaction of Chief Executive, Taranaki Regional Council, detailing how the product will be handled at the site.
10. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2014 and/or June 2020 and/or within 6 months of receiving notification in relation to condition 8 for the purpose of:
 - a) adding, amending or deleting any limit on discharge or ambient concentrations of any contaminant or contaminants; and/or
 - b) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by any discharge to the environment; and/or
 - c) ensuring that the conditions are adequate to deal with any adverse effects of the discharge on the environment arising from the exercise of this consent which were not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 4 December 2008

For and on behalf of
Taranaki Regional Council

Director-Resource Management



Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 06-765 7127
FAX 06-765 5097

Please quote our file number
on all correspondence

Name of
Consent Holder: Taranaki Drum & Pallet Recycling
P O Box 3398
NEW PLYMOUTH

Consent Granted
Date: 17 September 2002

Conditions of Consent

Consent Granted: To discharge emissions into the air from the burning off of
pallets at or about GR: P19:066-379

Expiry Date: 1 December 2020

Review Date(s): June 2003, June 2004, June 2008, June 2014

Site Location: 137 Smart Road, New Plymouth

Legal Description: Pt Lot 1 DP 2545 Blk VI Paritutu SD

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

Consent 6073-1

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. At all times, the consent holder shall adopt the best practicable option (as defined in Section 2 of the Resource Management Act 1991) to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants into the air from the site.
2. The consent holder shall at all times operate, maintain, supervise, monitor and control all processes so that discharges authorised by this consent are maintained at a practicable minimum.
3. The materials shall be combusted only when placed in a pit located no closer than 20 metres to any boundary.
4. The materials combusted in the pit shall be restricted to wood, wood off-cuts and trimmings, from packing pallets.
5. The materials authorised through this consent to be combusted exclude household refuse, timber or wood off-cuts treated with organochlorine substances or with copper, chrome or arsenic, oil, tyres, plastics (including plastic films and wrapping), paints or paint containers, or any trimmings, prunings, or felling of vegetation.
6. The fires shall not be lit later than 12 noon on any day.
7. Any materials still burning or smouldering after 5 pm on the day of lighting shall be raked or otherwise spread thinly, or quenched.
8. The consent holder, prior to lighting any fire, shall have regard to wind direction and speed so as to minimise adverse environmental effects upon neighbours. A fire shall not be lit more than twice in any seven-day period, or in foggy conditions.

Consent 6073-1

9. The discharges authorised by this consent shall not give rise to odour, suspended or deposited dust, or smoke at or beyond the boundary of the site that, in the opinion of an enforcement officer of the Taranaki Regional Council, is offensive or objectionable.

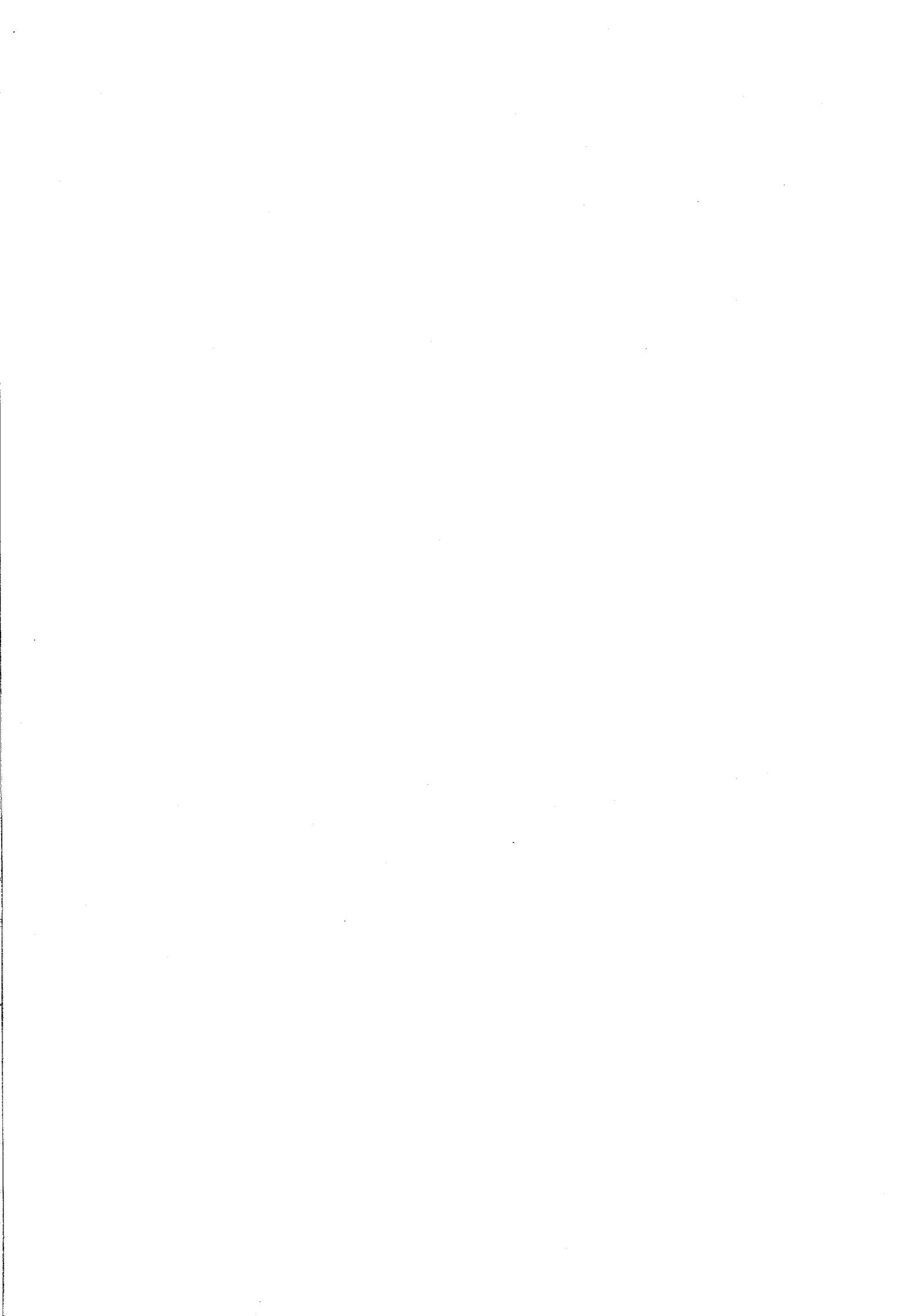
10. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2003, 2004, 2008 and/or 2014 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 17 September 2002

For and on behalf of
Taranaki Regional Council



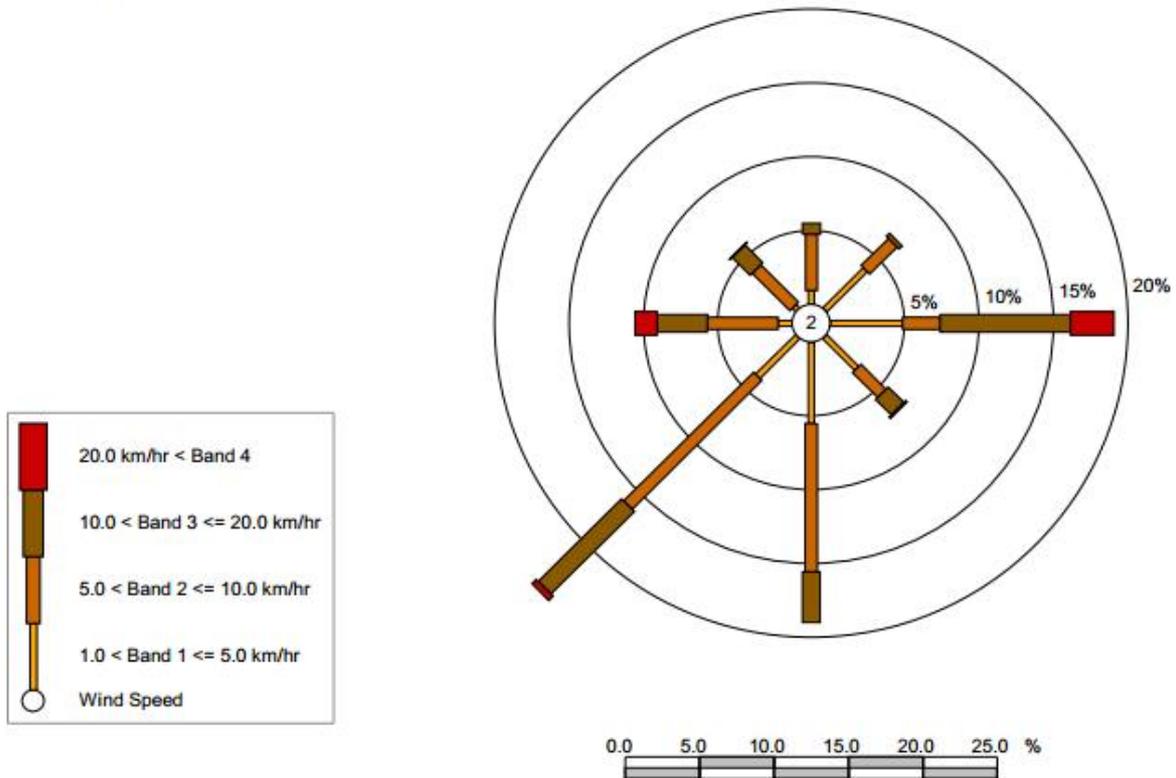
Director-Resource Management



Appendix II

**Wind direction information for the New Plymouth
area during the deposition gauge monitoring
periods**

Wind Direction at Wastewater Treatment Plant N.P
 Wind Speed at Wastewater Treatment Plant N.P
 From 7-Jan-2014 00:00:00 to 28-Jan-2014 23:00:00



~~~~ Hilltop Hydro ~~~~ Version 6.41  
 ~~~~ PLWind ~~~~

21-Aug-2014

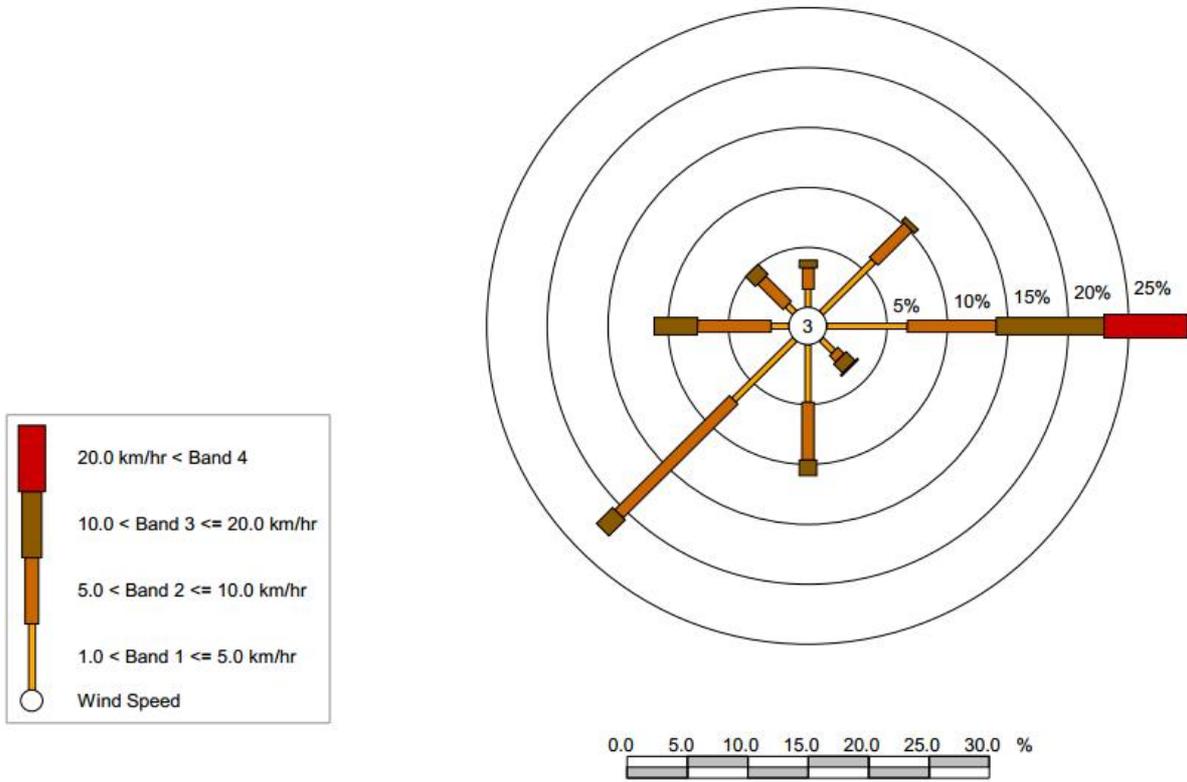
Source is R:\UNAUDITED-DATA\TELEMETRY\TELEMETRY.HTS
 Wind Direction at Wastewater Treatment Plant N.P and Wind Speed at Wastewater Treatment Plant N.P
 From 7-Jan-2014 00:00:00 to 28-Jan-2014 23:00:00

Number of data points read : 3162
 Number of directions <0.0 or >360.0 deg. : 0
 Limits for Wind Speed are 0.0 to 50.0 km/hr
 Number of readings outside limits : 0
 Number of data points used : 3162

| Direction | Percentage of time in each band | | | | Total |
|---------------|---------------------------------|--------|-------------------|--------|-------|
| | Band 1 | Band 2 | Band 3 | Band 4 | |
| 337.5 - 22.4 | 0.9 | 3.8 | 0.7 | 0.0 | 5.5 |
| 22.5 - 67.4 | 3.9 | 2.6 | 0.3 | 0.0 | 6.7 |
| 67.5 - 112.4 | 4.8 | 2.5 | 8.8 | 2.9 | 19.0 |
| 112.5 - 157.4 | 3.0 | 2.4 | 1.5 | 0.1 | 7.0 |
| 157.5 - 202.4 | 5.5 | 10.1 | 3.4 | 0.0 | 19.0 |
| 202.5 - 247.4 | 3.8 | 12.3 | 7.9 | 0.4 | 24.4 |
| 247.5 - 292.4 | 0.9 | 4.7 | 3.4 | 1.5 | 10.6 |
| 292.5 - 337.4 | 0.3 | 3.6 | 1.7 | 0.1 | 5.7 |
| Total | 23.3 | 42.0 | 27.7 | 5.0 | 98.0 |
| | | | Percentage <= 1.0 | | 2.0 |

Wind Speed bands (km/hr)
 1.0 < Band 1 <= 5.0 5.0 < Band 2 <= 10.0
 10.0 < Band 3 <= 20.0 Band 4 > 20.0

Wind Direction at Wastewater Treatment Plant N.P
 Wind Speed at Wastewater Treatment Plant N.P
 From 4-Feb-2014 00:00:00 to 25-Feb-2014 23:00:00



~~~ Hilltop Hydro ~~~ Version 6.41  
 ~~~ PLWind ~~~

21-Aug-2014

Source is R:\UNAUDITED-DATA\TELEMETRY\TELEMETRY.HTS
 Wind Direction at Wastewater Treatment Plant N.P and Wind Speed at Wastewater Treatment Plant N.P
 From 4-Feb-2014 00:00:00 to 25-Feb-2014 23:00:00

Number of data points read : 3162
 Number of directions <0.0 or >360.0 deg. : 0
 Limits for Wind Speed are 0.0 to 50.0 km/hr
 Number of readings outside limits : 0
 Number of data points used : 3162

| Direction | Percentage of time in each band | | | | Total |
|---------------|---------------------------------|--------|-------------------|--------|-------|
| | Band 1 | Band 2 | Band 3 | Band 4 | |
| 337.5 - 22.4 | 1.5 | 1.8 | 0.6 | 0.0 | 3.9 |
| 22.5 - 67.4 | 6.1 | 4.0 | 0.4 | 0.0 | 10.6 |
| 67.5 - 112.4 | 6.6 | 7.3 | 9.0 | 6.9 | 29.9 |
| 112.5 - 157.4 | 1.4 | 0.7 | 1.1 | 0.1 | 3.4 |
| 157.5 - 202.4 | 4.8 | 4.8 | 1.3 | 0.0 | 10.9 |
| 202.5 - 247.4 | 7.1 | 13.4 | 1.9 | 0.0 | 22.5 |
| 247.5 - 292.4 | 1.5 | 6.1 | 3.6 | 0.0 | 11.2 |
| 292.5 - 337.4 | 0.9 | 3.0 | 1.2 | 0.0 | 5.0 |
| Total | 29.9 | 41.2 | 19.0 | 7.1 | 97.2 |
| | | | Percentage <= 1.0 | | 2.8 |

Wind Speed bands (km/hr)
 1.0 < Band 1 <= 5.0 5.0 < Band 2 <= 10.0
 10.0 < Band 3 <= 20.0 Band 4 > 20.0