Waiwhakaiho Airshed Monitoring Programme Annual Report 2012-2013

Technical Report 2013–69

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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 2012-June 2013 describes the monitoring programme implemented by the Taranaki Regional Council to assess the companies' environmental performance during the period under review, and the results and 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, Viterra (NZ) 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.

Council's monitoring during the year under review included 24 inspections, during some of which point source and ambient suspended particulate monitoring were undertaken, 2 deposition gauge surveys, and review of 1 stack test report.

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 good. During the 2012-2013 year only one of the "TRC SEM" samples[1] analysed exceeded the 4g/m^2/30 days deposition rate guideline, with only 28% of all the gaugings collected in the airshed as a whole exceeding this guideline. There were three gauging locations, one in the vicinity of each of Fitzroy Engineering Group Limited, 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 Katere Surface Coatings Limited's gauges, which was just over twice the guideline rate.

In the 2012-2013 year there were 38 air related incidents in the Waiwhakaiho airshed recorded on Council's Unauthorised Incidents Register, only six of which were substantiated at the time of investigation. Issues with the potential for effects were identified in three other cases and preventative measures were agreed upon. The complaints related to a variety of issues, namely odour, dust, or smoke. None of the substantiated air related incidents were due to the activities of consented companies monitored under this programme. However there was one non-air related incident that occurred on the Fitzroy Engineering Group Limited's site. There were two abatement notices issued as a result of the incident investigations undertaken.

During the year, the Downer EDI Works Limited demonstrated good level of environmental performance and compliance with their resource consent as defined in Section 1.1.5. However, for the sixth consecutive year, there was a technical non compliance with the consent relating to a delay in particulate emission monitoring. Although the Company kept Council informed regarding the delay, it is recommended that the Company start to seek an opportunity to undertake this required monitoring earlier in each monitoring year.

[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, Fitzroy Engineering Group Limited generally demonstrated a good level of environmental performance as defined in Section 1.1.5. Although there were some non compliances with consent, no significant adverse effects were noted as a result. Improvements in the control of dust being resuspended from the yard surfaces is desirable.

During the year, Katere Surface Coatings Limited generally demonstrated a good level of environmental performance and compliance with their resource consent as defined in Section 1.1.5, however an improvement in the clean up of spent blasting media is 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 defined in Section 1.1.5, although improved control of the deposited particulate resulting from the Companies storage and distribution of palm kernel is desirable.

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.

During the year, Viterra (NZ) 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 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.

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

For reference, in the 2012-2013 year, 35% 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 59% demonstrated a good level of environmental performance and compliance with their consents.

This report includes recommendations relating to monitoring in the 2013-2014 year, including a recommendation relating to an optional review of each of the consents.

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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 2012-June 2013 by the Taranaki Regional Council describing the results of the monitoring programme associated with 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), the Taranaki Regional 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 air 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 twentieth Annual Report to be prepared by the Taranaki Regional Council to cover the Companies' air discharges and their effects. It is the twelfth 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 companies[2].

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 1 (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 Annual Report, 2012-2013

Subsection 4 presents recommendations to be implemented in the 2013-2014 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 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 a discharger, and may include cultural and socio-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 Taranaki Regional Council is recognising the comprehensive meaning of `effects' inasmuch as is appropriate for each discharge source. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the Resource Management Act to assess the effects of the exercise of consents. In accordance with section 35 of the Resource Management Act 1991, the Council undertakes compliance monitoring for consents and rules in regional plans; and maintains an overview of performance of resource users against regional plans and consents. Compliance monitoring, (covering both activity and impact) monitoring, also enables the Council to continuously assess its own performance in resource management as well as that of resource users particularly consent holders. It further 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 that require additional activity by the Council eg 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 Taranaki Regional 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 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 an overall rating. The categories used by the Council, and their interpretation, are as follows:

- a **high** level of environmental performance and compliance indicates that essentially there were no adverse environmental effects to be concerned about, and no, or inconsequential (such as data supplied after a deadline) non-compliance with conditions.

- a **good** level of environmental performance and compliance indicates that adverse environmental effects of activities during the monitoring period were negligible or minor at most, or, 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, or, there were perhaps some items noted on inspection notices for attention but these items were not urgent nor critical, and follow-up inspections showed they have been dealt with, and any inconsequential non compliances with conditions were resolved positively, co-operatively, and quickly.

- **improvement desirable (environmental)** or **improvement desirable (administrative compliance)** (as appropriate) indicates that the Council may have been obliged to record a verified unauthorised incident involving measurable environmental impacts, and/or, there were measurable environmental effects arising from activities and intervention by Council staff was required and there were matters that required urgent intervention, took some time to resolve, or remained unresolved at the end of the period under review, and/or, there were on-going issues around meeting resource consent conditions even in the absence of environmental effects. Abatement notices may have been issued.

- **poor performance (environmental)** or **poor performance (administrative compliance)** indicates generally that the Council was obliged to record a verified unauthorised incident involving significant environmental impacts, or there were material failings to comply with resource consent conditions that required significant intervention by the Council even in the absence of environmental effects. Typically there were grounds for either a prosecution or an infringement notice.

For reference, in the 2012-2013 year, 35% 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 59% 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 Resource Management Act 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. Outlines of the companies' activities and the special conditions on their consents are presented in later sections.

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 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 2014	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 2014	June 2020
Ravensdown Fertiliser Co-op Limited	4024-3	To discharge emissions into the air from the storage, blending and distribution of fertiliser	June 2014	June 2026
Taranaki Drum & Pallet Recycling	6073-1	To discharge emissions into the air from the burning off of pallets	June 2014	June 2020
Viterra (NZ) Limited	4051-5	To discharge emissions into the air from the milling and blending of grain and animal meals and associated activities	June 2014	June 2020

Copies of the full consents are given in alphabetical order in Appendix I

1.3 Monitoring programme

1.3.1 Introduction

Section 35 of the Resource Management Act sets out obligation/s upon the Taranaki Regional 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 Taranaki Regional 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.

1.3.2 Site inspections

Each site was visited up to five 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.

1.3.3 Chemical sampling

The Taranaki Regional Council undertook sampling of both the emissions from the site and the ambient air quality in the neighbourhood. Suspended particulate concentrations were measured at point source discharges and other visible sources of dust, and at the site boundary during inspection.

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

1.3.4 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 Council within 20 working days of testing.

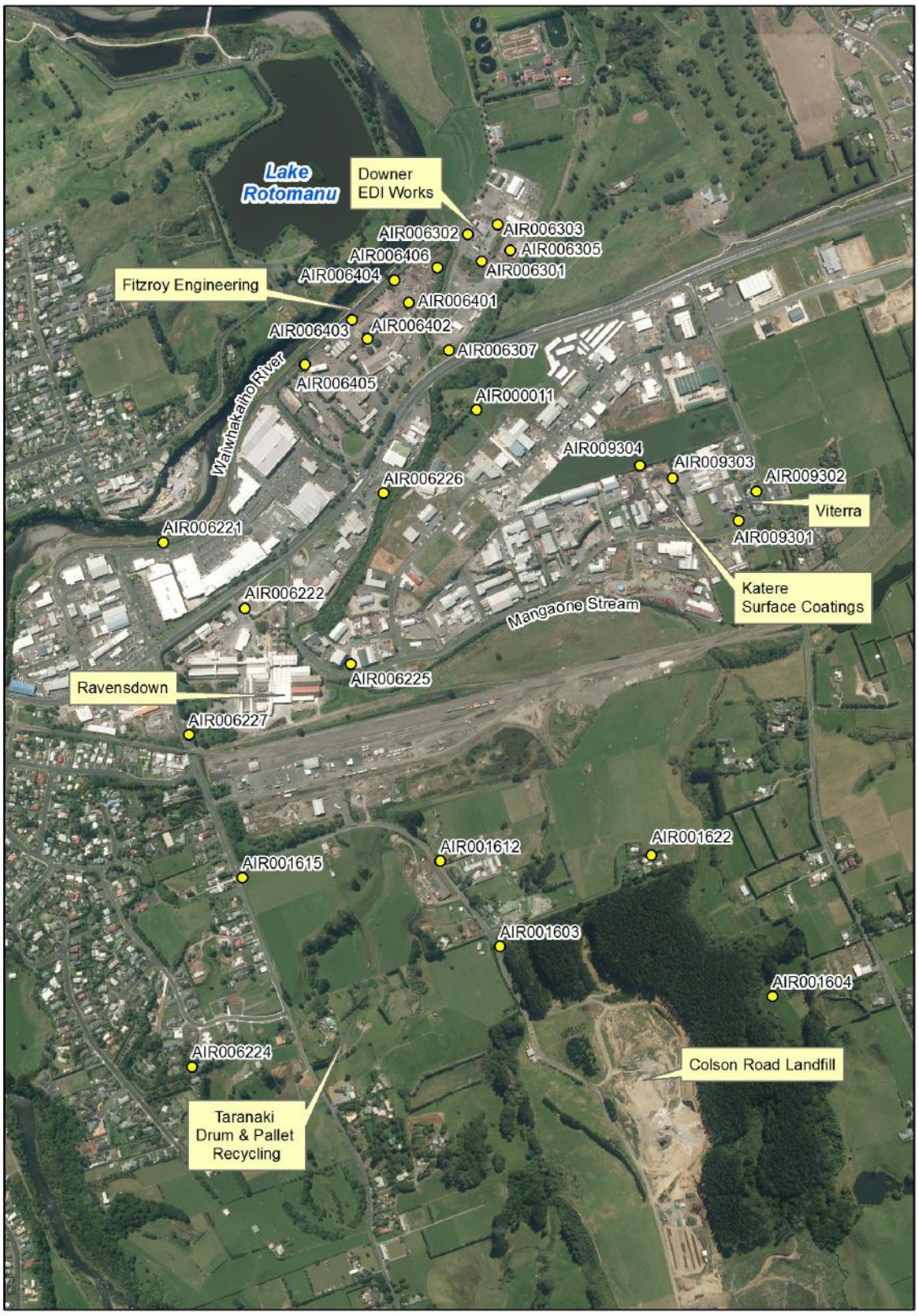

Figure 1 Location of industries holding air discharge permits, and monitoring sites within the Waiwhakaiho airshed

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 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.

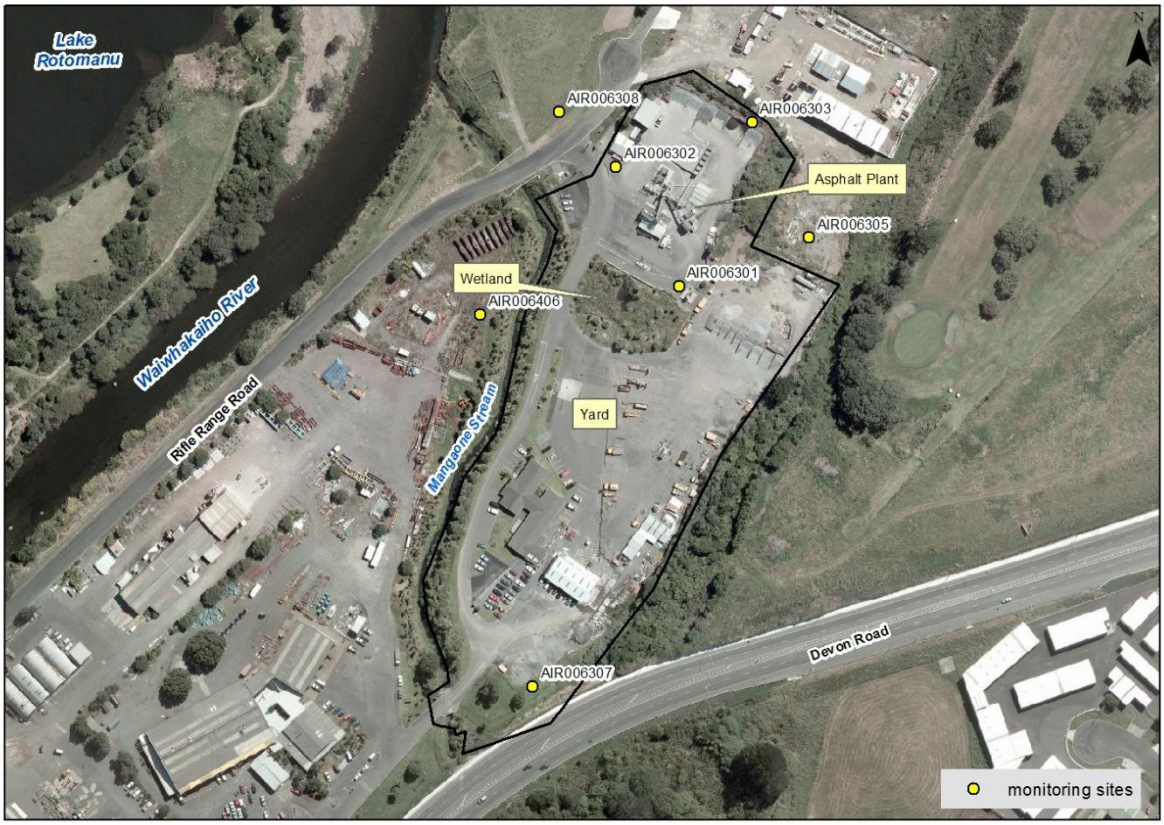

Figure 2 Location of Downer EDI Works Limited and related deposition gauge sites

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 Taranaki Regional 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 Council 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 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

Routine compliance monitoring inspections were undertaken on 30 August 2012, 15 November 2012, 19 March 2013, and 26 June 2013. The findings of the compliance monitoring inspections are given below.

30 August 2012

No odours or emissions were found during the inspection. The plant was not operating at the time of inspection. It was reported that the settling ponds looked good and that the yard was clean and tidy.

15 November 2012

It was found that the asphalt plant was running at the time of inspection. Noticeable odours were found downwind during the loading out of bitumen, however no odours or dust were found beyond the boundary of the property. It was reported that the silt ponds looked good and that the water was being recycled through the plant. It was noted that the site was tidy.

19 March 2013

It was found that the asphalt plant was not operating at the time of inspection, with only cold mix being made at the site. There were no visible emissions from the stack, and no odours or dust were found beyond the boundary of the property. It was again noted that the site was tidy.

26 June 2013

The sit was inspected in overcast weather condition after recent showers. The plant was not in use at the time of inspection, and no odours or dust were found beyond the boundary of the property. The inspecting officer was informed that the stack test was booked in to be completed in two weeks time.

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 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 Council within 20 working days of the testing.

As with the 5 preceding monitoring years, the stack testing for the 2012-2013 year had been delayed beyond the timeframe required by the consent, which the Company advised Council was due to factors such as there not being a production run of sufficient length occurring at a time when the independent consultant could travel to Taranaki to undertake the monitoring, and the weather.

The testing undertaken was on 25 July 2013, and will be reported on in the 2013-2014 Annual Report.

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 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 Taranaki Regional Council for dust deposition are 4g/m^2/30 days or 0.13 g/m^2/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.

A site map marking the location of the gauges around the Works Infrastructure site is shown in Figure 2. The site locations are 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/m^2/day and consent limit of 4 g/m^2/30 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 as the aerial photography shows, this monitoring site has the potential to be impacted by the activities of the occupiers of the neighbouring unsealed property on which the gauge is located.

For the January - February survey the samples collected from all gauging sites complied with the Company's consent limit.

For the February – March survey the result for site AIR006302 (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 fast filtration rate (Photo 1)

The gauge collected from site AIR006305 was found to contain some leaves. Although the sample is passed through a sieve prior to filtration, smaller leave debris may have passed through the mesh of the sieve. It is also noted that there are some small worms present on the filter. These observations indicate that there may have been some contribution from sources other than the activities of Downer EDI Works Limited at this monitoring location.

Table 3 Deposition gauge results from around the Downer EDI Works Ltd site 2012-2013

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume litres
					g/m²/day	g/m²/30day	
AIR006301	TRC134687	10-Jan-13 to 5-Feb-13	0.30	26	0.05	1.5	1.2
	TRC135234	12-Feb-13 to 8-Mar-13	0.51	24	0.13	3.9	0.5
	summary for data 1994-June 2012	min	0.069	19.9	0.01	0.3	0.22
		max	1.02	45.1	0.60	18	5.2
		median	0.37	28.9	0.13	3.9	2.08
		number	43	37	46	46	37
AIR006302	TRC134688	10-Jan-13 to 5-Feb-13	0.32	26	0.07	2.1	1.2
	TRC135235	12-Feb-13 to 8-Mar-13	0.43	24	**0.16**	**4.8**	0.5
	summary for data 1994-June 2012	min	0.13	19.9	0.01	0.3	0.19
		max	1.10	45.1	0.89	27	6.9
		median	0.34	28.9	0.12	3.6	2.0
		number	42	37	45	45	36
AIR006303	TRC134689	10-Jan-13 to 5-Feb-13	0.31	26	0.08	2.4	1.1
	TRC135236	12-Feb-13 to 8-Mar-13	0.31	24	0.09	2.7	0.4
	summary for data 1994-June 2012	min	0.11	19.9	0.02	0.6	0.14
		max	0.99	45.1	6.4	192	6.06
		median	0.36	28.9	0.15	4.5	1.91
		number	35	32	37	37	29
AIR006305	TRC134690	10-Jan-13 to 5-Feb-13	0.35	26	0.12	3.6	2.1
	TRC135237	12-Feb-13 to 8-Mar-13	0.38	24	**0.20**	**6.0**	0.6
	summary for data 1999-June 2012	min	0.12	17.8	0.03	0.9	0.22
		max	2.07	41.8	0.61	18.3	5.31
		median	0.42	28	0.14	4.2	2.23
		number	30	34	30	30	30
AIR006307	TRC134691	10-Jan-13 to 5-Feb-13	0.32	26	0.09	27	1.3
	TRC135238	12-Feb-13 to 8-Mar-13	0.33	24	0.13	3.9	0.4
	summary for data 2000-June 2012	min	0.14	17.8	0.02	0.6	0.19
		max	2.10	41.8	0.89	27	5.06
		median	0.36	27.9	0.10	3	1.74
		number	24	29	24	24	24

Bold – indicates result above consent limit/guideline values adopted by Taranaki Regional Council

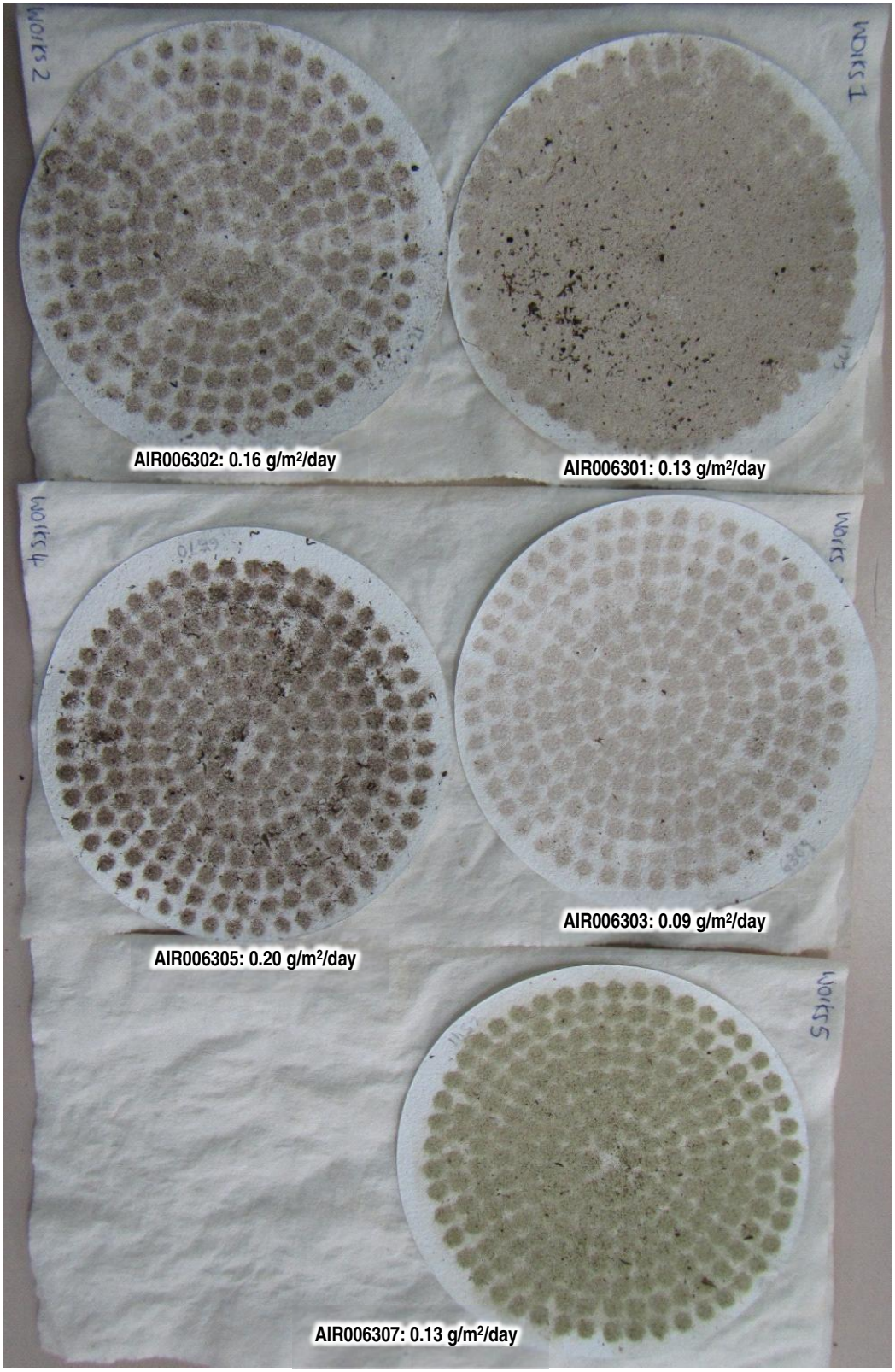

Photo 1 Downer EDI Works Limited deposition gauge filters, February-March 2013 survey

2.2.3.2 NOx monitoring

There is the potential for the discharges of oxides of nitrogen (NOx) from the Downer EDI Works asphalt plant produced by the combustion of fossil fuels to power the plant. In humans NOx can reduce the body's resistance to infections

and affect breathing. Nitrogen oxides are also toxic to plants, and can contribute to a brown haze and petrochemical smog.

The Company's consent requires that 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.

The Taranaki Regional Council has been monitoring nitrogen oxides (NOx) in the Taranaki region since 1993 using passive absorption discs. The gases diffuse into the discs, and the target gases (nitrogen dioxide or other oxides of nitrogen) are captured.

Due to the low levels of NOx typically found in the vicinity of the Downer EDI Works Limited site, consent compliance is evaluated at five yearly intervals. Consent compliance was confirmed during the 2011-2012 year, and this monitoring is therefore not scheduled to be repeated until the 2016-2017 year.

2.2.4 Investigations, interventions, and incidents

In the 2012-2013 year, it was necessary for the Council to undertake additional investigation in respect of the site operated by Downer EDI Limited.

19 September 2012
A complaint was received regarding an odour coming from an asphalt plant on Rifle Range Road, New Plymouth. As a result of the complaint, an inspection of the property was undertaken with the complainant. The inspection found no offensive or objectionable odours at or beyond the boundary. However, it was noted that the mixing plant was not in operation at the time of inspection

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 was little, if any, impact on the dust levels at the boundary due to the Company's activities at the time of inspection, and there were only noticeable odours reported. 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 marginal 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. Although the majority of the material collected has a gritty appearance, findings also indicated that it was likely that there was a contribution from organic matter.

There was one odour complaint received by Council. The complaint could not be substantiated, however the asphalt plant was not operating at the time of investigation.

Particulate emission monitoring was again carried out slightly behind schedule due to operational reasons. Council was kept informed regarding the postponement of testing, however the short notice given to Council regarding the rescheduled timing meant that an inspection could not be undertaken at the time of the stack testing. The reported supplied showed that the discharge from the stack complied with consent conditions. It is noted that the stack test has been carried out late for six consecutive years, and it is therefore recommended that the Company attempt to schedule this monitoring earlier in the monitoring year.

2.3.2 Environmental effects of exercise of consents

2.3.2.1 Deposition gauging

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity e.g. 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 $g/m^2/30$ days, while in urban areas rates are generally higher, in the range of 0.6-3.0 $g/m^2/30$ days. From experience, rates above 3-4 $g/m^2/30$ days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources.

Deposition gauging was conducted for the 47th and 48th time during the 2012-2013 monitoring year around the Downer EDI Works site. The deposition gauges results, and performance against the guideline, are shown in Figure 3.

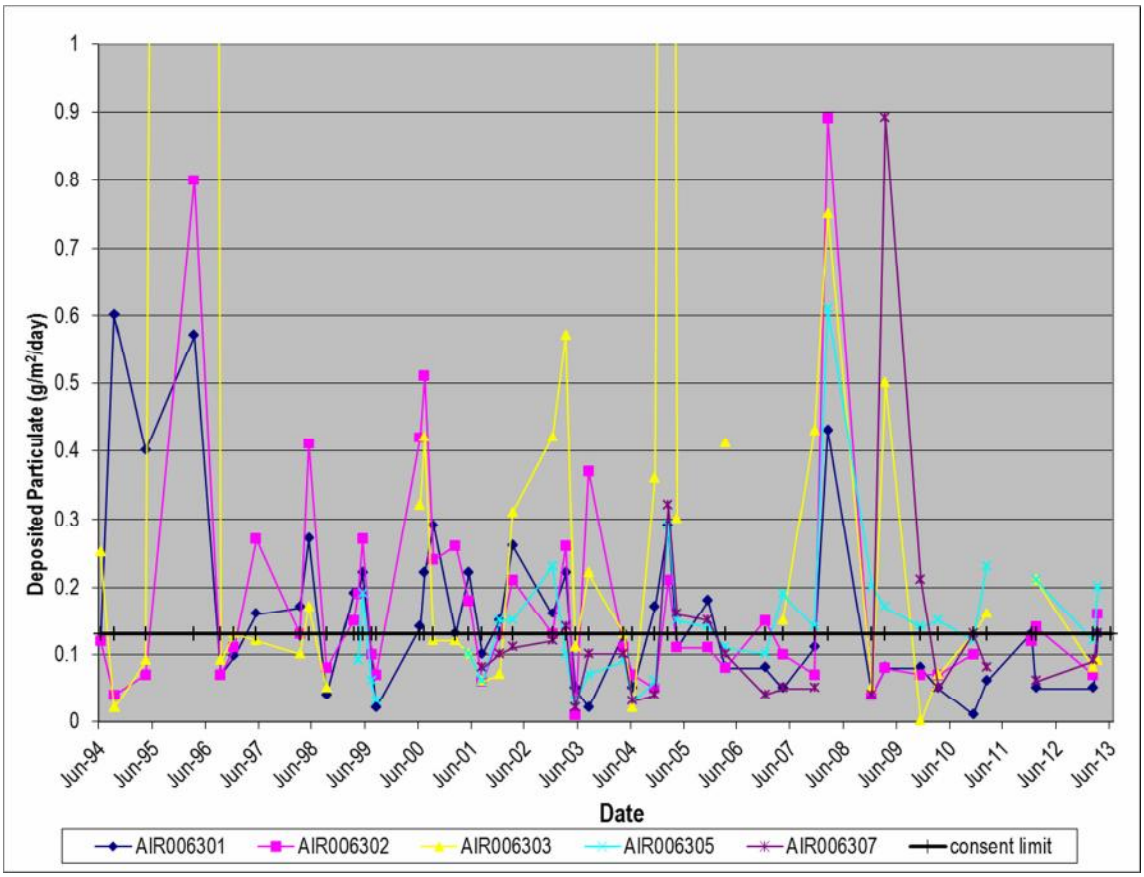

Figure 3 Deposition gauge results at Downer EDI Works monitoring sites (June 1994 – June 2013)

The results from the gaugings show that 20 percent of the samples collected during the 2012-2013 period were in excess of the particulate deposition rate guideline values adopted by Taranaki Regional Council (Figure 4).

There were no exceedances recorded during the January-February survey.

During the February-March survey the particulate deposition rates measured in the gauge north west of the asphalt plant, approximately 10 metres from the site entrance on Rifle Range Road (AIR006302) and the gauge east of the asphalt plant (AIR006305) were up to one and a half times the consent limit. The wind direction during this gauging period indicates that site AIR006302 was downwind of the Downer EDI Works Limited site for approximately 62 % of the time, and site AIR006305 was downwind of the Downer EDI Works Limited site for approximately 47 % 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 there was also a contribution noted from organic sources at site AIR006305 (Photo 1).

It is noted that there were no complaints received by Council in relation to dust issues from the Downer EDI site during the 2012-2013 year.

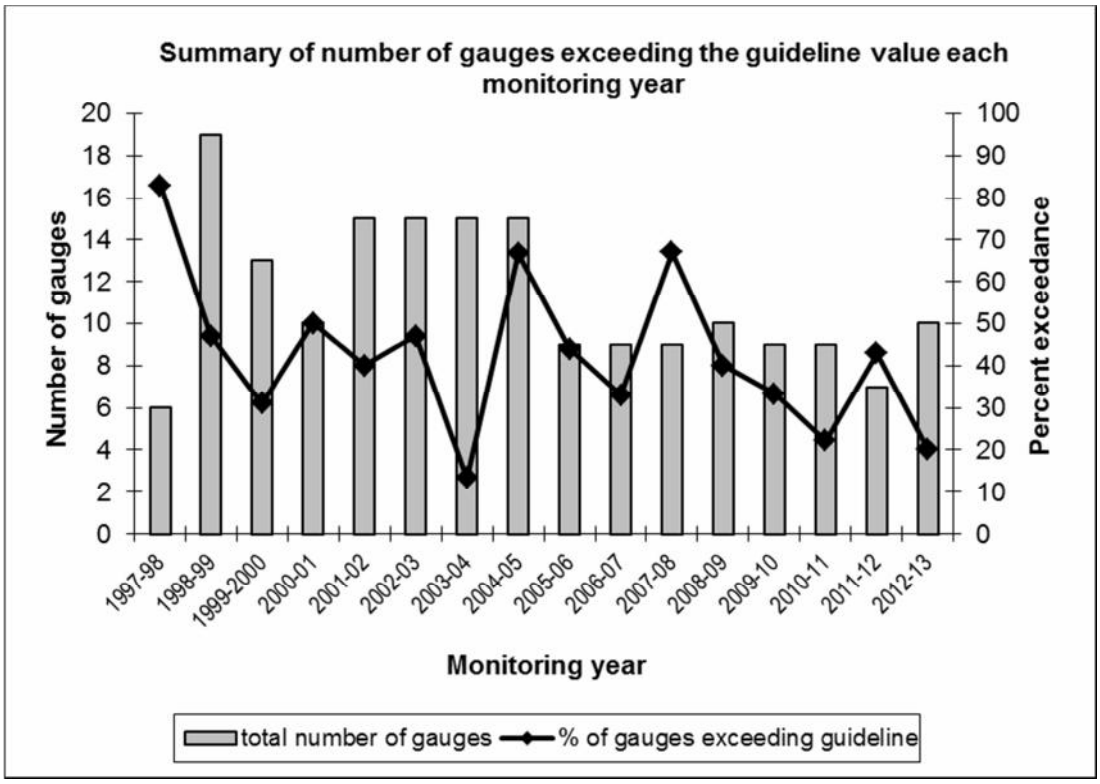

Figure 4 Summary of deposition gauge guideline exceedances in the vicinity of the Downer EDI Works site (July 1997-June 2013)

Statistical analysis of the data collected to 30 June 2013 found two statistically significant trends.

Of the statistically significant trends of decreasing particulate deposition rates at sites AIR006301 and AIR006302 that have been evident since the end of the 2009-2010 year, only the trend at site AIR006301 has continued (Figure 5).

The statistically significant trend of increasing particulate deposition rate at site AIR006305 that was reported on at the end of the 2009 to 2011 periods was again evident at the end of the 2012-2013 monitoring year (Figure 6).

The significant trend of increasing particulate deposition rate found for site AIR006307 at the end of the 2011-2012 monitoring year was found not to have continued at the end of the year under review.

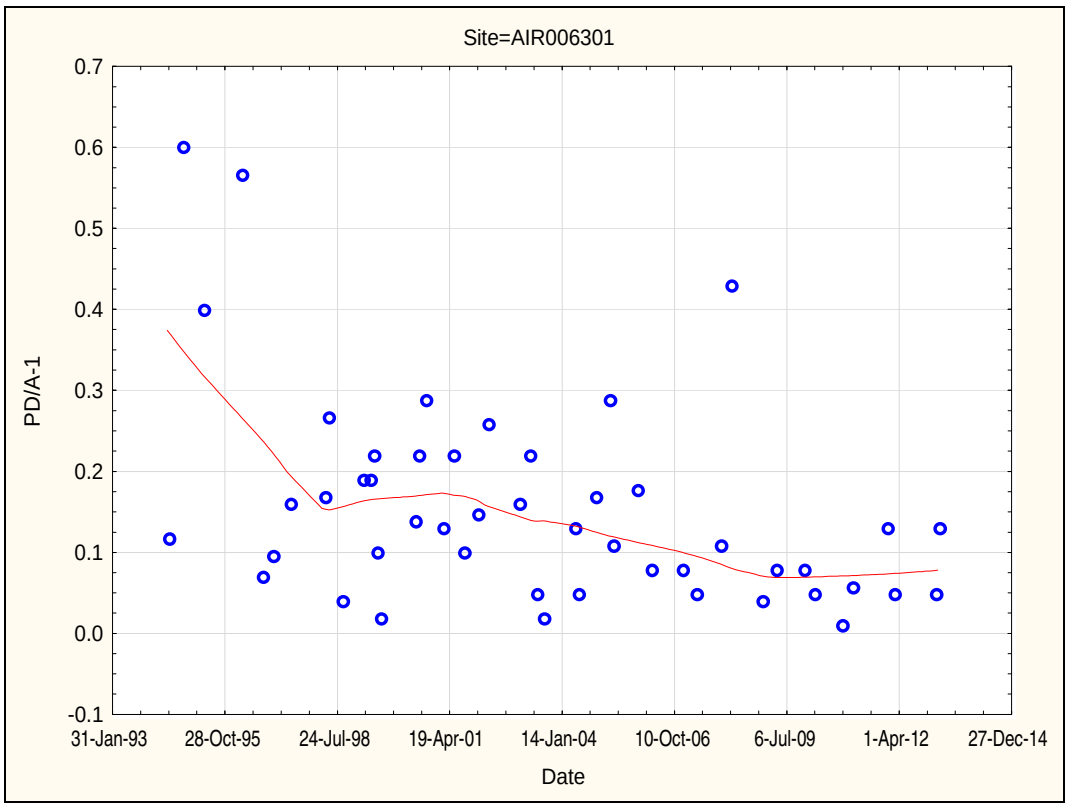

Figure 5 Particulate deposition rate trend at Downer EDI Works monitoring site AIR006301 (June 1994 – June 2013)

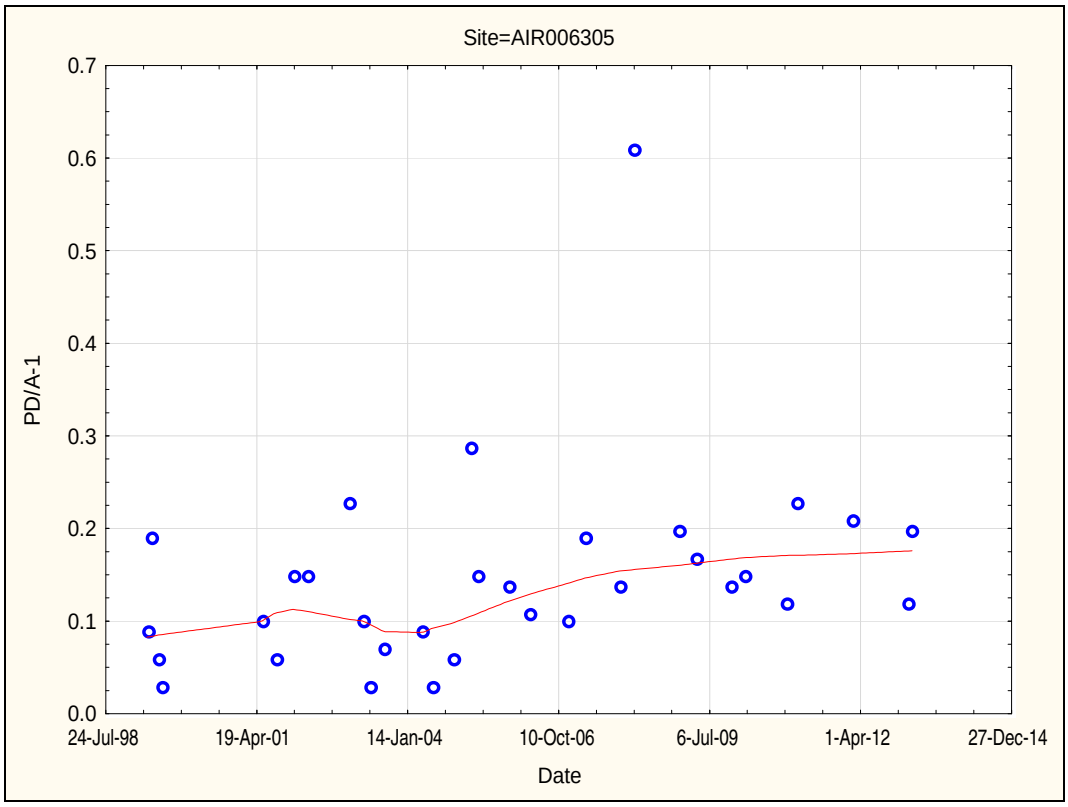

Figure 6 Particulate deposition rate trend at Downer EDI Works monitoring site AIR006305 (June 1994 – June 2013)

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
8. Treatment prior to gas discharge	Inspection found emissions captured and treated satisfactorily. Emissions monitoring due 1 June 2012 completed 25 July 2013	Yes
9. Stack emissions testing	Review of documentation provided to Council	**Monitoring due 1 June 2012 delayed until 25 July 2013.**
10. Definition of methodology to be used for stack emissions testing	Review of report provided	Yes
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 organic matter**
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

Condition requirement	Means of monitoring during period under review	Compliance achieved?
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 Taranaki Regional Council	Available on request	Yes
25. Maximum temperature in hotmix drum	Inspection and liaison with consent holder	Yes
26. Provides opportunity for review of conditions	Next opportunity for review of conditions June 2014	N/A
Overall assessment of consent compliance and environmental 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 sixth consecutive year, there was a technical non compliance with the consent relating to a delay in particulate emission monitoring. Although the Company kept Council informed regarding the delay, it is recommended that the Company start to seek an opportunity to undertake this required monitoring earlier in the monitoring year.

2.3.4 Recommendation from the 2011-2012 Annual Report

In the 2011-2012 Annual Report, it was recommended:

THAT monitoring of consented activities at the Downer EDI Works Limited site in the 2012-2013 year be amended from that undertaken in 2011-2012, by the omission of the 5 yearly NO_x monitoring, which is now next due in 2016-2017.

This recommendation was implemented in full.

2.3.5 Alterations to monitoring programmes for 2013-2014

In designing and implementing the monitoring programmes for air discharges in the region, the Taranaki Regional 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 2013-2014 the programme remains unchanged. A recommendation to this effect is attached to this report.

2.3.6 Exercise of optional review of consent

Resource consent 4060-4 provides for an optional review of the consent in June 2014. Condition 26 allows the Council to review the consent 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.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

A recommendation to this effect is presented in Section 2.4 of this report.

2.4 Recommendations

1. 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.

2. 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.

3. Fitzroy Engineering Group Limited

3.1 Introduction

3.1.1 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/m^3. 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 re-suspended 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.

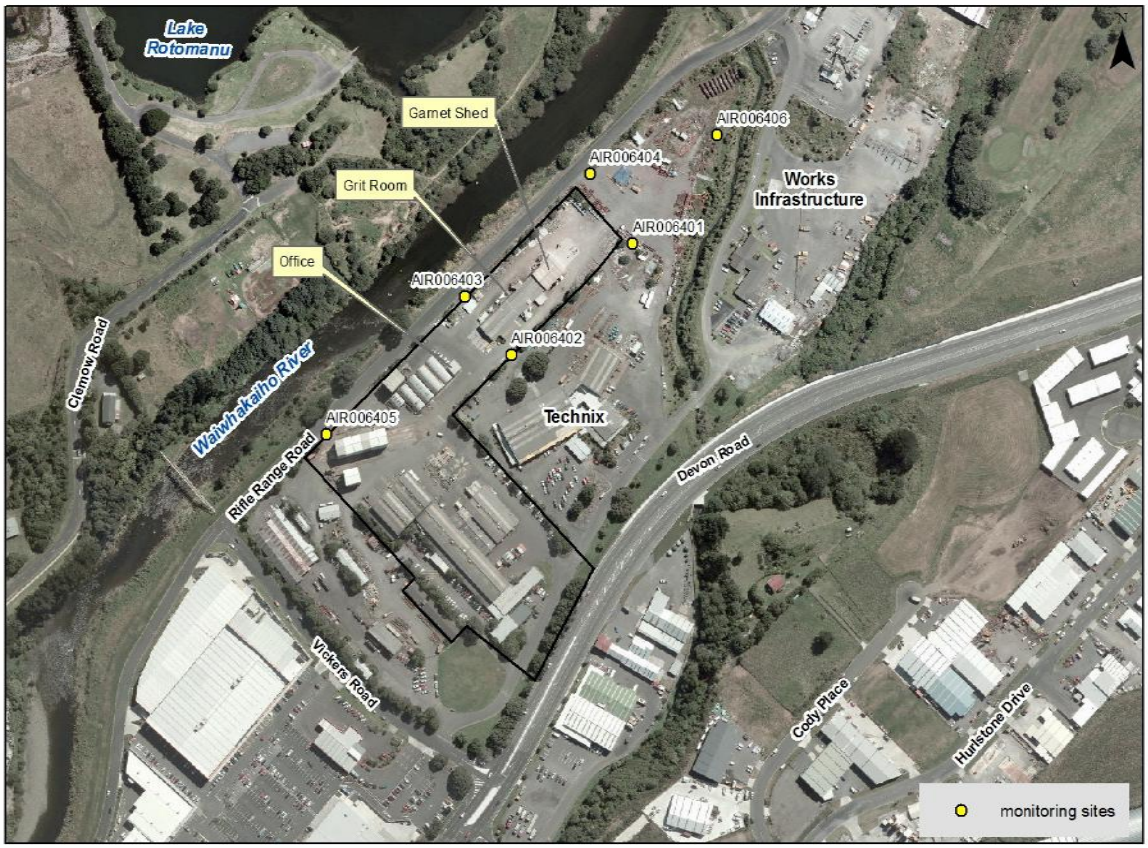

Figure 7 Fitzroy Engineering Group Limited site and deposition gauge locations

3.1.2 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 Taranaki Regional 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 basting 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 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.

3.2 Results

3.2.1 Inspections

This site was scheduled for four routine compliance monitoring inspections during the 2012-2013 year. Additional inspections are undertaken in relation to monitoring of the stormwater consent for the site, which is held by Technix Group Limited. For completeness, the findings of these inspections that relate to the area of the site operated by Fitzroy Engineering Limited are also reported here.

There is also provision for a further inspection of mobile blasting operations to be undertaken by Council. Council was not notified of any mobile blasting undertaken by Fitzroy Engineering Group Limited during the year under review.

3 October 2012
The site was inspected in fine and windy weather. The inspecting officer met onsite with the Company's Environmental Officer. At inspection, no odours or dust were found beyond the boundary of the site. It was noted that a water cart was on site at the time of inspection. Blasting was not occurring at the time of inspection, and the main doors were open as an item was being moved inside for blasting. It was reported that the new fans were working well to blow the garnet across to the extraction system. It was found that there was a small amount of garnet on the ground outside the main doors, but that the stormwater drains around the site were visually free of contaminants. The diesel tank bund area was clean and no spills were noted.

20 December 2012
The inspecting officer met onsite with the Company's Environmental Officer. It was found that there was no dust or other detectable emissions beyond the boundary of the property. No blasting was occurring at the time of inspection. The area at the rear doors of the blast shed was tidy, with only a very small amount of garnet on the ground. The stormwater drains around the site were visually clear of contaminants and the site was tidy. The area around the diesel bund was also tidy and no spills were noted

8 March 2013
It was reported that on retrieval of the deposition gauges, the Council Officer had a short conversation with the yard manager. It was noted that water sprinklers had been installed on Fitzroy Engineering's boundary. The suggestion was made by the Council Officer, that in the case of long term lease or purchase of the land, consideration should be given to the yard being properly sealed and hedges being planted on the perimeter of the occupied land.

5 April 2013
The inspecting officer met onsite with the Company's Environmental Officer. It was found that blasting was occurring at the time of inspection. There were emissions observed to be coming from the blast shed during the inspection. It was reported that a sprinkler system had been installed along the unsealed driveway

to minimise dust from this area. Stormwater drains around the site were visually free of contaminants, no spills were observed, and the site was tidy.

25 June 2013
The inspecting officer met onsite with the Company's Environmental Officer. No blasting was occurring at the time of inspection. It was reported that, although there were localised paint odours around the paint shed, no odours or emissions were found beyond the boundary of the property. The stormwater drains around the site were visually clear of contaminants, and the site was tidy.

3.2.1.1 Mobile blast inspections

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

3.2.2 Provision of company data

3.2.2.1 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 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 Council within 20 days of the testing.

Stack testing for the 2012-2013 year was undertaken on 9 May 2013. A copy of the report was received by Council on 27 May 2013. A summary of the results is as follows:

Sample 1:	36.8 mg/m^3
Sample 2:	39.7 mg/m^3
Sample 3:	60.1 mg/m^3
Average:	45.5 mg/m^3

These results indicate compliance with the limit of 125 mg/m^3 specified in condition 12.

3.2.3 Results of receiving environment monitoring

3.2.3.1 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 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 Taranaki Regional Council for dust deposition are 4g/m^2/30 days or 0.13g/m^2/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 was incorporated as a limit in the conditions of the consent when it was renewed on 21 November 2006.

The results for the year under review are given in Table 5, while the prevailing wind directions during the surveys are shown in Appendix II.

The monitoring showed that the deposited particulate was in excess of the Company's consent limit in six of the twelve gaugings collected during the 2012-2013 period. Only the samples collected from gauging location AIR006406 complied with the limit on both monitoring occasions.

Two gauges returned results above the consent limit for the January-February survey. These were at the southern boundary, south of the blasting enclose (AIR006402), and at the site alongside Rifle Range Road north east of the blasting enclosure (AIR006404). The filters from this deposition gauge survey are shown in Photo 2. At site AIR006404 there was very little dusty material collected, with the most significant contribution being from organic matter in the form of vegetation. In the case of AIR006402, the material collected was a very fine dust with the appearance of papa. The results for both of these sites were slightly above their respective historical medians.

At the time of the February-March survey the particulate deposition rates recorded for four of the six monitoring locations exceeded the Company's consent limit. With the exception of site AIR006403, there was very little, if any, contribution from organic matter. The material collected had an appearance consistent with that typically resuspended from metalled yards, rather than garnet blast debris (Photo 3).

Table 5 Deposition gauge results from around the Fitzroy Engineering site 2012-2013

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume Litres
					g/m²/day	g/m²/30day	
AIR006401	TRC134673	10-Jan-13 to 5-Feb-13	0.33	26	0.09	2.7	1.7
	TRC135220	12-Feb-13 to 8-Mar-13	0.16	24	**0.25**	**7.5**	0.4
	summary for data 1994-June 2012	min	0.15	20.9	0.04	1.2	3.7
		max	1.30	35.1	7.22	217	7.2
		median	0.37	27.9	0.22	6.6	6.1
		number	33	29	34	34	13
AIR006402	TRC134674	10-Jan-13 to 5-Feb-13	0.37	26	**0.18**	**5.4**	1.7
	TRC135221	12-Feb-13 to 8-Mar-13	0.16	24	0.13	3.9	0.2
	summary for data 1994-June 2012	min	0.10	20.9	0.06	1.8	0.1
		max	1.10	34.1	2.47	74	6.9
		median	0.37	27.9	0.15	4.5	1.7
		number	29	24	29	29	24
AIR006403	TRC134675	10-Jan-13 to 5-Feb-13	0.31	26	0.11	3.3	1.7
	TRC135222	12-Feb-13 to 8-Mar-13	0.25	24	**0.14**	**4.2**	0.3
	summary for data 1994-June 2012	min	0.11	20.9	0.03	0.9	0.1
		max	0.93	34	1.01	30	6.5
		median	0.44	27.9	0.16	4.8	1.8
		number	30	25	34	34	25
AIR006404	TRC134676	10-Jan-13 to 5-Feb-13	0.28	26	**0.19**	**5.7**	1.5
	TRC135223	12-Feb-13 to 8-Mar-13	0.24	24	**0.24**	**7.2**	0.3
	summary for data 1994-June 2012	min	0.11	20.9	0.02	0.6	0.1
		max	0.95	35.1	1.54	46	6.7
		median	0.36	27.9	0.14	4.2	1.9
		number	33	29	36	36	28
AIR006405	TRC134677	10-Jan-13 to 5-Feb-13	0.33	26	0.09	27	1.3
	TRC135224	12-Feb-13to 8-Mar-13	0.16	24	**0.15**	**4.5**	0.2
	summary for data 1994-June 2012	min	0.09	20.9	0.02	0.6	0.2
		max	1.00	35.1	2.13	64	6.8
		median	0.30	27.9	0.13	3.9	1.6
		number	32	29	33	33	27
AIR006406	TRC134678	10-Jan-13 to 5-Feb-13	0.42	26	0.10	3.0	1.2
	TRC135225	12-Feb-13 to 8-Mar-13	0.32	24	0.13	3.9	0.4
	summary for data 2004-June 2012	min	0.12	1.85	0.34	16	0.12
		max	17.7	35.1	26.9	21	17.7
		median	0.01	0.19	0.08	16	0.01
		number	0.3	5.7	2.4	16	0.3

Key: Bold – indicates result above guideline values adopted by Taranaki Regional Council, and consent limit

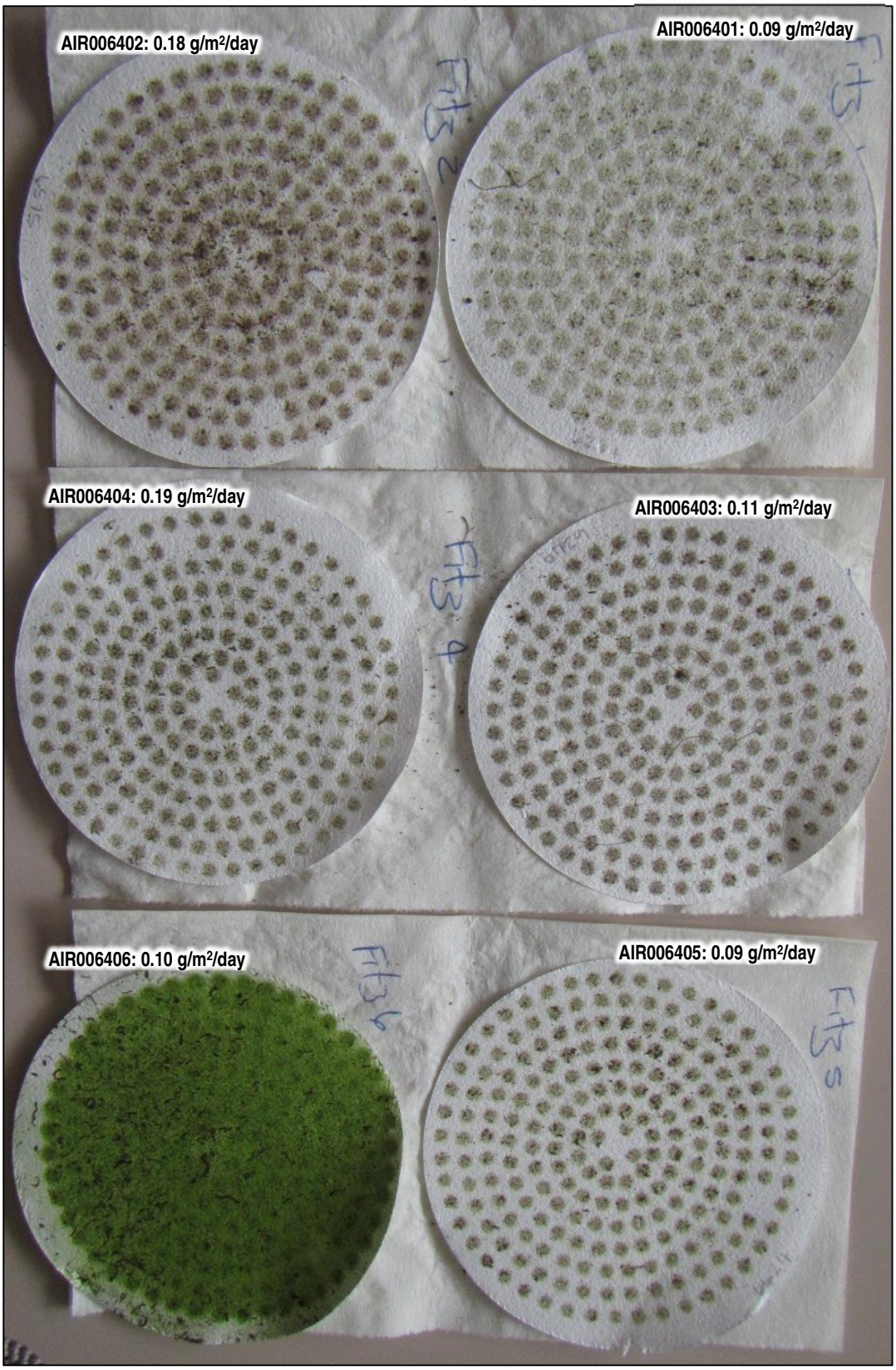

Photo 2 Filters from the Fitzroy Engineering deposition gauge survey January-February 2013

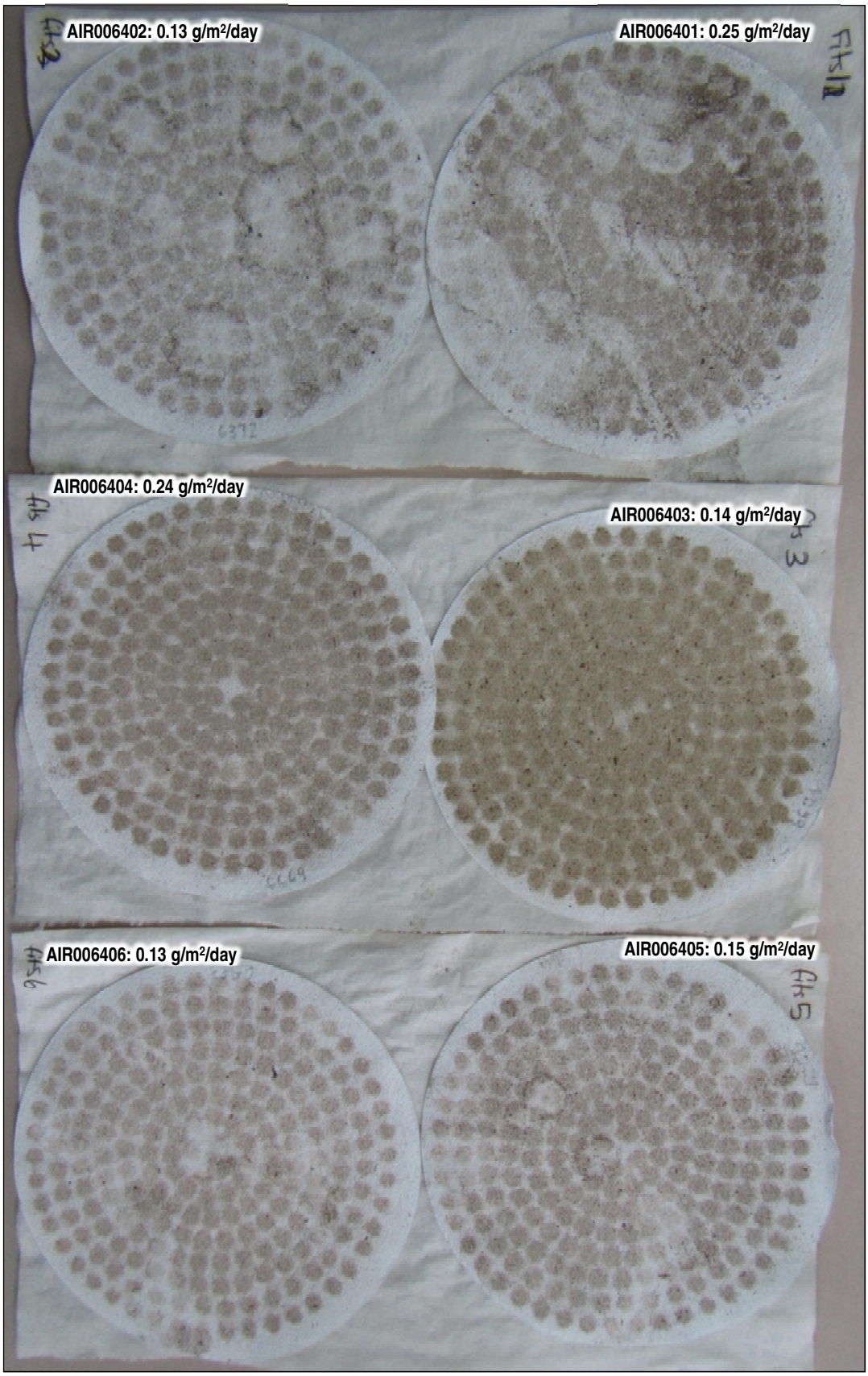

Photo 3 Filters from the Fitzroy Engineering deposition gauge survey February-March 2013

3.2.4 Investigations, interventions, and incidents

In the 2012-2013 year, it was necessary for the Council to undertake an additional investigation and record one incident in respect of the site operated by Fitzroy Engineering Group Limited, as a result of a self notification of a spill that occurred due to the activities of a drilling company utilising part of the Fitzroy Engineering Group Limited site.

13 July 2012

Investigation found that oil had spilled from a process unit, in a bunded area, on the yard. The oil had been contained before it reached stormwater. Sawdust and sand had been applied to soak up the oil. Trans Pacific were contacted to remove any remaining oil from within the unit. Council were provided with a copy of Fitzroy Engineering Group Limited's internal investigation, which made recommendations to the Company responsible for the spill to prevent a reoccurrence.

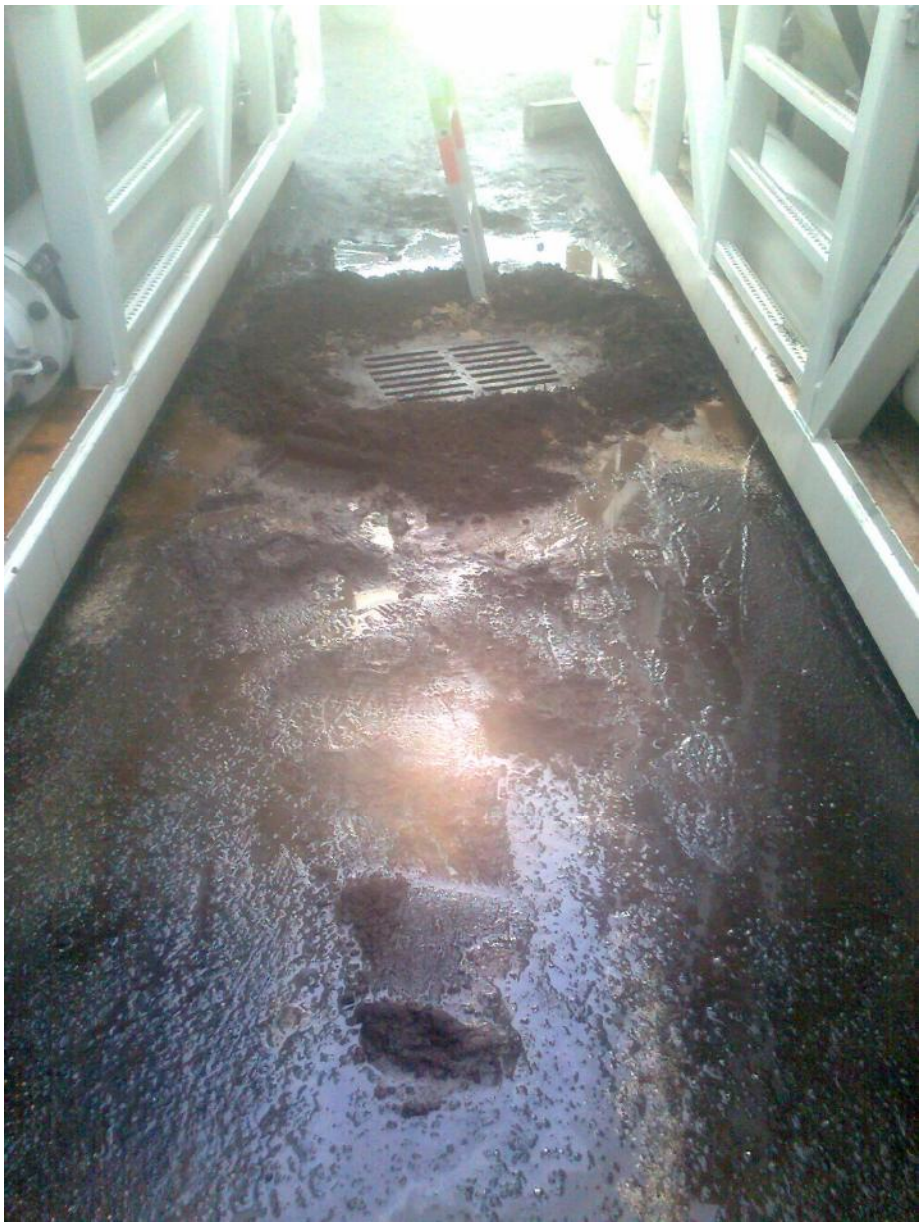

Photo 4 Containment of spill at Fitzroy Engineering Group Limited's site, 13 July 2012

3.3 Discussion

3.3.1 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 inspection found that the blast booth and ducting appeared to be well maintained. Visible emissions were noted on one inspection, but it was not assessed as being non-compliant with the permitted particulate emission concentration.

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 re-suspended dust from the metalled yard. During the year under review it was found that there was a water truck on site, and that a sprinkler system had been installed. No issues with the resuspension of yard dust were noted at inspection, however the deposition gauge results from the February – March survey indicated that this may have contributed to the exceedance of the Company's deposition rate limit at four of the monitoring locations.

There was very little accumulated blasting debris found at inspection indicating that the improved focus on the clean-up of this material requested during the previous monitoring period had been achieved in the year under review.

During the year under review there were no complaints received by Council relating to dust emissions or off site odours from the site. There was one self notified incident relating to an oil spill by a third party at the site. The spill was contained and cleaned up satisfactorily.

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 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.

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 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).

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 limit of 0.13 g/m²/day was incorporated as a condition of the Company's consent on 21 November 2006.

Deposition gauging was conducted for the 36th and 37th time during the 2012-2013 monitoring year around the Fitzroy Engineering site.

The results from the gaugings found that six of the twelve samples collected during the 2012-2013 period were in excess of the Company's consent limit. The deposition gauge results from June 2000 to date are shown in Figure 8.

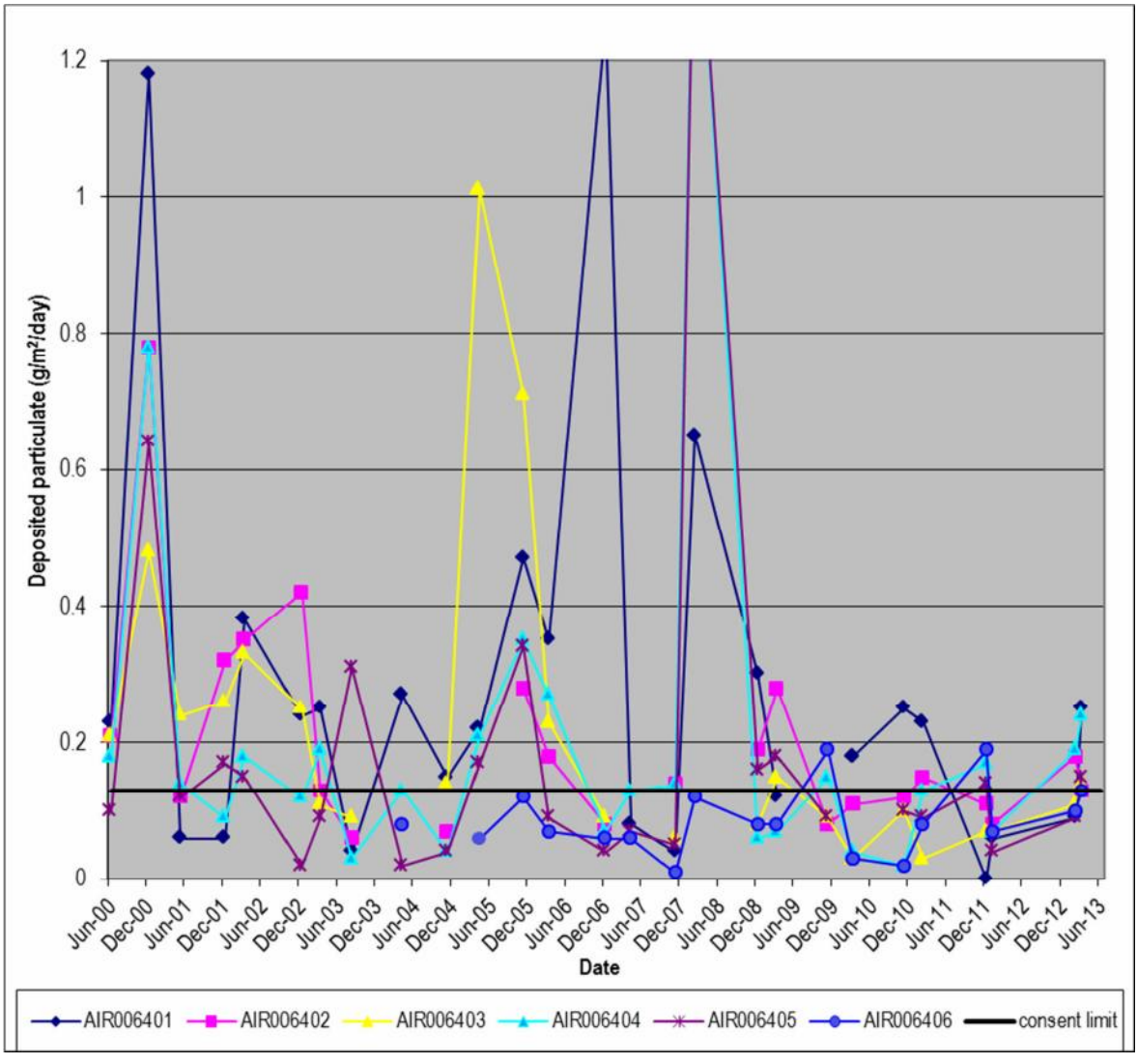

Figure 8 Deposition gauge results at Fitzroy Engineering's monitoring sites (June 2000 – June 2013)

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-February survey there were two gauging locations at which the deposited particulate limit was exceeded. These were at the southern boundary, south of the blasting enclosure (AIR006402), and at the site alongside Rifle Range Road north east of the blasting enclosure (AIR006404). At site AIR006404 there was a significant contribution from vegetation. The material collected at site AIR006402 was very fine, leaving a muddy looking residue with a papa like appearance. This monitoring location was downwind of the activities of Fitzroy Engineering Group Limited for about 53.4% of the gauging period, however it is noted that such fine material can be carried quite a distance, and its appearance is not particularly consistent with known dust sources at the site.

The wind directions during the February-March survey were quite variable with the wind from the north east round to the east (43%of the time), and from the south west to the south for 34% of the time. The strongest winds were from the west. It is noted that this gauging period was predominantly dry, with only 8.5 mm of rain that all fell on one day. The gauging shows that under these conditions, , there is the potential for off site effects from the resuspension of dust from the yard areas at the Fitzroy Engineering Group Limited site, although no dust complaints were received by Council. On retrieval of the deposition gauges from this survey, the Council Officer was informed that a sprinkler system had been installed at the site. However the deposition gauge results show that the system was either not effective, or not used effectively during the gauging period. At the time of the retrieval of the gauges, the Officer suggested to the Company that in the case of long term lease or purchase of the land, consideration should be given to the yard being properly sealed and hedges being planted on the perimeter of the occupied land.

Although there were particulate deposition gauge exceedances observed during the year under review, and further improvement is desirable, improvements in this aspect of the Company's environmental performance are occurring. Statistical analysis of the deposition gauge data collected to 30 June 2013 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 9), AIR006403 on Rifle Range Road, west of the blast booth (Figure 10), and at AIR006405, located near the western corner of the site adjacent to Rifle Range Road (Figure 11).

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 year.

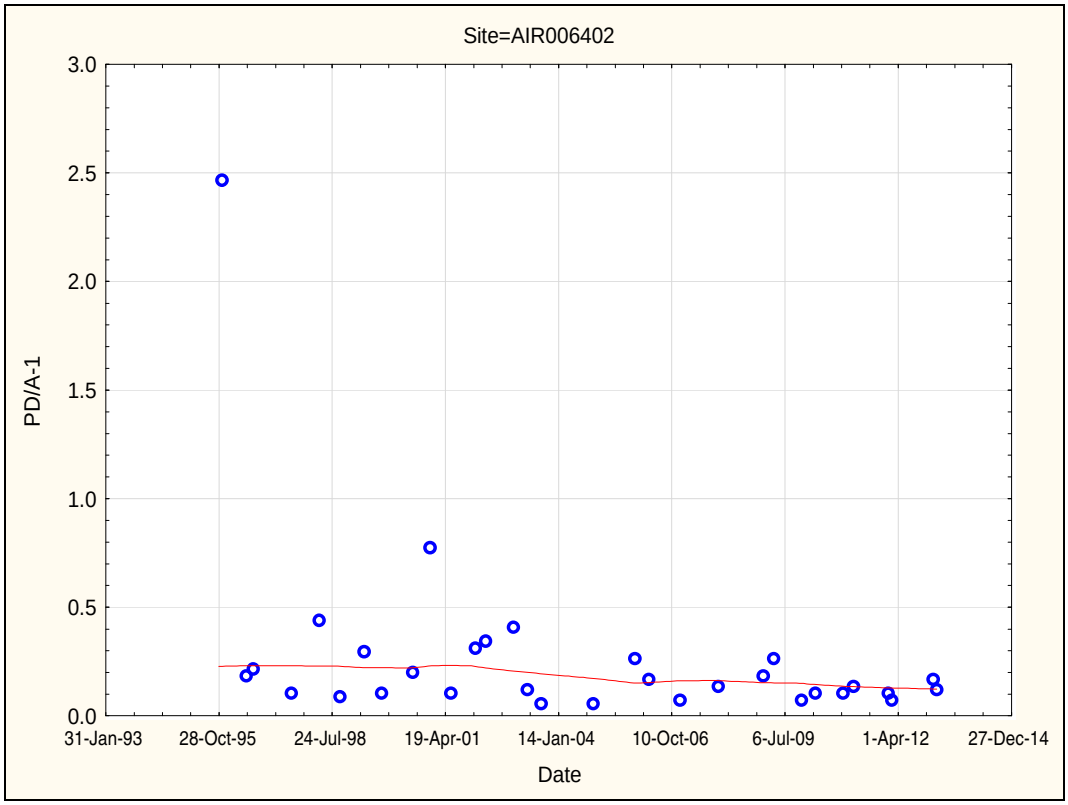

Figure 9 Particulate deposition rate trend at Fitzroy engineering Group Limited site AIR006402 (March 1994 – June 2013)

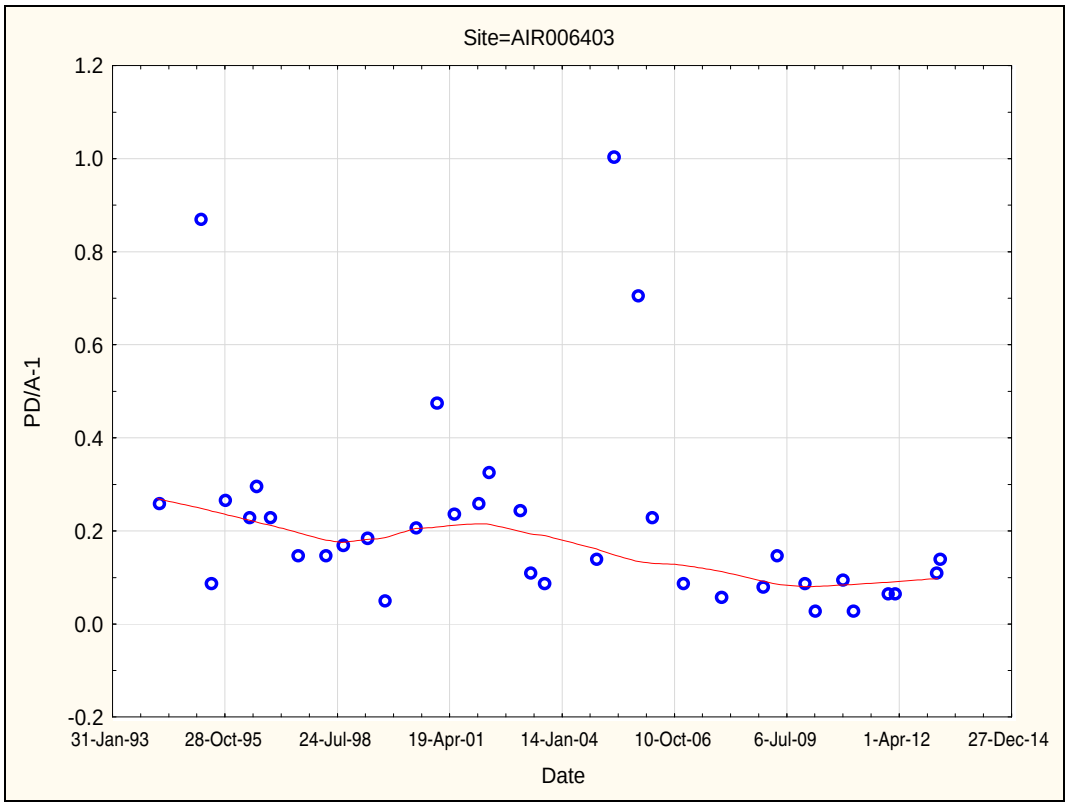

Figure 10 Particulate deposition rate trend at Fitzroy engineering Group Limited site AIR006403 (March 1994 – June 2013)

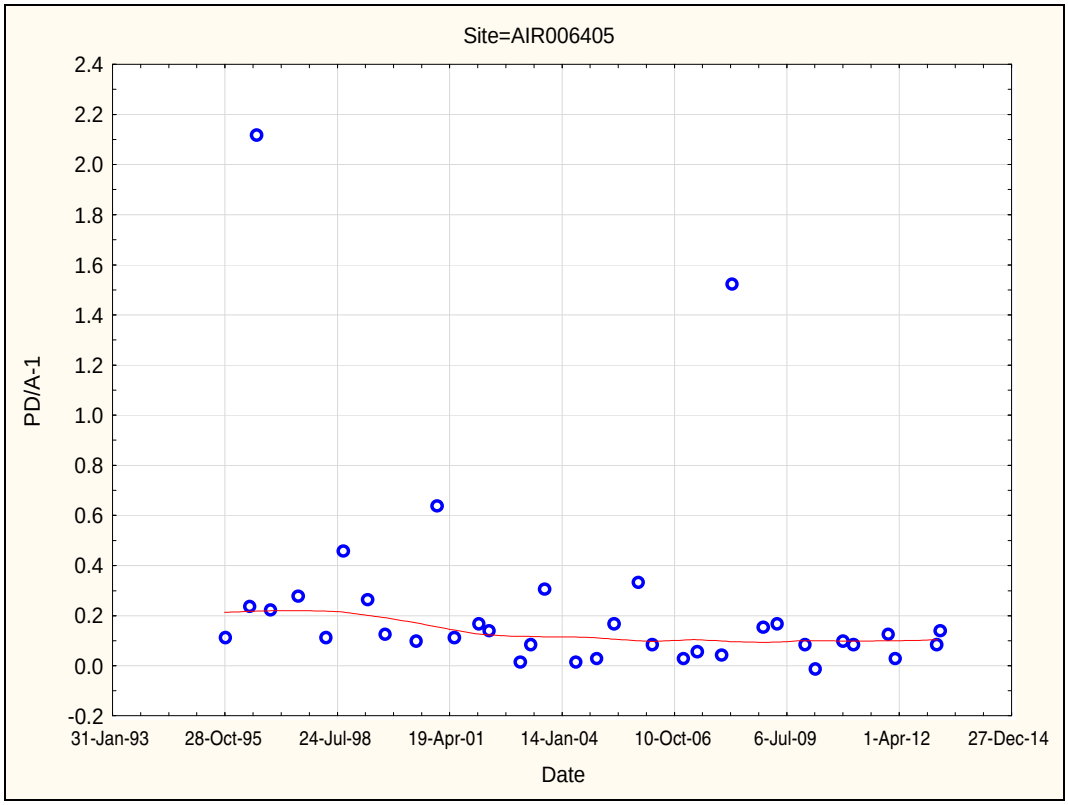

Figure 11 Particulate deposition rate trend at Fitzroy engineering Group Limited site AIR006402 (October 1995 – June 2013)

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 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.	**Improved control of yard dust desirable**
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

Condition requirement	Means of monitoring during period under review	Compliance achieved?
All operations		
6. Clearance of blasting material	Inspection	Yes
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	**Six of twelve gauges above limit contribution from organic matter in one gauge**
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	Review of plan requested in light of findings at inspection in 2008-2009 year. Updated plan received in 2009-2010 year. Awaiting further plan revisions based on Council's comments.	**In progress**
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.	**Control measures effective, when used frequently enough**
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	Receipt of notifications, 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

Condition requirement	Means of monitoring during period under review	Compliance achieved?
All operations		
22. Meeting to be held between consent holder, Landlord and Council unless agreed not to	Target for the timing of meeting is approximately August of each year.	Yes
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	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	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		**Good**

N/A = not assessed/not applicable

During the year, Fitzroy Engineering Group Limited generally demonstrated a good level of environmental performance as defined in Section 1.1.5. Although there were some non compliances with consent, no significant adverse effects were noted as a result. Improvements in the control of dust being resuspended from the yard surfaces is desirable.

3.3.4 Recommendation from the 2011-2012 Annual Report

In the 2011-2012 Annual Report, it was recommended:

THAT monitoring of the consented activities of Fitzroy Engineering Group Limited in the 2012-2013 year continues at the same level as in 2011-2012.

This recommendation was implemented.

3.3.5 Alterations to monitoring programmes for 2013-2014

In designing and implementing the monitoring programmes for air discharges in the region, the Taranaki Regional 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 2013-2014 the monitoring programme associated with the activities of Fitzroy Engineering Group Limited remains unchanged. A recommendation to this effect is attached to this report.

3.3.6 Exercise of optional review of consent

Resource consent 4025-3 provides for an optional review of the consent in June 2014. Condition 31 allows the Council to review the consent, if there are grounds 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.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

A recommendation to this effect is presented in Section 3.4 of this report.

3.4 Recommendations

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

2. THAT the option for a review of resource consent 4025-3 in June 2014, as set out in condition 31 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

4. Katere Surface Coatings Limited

4.1 Introduction

4.1.1 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 12.

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.

2012-2013 was the twenty second 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 12 Location of Katere Surface Coatings Limited and deposition gauge sites

4.1.2 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 Taranaki Regional Council on 9 February 1994 as a resource consent under Section 87(e) of the Resource Management Act 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 Taranaki Regional 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.

4.2 Results

4.2.1 Inspections

4.2.1.1 Site inspections

2 August 2012

The inspecting officer met onsite with the Site Manager, following the receipt of notification relating to planned yard blasting. A discussion was undertaken regarding the work to occur on the large vessel in the yard. The consent conditions for work that occurs in the yard were discussed. The inspecting officer was advised that it was going to be internally water blasted and coated (using an airless spray unit). The water was to be contained and disposed of appropriately. It was reported that no discharge of contaminated water shall occur to stormwater. The consent holder stated that if any blasting needed to be undertaken in the vessel, the garnet would be contained by a means of screens around the bottom of the vessel. The Council was notified of the work to be undertaken via the work notifications email address, as per the requirements of special condition 13 of the Company's consent.

17 August 2012

The inspecting officer met onsite with the Company owner. No dust or odours were found beyond the boundary of the property. It was found that the new extraction system on the blast shed was being installed that day, and no blasting was occurring at the time of inspection. It was noted that the doors were closed on the new paint shed, and the inspecting officer was informed that the extraction/filter system was to be installed in this area within 2 weeks. It was reported that the area around the blast shed was to be concreted as soon as the weather allowed. The Company was asked to clean up the garnet around the blast shed.

15 November 2012

No dust or odours were found beyond the boundary of the property. Blasting was being undertaken during the inspection. The new extraction system had been installed and was working well. It was observed that there was still a lot of garnet around the rear doors of the blast shed. It was reported that the new filter systems for the new paint shed also appeared to be working well.

At the end of the inspection the Company was instructed to clean up garnet at the rear of the blast shed.

2 April 2013

There was no dust or odours found beyond the boundary of the property. Blasting was occurring at the time of inspection, and it was noted that no visible emissions could be seen from the blast shed. It was noted that there was still some garnet around the doors of the shed that should be cleaned up. At the time of inspection the stormwater drains around the site looked satisfactory, but the Company was reminded to ensure no tracking of garnet results in it entering the stormwater system. It was considered that the site was generally tidy.

10 June 2013

Blasting was occurring at the time of inspection, and it was reported that there were no emissions visible from the blast shed. The extraction system looked to be working well. The Company was instructed that the garnet at the rear of the blast shed needed to be cleaned up. The stormwater drains around the site looked satisfactory at the time of inspection. No painting was occurring at the time of inspection, and no odours or dust were found beyond the boundary of the property. It was considered that the site was generally tidy.

4.2.1.2 Mobile blast inspections

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

4.2.2 Results of receiving environment monitoring

4.2.2.1 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 Taranaki Regional Council for dust deposition are 4g/m^2/30 days or 0.13g/m^2/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 12, and the results of the 2012-2013 gauging surveys are given in Table 7. The prevailing wind directions during the surveys are shown in Appendix II.

Table 7 Deposition gauge results from around the Katere Surface Coatings site 2012-2013

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume Litres
					g/m²/day	g/m²/30day	
AIR009303	TRC134595	10-Jan-13 to 5-Feb-13	0.39	26	0.13	3.9	1.7
	TRC135242	12-Feb-13 to 8-Mar-13	0.79	24	**0.28**	**8.4**	0.4
	New monitoring sites 2010-2011	min	0.28	20.9	0.11	3.3	0.55
		max	1.2	27.1	0.32	9.6	2.5
		median	0.82	21.1	0.24	7.2	0.98
		number	4	4	4	4	4
AIR009304	TRC134596	10-Jan-13 to 5-Feb-13	0.32	26	**0.15**	**4.5**	1.7
	TRC135243	12-Feb-13 to 8-Mar-13	0.35	24	**0.29**	**8.7**	0.4
	New monitoring sites 2010-2011	min	0.28	20.9	0.13	3.9	0.24
		max	3.72	27.1	0.50	15	1.83
		median	0.38	21.1	0.22	6.6	1.5
		number	4	4	4	4	4

Key: Bold – indicates result above consent limit given in special condition 11.

Again, the consent limit was exceeded in three of the four gauges collected during the 2012-2013 year.

The material collected at both sites during January-February gauging survey contained a significant amount of organic matter (algae, worms and vegetation), which would have contributed to the particulate deposition rates recorded (Photo 5), and no doubt the marginal exceedance at site AIR009304 during this survey.

However, the material collected at both sites during the February-March survey is brown, gritty and contained very little in the way of organic matter (Photo 6). This is consistent with dust off a metalled yard, re-suspended by traffic movements and wind.

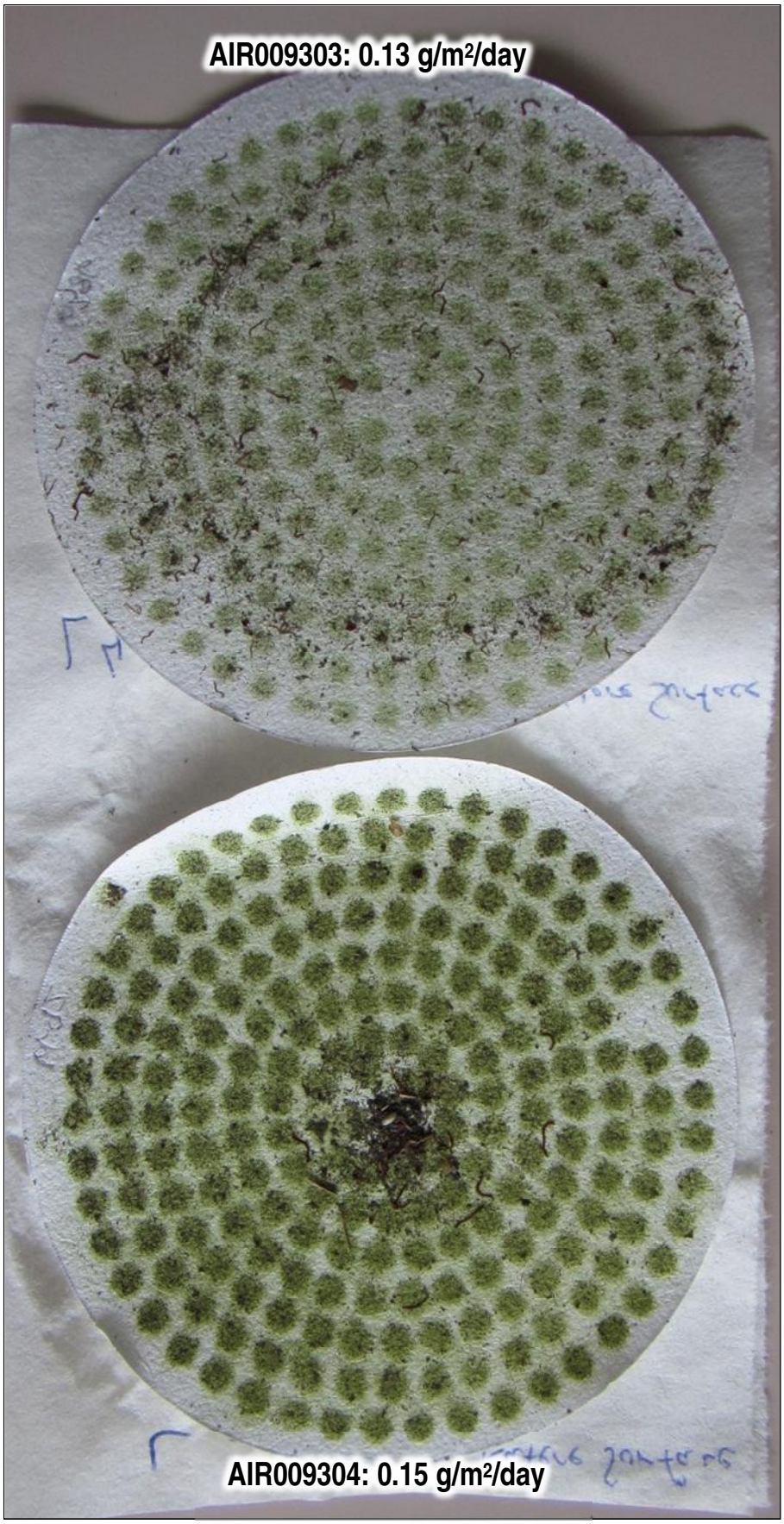

Photo 5 Filters from the Katere Surface Coatings deposition gauge survey January-February 2013

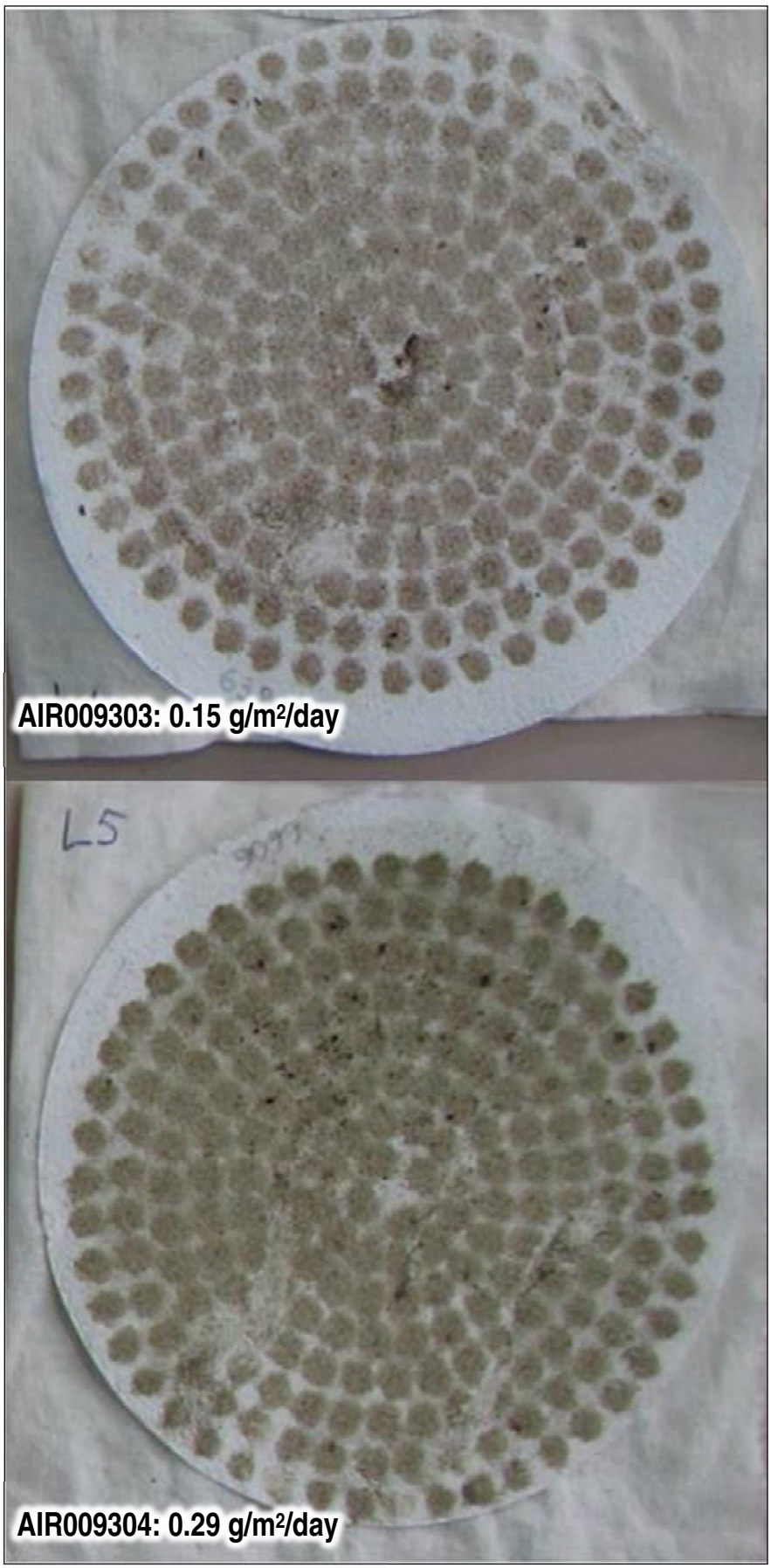

Photo 6 Filters from the Katere Surface Coatings deposition gauge survey February-March 2013

4.2.3 Investigations, interventions, and incidents

In the 2012-2013 year, it was not necessary for the Council to undertake significant additional investigations and interventions, or record incidents, in association with Katere Surface Coating's conditions in resource consents or provisions in Regional Plans in relation to the Company's activities during the monitoring period.

4.3 Discussion

4.3.1 Discussion of site performance

In contrast to the two previous monitoring periods, there were no complaints received in relation to the Company's activities during the 2012-2013 year.

Substantial improvements were made at the site in relation to the treatment system for both the blast booth and the paint shed, which have resulted in significant reductions in emissions from the site.

Garnet was observed on the ground in the vicinity of the blast booth on all four routine monitoring inspection, which the Company was instructed to clean up. This is potentially 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 wind during dry periods, or washed into the stormwater system during rain.

Although one marginal exceedance of the deposited particulate limit was recorded for the January-February survey, this was attributable to organic matter. However, the consent limit was exceeded at both gauging locations during the February-March survey, and these exceedances were due to yard dust.

4.3.2 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/m^2/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m^2/30 days. From experience, rates above 3-4 g/m^2/30 days tend to lead to complaints by neighbours over the

objectionable or offensive nature of dust emissions from particular sources. The Council guideline limit of 0.13 g/m^2/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, due to the exceedance of the boundary suspended particulate concentrations found during the 2009-2010 year, and the inclusion of a deposited particulate limit on the renewed consent, deposition gauging was conducted around the Katere Surface Coatings permanent site for the 5th and 6th time during the 2012-2013 monitoring year.

The particulate deposition rate was exceeded in three of the four gauges deployed during the year under review. However in contrast to the previous monitoring period, during the year under review there were no complaints received regarding dust impacting beyond the boundary of the property. The appearance of the deposited material collected during January-February survey was predominantly of organic origin, however the deposited material collected during the February-March survey was consistent with that of dust being generated from the gravelled yard. It is noted that during this survey there was only 8.5 mm of rain, which all 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 year under review was effective in preventing the odour and overspray issues that resulted in a number of complaints during the previous monitoring year.

The results of the 2012-2013 monitoring indicate that during this period there were no significant adverse effects occurring as a result of Katere Surface Coatings activities.

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 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	Yes
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 to have escaped the blast booth on four inspection**
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, 1 of which was due to organic matter**
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 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 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		**Good**

During the year, Katere Surface Coatings Limited generally demonstrated a good level of environmental performance and compliance with their resource consent as defined in Section 1.1.5, however an improvement in the clean up of spent blasting media is desirable.

4.3.4 Recommendation from the 2011-2012 Annual Report

In the 2011-2012 Annual Report, it was recommended:

THAT monitoring of consented activities of Katere Surface Coatings in the 2012-2013 year continues at the same level as in 2011-2012.

This recommendation was implemented.

4.3.5 Alterations to monitoring programmes for 2013-2014

In designing and implementing the monitoring programmes for air discharges in the region, the Taranaki Regional 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 2013-2014 the monitoring remains unchanged. A recommendation to this effect is attached to this report.

4.3.6 Exercise of optional review of consent

Resource consent 4475-2 provides for an optional review of the consent in June 2014. Condition 21 allows the Council to review the consent, if there are grounds, 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.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

A recommendation to this effect is presented in Section 4.4 of this report.

4.4 Recommendations

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

2. 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.

5. Ravensdown Fertiliser Co-operative Limited

5.1 Introduction

5.1.1 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 with in 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 re-suspended 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 13 Ravensdown Fertiliser Co-operative Limited site and deposition gauge locations

5.1.2 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 Taranaki Regional 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 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).

5.2 Results

5.2.1 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.

24 September 2012

The site was inspected in a gentle north westerly breeze. At inspection it was found that there was no evidence of significant amounts of stored material to be escaping through the walls of the stores, with the exception of the material on the concrete area between Rock Store 1 and the Mangaone Stream. The north western wall of the Southern Star building looked to have been damaged recently possibly by being hit with the loaders used inside the store. There was only a minor amount of widely dispersed product observed in a few areas of the stormwater catchment. It was outlined that a sweeper had been contracted to sweep the entire site the previous week. The inspecting officer was informed that this is always done after a product shipment arrives, if the intake is undertaken during wet weather and there has been tracking from the stores. Otherwise the Company's own sweeper is used on an as required basis to address minor spills.

Rapid doors had been fitted to the door into alongside No 2 store. Staff stated that this had made a huge difference in reducing the wind tunnel effect that could result in discharges from the store in windy conditions. No air discharges were observed from any of the stores at the time of inspection.

Localised intermittent odours were noted on the northern side of the Rock Store building, and it was noted that there was a small amount of podded dark coloured liquid in this area.

7 February 2013

The inspecting officer was met on site by the site Manager. No dust or odours were found beyond the boundary of the property. There were a couple of small spills of urea and palm kernel on site and the inspecting officer was informed that these would be cleaned up that day. It was reported that a wheat silo was going to be installed at the rear of the site. The lime store (old phosphate rock store) had been emptied, and it was reported that the building would be demolished in the near future. The rear of this store would be built up to match the level of the front half of the store. It was observed that there was still lime on the concrete pad

behind the store (along side Katere Road. The inspecting officer was advised that this would be removed this month.

27 June 2013
The site was inspected in overcast weather after recent showers. No odour or dust was found beyond the boundary of the property.

5.2.2 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 re-suspended 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 13. Their locations are described in Table 9. Material from the gauges was analysed for solid particulates, dissolved reactive phosphorus, particulate phosphorus, and conductivity. The deposition survey results for the 2012-2013 monitoring period are presented in Table 10 together with a summary of historical results for comparison. The prevailing wind directions during the surveys are shown in Appendix II.

Table 9 Description of Ravensdown deposition gauge sample sites

Site Code	Location description
AIR006221	On the banks of the Waiwhakaiho 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 Taranaki Regional Council for dust deposition are 4g/m^2/30 days or 0.13g/m^2/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 2012-2013 monitoring period one of the eleven gauges analysed exceeded the Company's consent limit of 0.13 grams per square metre per day.

Table 10 Deposition gauge results from around the Ravensdown Fertiliser site 2012-2013

Site	Sample	Date	Conductivity mS/m/day	No. of days	Deposited particulate		Volume litres	Dissolved reactive phosphorus mg/m²/day	Particulate phosphorus mg/m²/day	Total deposited phosphorus mg/m²/day
					g/m²/day	g/m²/30day				
AIR006221	TRC134684	10-Jan-13 to 5-Feb-13	0.35	26	0.03	0.9	0.8	0.22	0.135	0.355
	TRC135231	12-Feb-13 to 8-Mar-13	0.43	24.2	0.05	1.5	0.5	0.18	0.211	0.391
	summary for data 1994-June 2012	min	0.16	20.9	<0.01	<0.3	0.17	0.005	0.045	0.050
		max	1.20	35.1	0.13	3.9	4.85	4.70	1.10	5.80
		median	0.31	27.9	0.04	1.2	1.01	0.15	0.19	0.34
		number	22	22	22	22	22	22	12	12
AIR006222	TRC134681	10-Jan-13 to 5-Feb-13	0.40	26	**0.26**	**7.8**	1.5	0.11	2.05	2.16
	TRC135228	12-Feb-13 to 8-Mar-13	0.38	24.1	**0.28**	**8.4**	0.3	0.98	2.46	3.44
	summary for data 1994-June 2012	min	0.22	21	0.04	1.2	0.22	0.035	0.589	0.624
		max	1.5	35.1	0.36	10.8	5.45	5.3	3.24	8.54
		median	0.56	28	0.14	4.2	1.5	1.4	0.99	2.39
		number	22	22	22	22	22	22	12	12
AIR006224	TRC134685	10-Jan-13 to 5-Feb-13	0.46	26	0.09	2.7	1.8	0.47	0.441	0.911
	TRC135232	12-Feb-13 to 8-Mar-13	0.47	23.8	0.11	3.3	0.7	0.10	0.575	0.675
	summary for data 1994-June 2012	min	0.036	20.8	0.01	0.3	0.2	0.005	0.15	0.155
		max	1.87	35	0.13	3.9	5.8	3.08	0.587	3.67
		median	0.38	27.9	0.06	1.8	2	0.16	0.31	0.47
		number	20	22	20	20	20	20	10	10
AIR006225	TRC134683	10-Jan-13 to 5-Feb-13	0.34	26	0.12	3.6	1.1	<0.01	0.674	<0.684
	TRC135230	12-Feb-13 to 8-Mar-13	0.26	24	0.13	3.9	0.3	0.31	0.478	0.788
	summary for data 1994-June 2012	min	0.092	20.9	0.01	0.3	0.12	0.005	0.303	0.092
		max	1.30	35.1	0.83	24.9	5.66	3.54	1.86	1.3
		median	0.34	28	0.09	2.7	1.42	0.53	0.43	0.34
		number	21	22	21	21	21	21	11	21
AIR006226	TRC134686	10-Jan-13 to 5-Feb-13	0.30	26	0.07	2.1	1.3	0.13	0.159	0.289
	TRC135233	12-Feb-13 to 8-Mar-13	0.33	24.1	0.13	3.9	0.4	0.06	0.238	0.298
	summary for data 1994-June 2012	min	0.032	21	0.02	0.60	0.20	0.003	0.12	0.123
		max	1.67	35.1	0.33	9.9	5.44	1.88	0.55	2.43
		median	0.28	27.9	0.08	2.4	1.29	0.023	0.279	0.302
		number	22	22	22	22	22	22	12	12
AIR006227	TRC134682	10-Jan-13 to 5-Feb-13	0.56	26	**0.27**	**8.1**	1.2	1.03	1.19	2.22
	TRC135229	12-Feb-13 to 8-Mar-13	0.42	23.9	0.07	2.1	0.4	0.47	0.40	0.87
	summary for data 1994-June 2012	min	0.25	21	0.03	0.9	0.2	0.02	0.27	0.29
		max	6.48	35	0.33	9.9	5.03	8.1	1.84	9.94
		median	0.87	28	0.1	3	1.28	1.1	0.548	1.65
		number	22	22	22	22	22	22	12	12

Key: **Bold –** indicates result above limits in resource consent special condition 3

During the January-February survey three of the six of the gauges analysed complied with the consent limit. The limit was exceeded at sites AIR006222 and AIR006227, which are close to the two site entrances. The results for the other sites were generally similar to or below their respective historical medians. There was a significant contribution from algae at site AIR006222, but the material collected at site AIR006227 had an appearance consistent with palm kernel dust (Photo 7). During this survey the highest total deposited phosphorus concentrations were found at these two sites, with the results being similar to, or higher than, the respective medians.

Wind data shows that site AIR006222 was downwind of site activities for approximately 29 % of the time that the gauges were deployed, and site AIR006227 was downwind approximately 35 % of the time.

The particulate deposition rate was complied with at all sites except AIR006222 during the February-March survey. At this site the particulate deposition rate was twice that permitted by the consent, and the site's historical median. The material collected had an appearance consistent with palm kernel dust (Photo 8). Site AIR006222 was downwind of site activities for approximately 40 % of the gauging period.

The results for all sites during this survey were similar to or higher than their respective historical medians.

The highest deposited particulate and total phosphorus results recorded during the year under review were at site AIR00222 during the February-March survey.

The results show that the material collected at site AIR006227 during the January-February survey was an approximately 50/50 split between dissolved and particulate phosphorus. This indicates that the deposited particulate was from a relatively soluble product, or occurred over the duration of the gauging period. At site AIR006222 during the February-March survey the gauge contained predominantly particulate phosphorus, with very little dissolved phosphorus. This indicates that the deposition occurred close to the date of gauge retrieval, or was a relatively insoluble product.

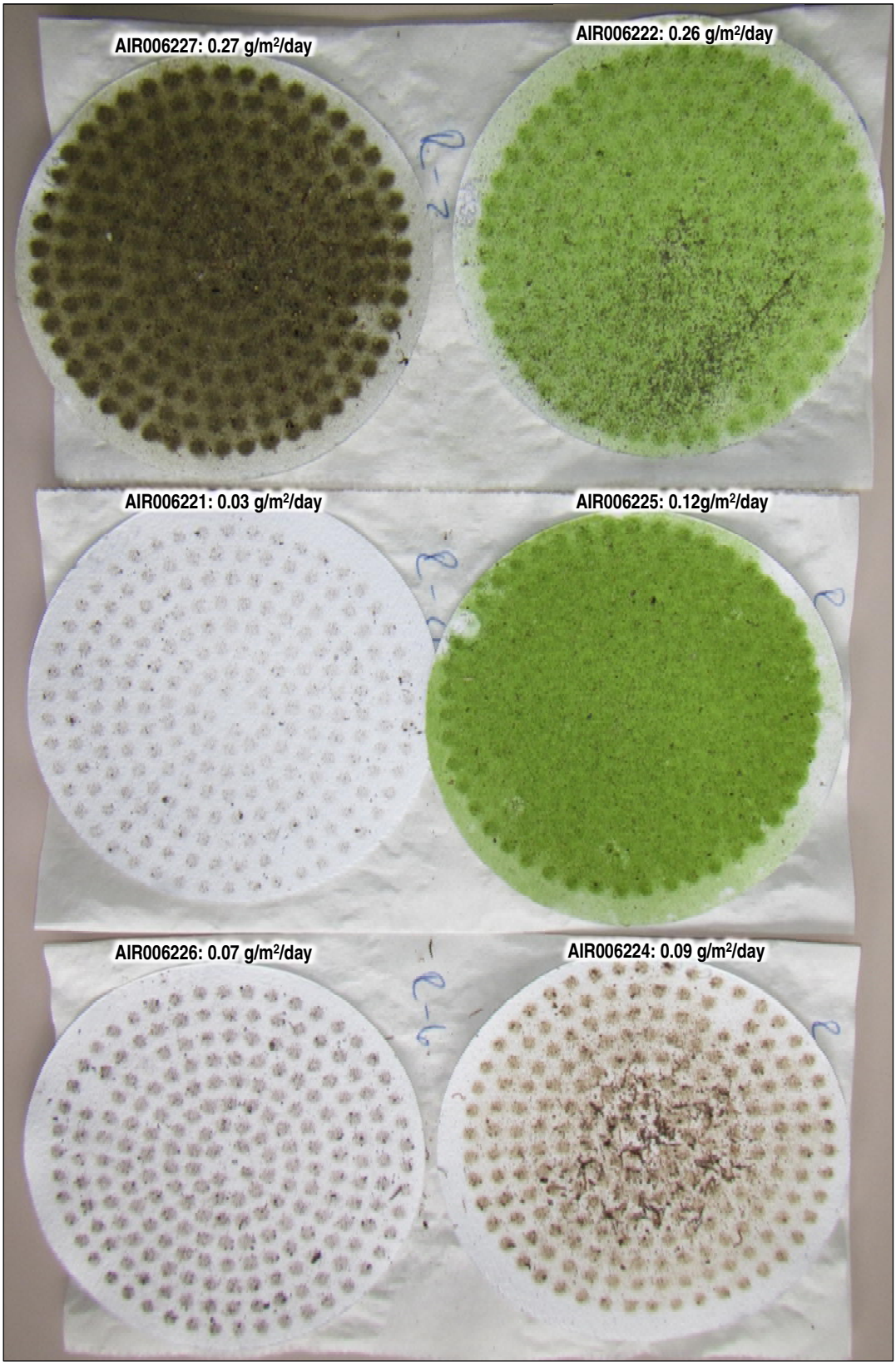

Photo 7 Filters from the Ravensdown Fertiliser's January-February 2013 survey

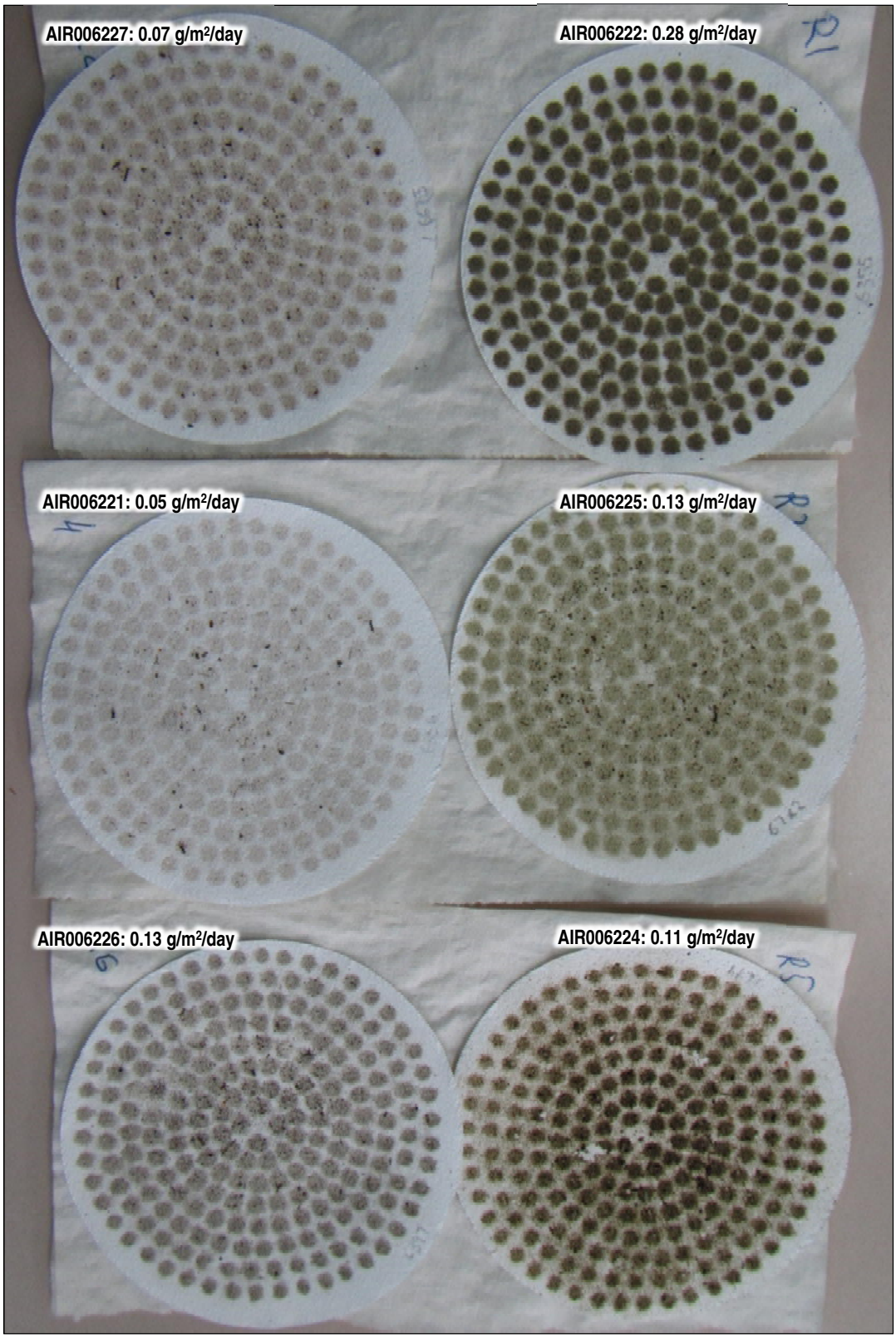

Photo 8 Filters from the Ravensdown Fertiliser's February-March 2013 survey

5.2.3 Investigations, interventions, and incidents

In the 2012-2013 year, it was not necessary for the Council to undertake significant additional investigations and interventions, or record incidents in respect of the

air discharge consent for the site operated by Ravensdown Fertiliser Co-operative Limited.

5.3 Discussion

5.3.1 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 the dust from palm kernel has the potential to result in off-site effects.

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. Past results of deposition gauging has shown that 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/m^2/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/ m^2/30 days. From experience, rates above 3-4 g/ m^2/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources.

Deposition gauging was conducted for the 42nd and 43rd time during the 2012-2013 monitoring year around the Ravensdown Fertiliser's site. The results obtained for this monitoring are illustrated in Figure 14.

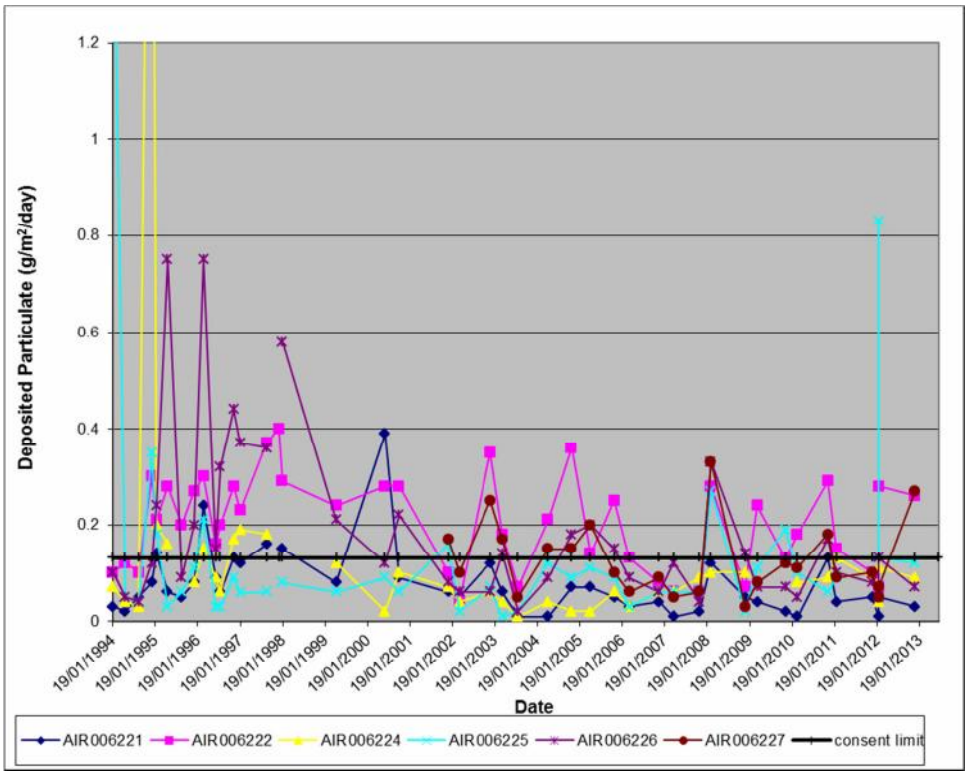

Figure 14 Deposition gauge results at Ravensdown Fertiliser's monitoring sites (January 1994 – June 2013)

Statistical analysis of the data indicates that 3 of the 4 statistically significant trends observed at the end of the 2010-2011 and 2011-2012 years have continued.

The statistically significant increases in deposited dissolved reactive phosphorus has continued at site AIR006224 (Figure 15), but not at site AIR006222.

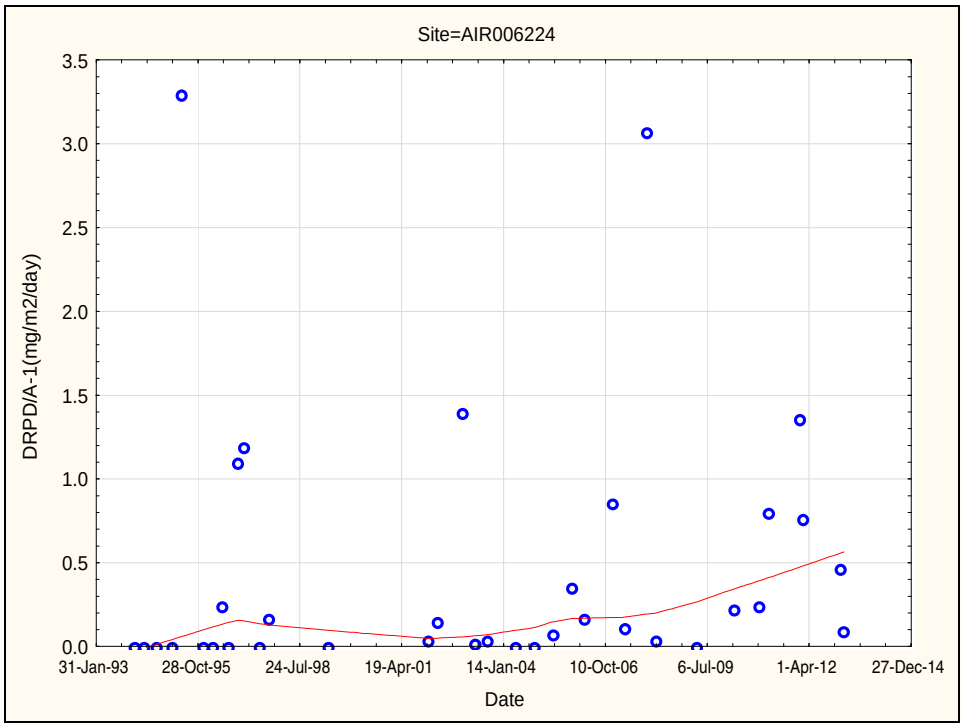

Figure 15 Deposited dissolved reactive phosphorus trend at Ravensdown's monitoring site AIR006224 (January 1994 – June 2013)

A statistically significant trend of decreasing particulate deposition rates has continued at site AIR006221 (Figure 16).

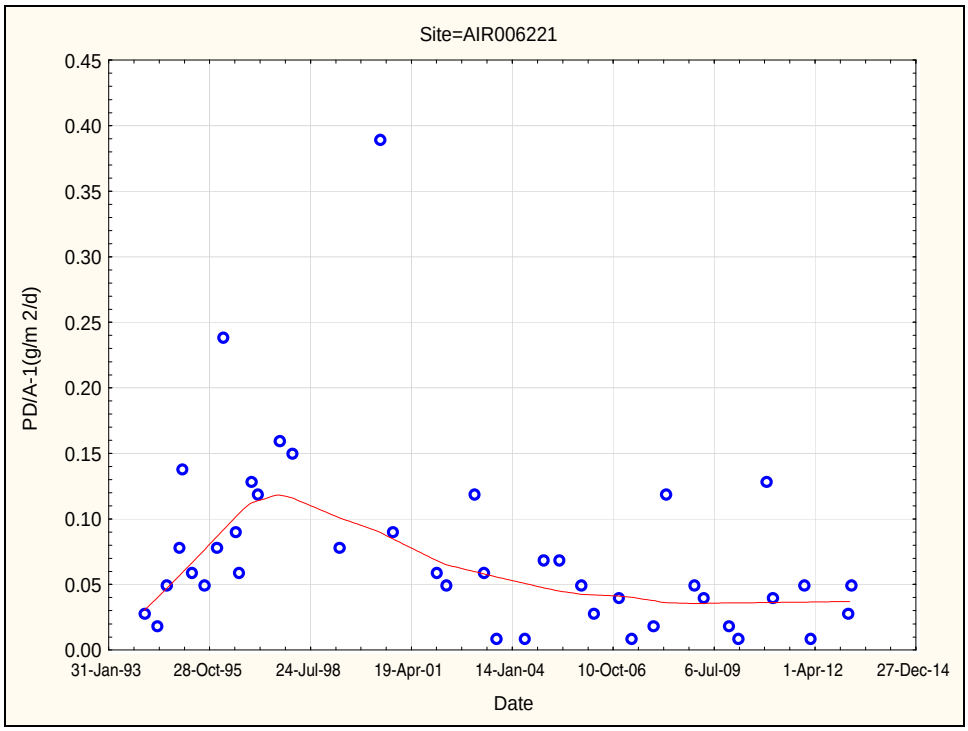

Figure 16 Deposited particulate trend at Ravensdown's monitoring site AIR006221 (January 1994-June 2013)

A statistically significant trend of increasing total deposited phosphorus has continued at site AIR006224 (Figure 17).

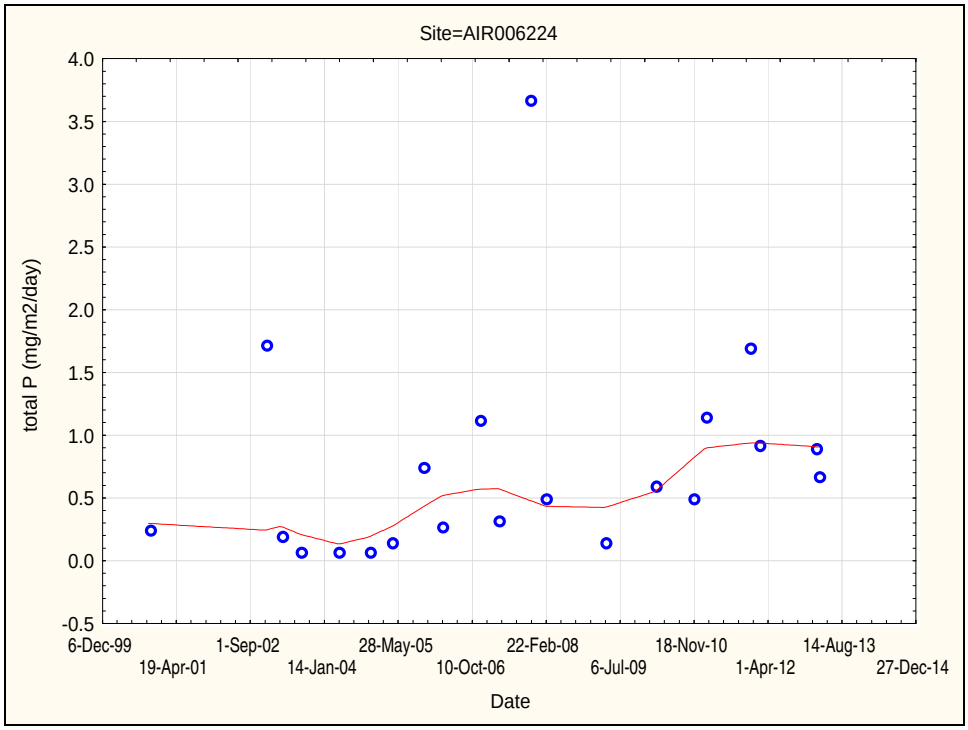

Figure 17 Deposited total phosphorus trend at Ravensdown's monitoring site AIR006224 (October 2000 – June 2013)

A new statistically significant trend of decreasing particulate deposition rates has emerged at site AIR006226.

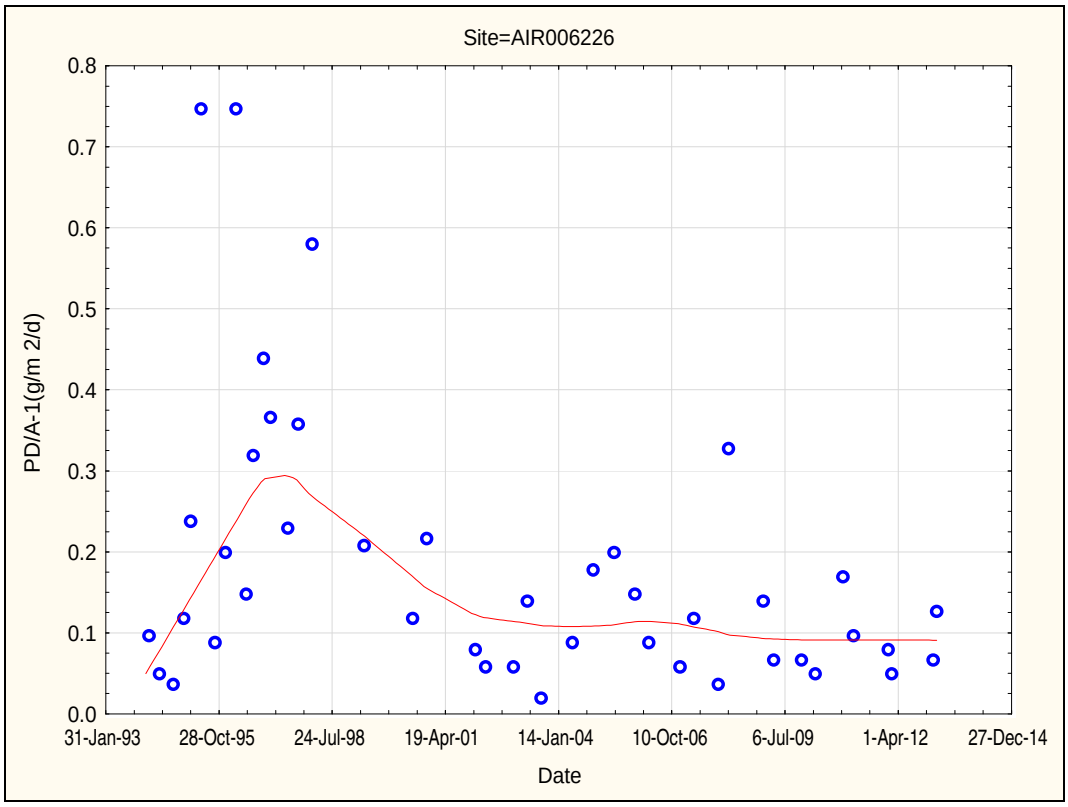

Figure 18 Deposited particulate trend at Ravensdown's monitoring site AIR006221 (January 1994-June 2013)

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.

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 11.

Table 11 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

Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Suspended and deposited particulate limits	Suspended particulate monitoring at inspection and deposition gauging	**3 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 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**

During the year, Ravensdown Fertiliser Co-operative Limited generally demonstrated a good level of environmental performance and compliance with their air discharge consent as defined in Section 1.1.5, although improved control of the deposited particulate resulting from the Company's storage and distribution of palm kernel is desirable.

5.3.4 Recommendations from the 2011-2012 Annual Report

In the 2010-2011 Annual Report, it was recommended:

THAT monitoring of consented activities at Ravensdown Fertiliser Co-operative Limited in the 2012-2013 year continues at the same level as in 2011-2012.

This recommendation was implemented in full.

5.3.5 Alterations to monitoring programmes for 2013-2014

In designing and implementing the monitoring programmes for air discharges in the region, the Taranaki Regional 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 2013-2014 the monitoring remains unchanged. A recommendation to this effect is attached to this report.

5.3.6 Exercise of optional review of consent

Resource consent 4025-3 provides for an optional review of the consent in June 2014. Condition 10 allows the Council to review the consent, if there are grounds, for the purpose of:

- adding, amending or deleting any limit on discharge or ambient concentrations of any contaminant or contaminants; and/or
- 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
- 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.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

A recommendation to this effect is presented in Section 5.4 of this report.

5.4 Recommendations

1. 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.

2. 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.

6. Taranaki Drum and Pallet Recycling

6.1 Introduction

6.1.1 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 19.

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 19 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.

6.1.2 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 Taranaki Regional 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 Taranaki Regional 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.

6.2 Results

6.2.1 Inspections

26 September 2012

No burning was occurring at the time of inspection. It was found that there was no green waste in the fire pit. It was reported that there were still a few trees to be removed from the fence line. It was considered that the site was tidy.

19 December 2012
At the time of inspection there was no smoke or odour beyond the boundary of the property, however there was no fire burning at the time of inspection. It was found that there were only pallets in the fire pit. It was reported that the site was tidy.

2 April 2013
There was no odour or emissions found beyond the boundary, however it was reported that there was no fire burning at the time of inspection. There were no prohibited materials noted in the fire pit waiting to be burnt, and it was considered that the site was tidy.

6.2.2 Investigations, interventions, and incidents

In the 2012-2013 year, it was not necessary for the Council to undertake significant additional investigations and interventions, or record incidents in respect of the site operated by Taranaki Drum & Pallet Recycling.

6.3 Discussion

6.3.1 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 Council prior to undertaking a burn off, no notifications were received during the year under review.

6.3.2 Environmental effects of exercise of consents

Particulate emissions 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 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 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.

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 12.

Table 12 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
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	Next scheduled for consideration in 2014	N/A
Overall assessment of consent compliance and environmental 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.

6.3.4 Recommendation from the 2011-2012 Annual Report

In the 2011-2012 Annual Report, it was recommended:

THAT monitoring of consented activities at the Taranaki Drum and Pallet Recycling site in the 2012-2013 year continues at the same level as in 2011-2012.

This recommendation was implemented in full.

6.3.5 Alterations to monitoring programmes for 2013-2014

In designing and implementing the monitoring programmes for air discharges in the region, the Taranaki Regional 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 2013-2014 the programme remains unchanged. A recommendation to this effect is attached to this report.

6.3.6 Exercise of optional review of consent

Resource consent 6073-1 provides for an optional review of the consent in June 2014. Condition 10 allows the Council to review the consent, if there are grounds, 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.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

A recommendation to this effect is presented in Section 6.4 of this report.

6.4 Recommendations

1. 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.

2. 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.

7. Viterra (NZ) Limited

7.1 Introduction

7.1.1 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 Council has not received notification regarding future operations at the site, and the consent remains in effect.

Figure 20 Viterra (NZ) Limited site and deposition gauge locations

7.1.2 Air discharge permit

Viterra (NZ) 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 Taranaki Regional 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 is due to expire on 1 June 2020.

The consent was transferred to PCL Industries Limited on 21 January 2010, and then to Viterra (NZ) Limited on 13 August 2010.

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.

7.2 Results

7.2.1 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.

22 August 2012

The site was unmanned at the time of inspection. There were trucks and cars were parked on site. The feedmill was not in operation and no dust or odours were found beyond the boundary of the property. The site was considered to be tidy.

9 November 2012

The site was again unmanned at the time of inspection. Truck and other vehicles were parked on site. There were no dust or odours found beyond the boundary of the property, and the site was considered to be tidy

25 February 2013
No dust or odours were found beyond the boundary of the property. The feedmill was not in operation and the site was unmanned. There were vehicles parked on site and the site was found to be tidy.

26 June 2013
It was reported that the site was unmanned at the time of inspection. Trucks were parked on site and it was reported that no odours or dust were found beyond the boundary of the property.

7.2.2 Results of receiving environment monitoring

7.2.2.1 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 at the locations shown in Figure 20. The gauges were left in place for approximately one month, on two separate occasions. The results are given in Table 13, while the prevailing wind directions during the surveys are shown in Appendix II.

Guideline values used by the Taranaki Regional Council for dust deposition are 4g/m^2/30 days or 0.13g/m^2/day deposited matter. This guideline has been incorporated in to the Company's resource consent. 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 both for solid particulates and for various chemicals associated with pollution.

During the 2012-2013 year, the samples collected in the vicinity of Viterra (NZ) Limited showed that the particulate deposition rate complied with the consent limit on both monitoring occasions, with the results also similar to or below their respective historical medians.

Table 13 Deposition gauge results from around the Viterra (NZ) Limited site 2012-2013

Site	Sample	Date	Conductivity mS/m/day	Number of days	Deposited particulate		Volume Litres
					g/m²/day	g/m²/30day	
AIR009301	TRC134679	10-Jan-13 to 5-Feb-13	0.33	26	0.07	2.1	1.4
	TRC135226	12-Feb-13 to 8-Mar-13	0.33	24	0.07	2.1	0.4
	summary for data 1993-June 2012	min	0.1	20.9	0.02	0.6	0.16
		max	1.3	35.1	0.99	29.7	11.7
		median	0.41	27.9	0.12	3.6	1.99
		number	39	30	44	44	29
AIR009302	TRC134680	10-Jan-13 to 5-Feb-13	0.30	26	0.07	2.1	2.0
	TRC135227	12-Feb-13 to 8-Mar-13	0.42	24	0.13	3.9	0.5
	summary for data 1993-June 2012	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	2.27
		number	37	29	41	41	27

Key: **Bold** indicates result above consent limit given in special condition 5.

7.2.3 Investigations, interventions, and incidents

In the 2012-2013 year, it was not necessary for the Council to undertake significant additional investigations and interventions, or record incidents in respect of the site operated by Viterra (NZ) Limited.

7.3 Discussion

7.3.1 Discussion of site performance

Overall the findings from the air monitoring programme show the Viterra (NZ) Limited site has remained non-operational during the year under review, and there were no issues identified at inspection.

7.3.2 Environmental effects of exercise of consents

During the year under review there was no evidence of significant dust emissions from the site reported at the time of inspections undertaken by officers of the Council and no objectionable off site odours were noted during inspections.

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 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 the Viterra (NZ) Limited feedmill site, it has been noted by the Company 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, and as such this guideline value has been incorporated in to the special conditions of the Company's resource consent.

Deposition gauging was conducted for the 45th and 46th time during the 2012-2013 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 21).

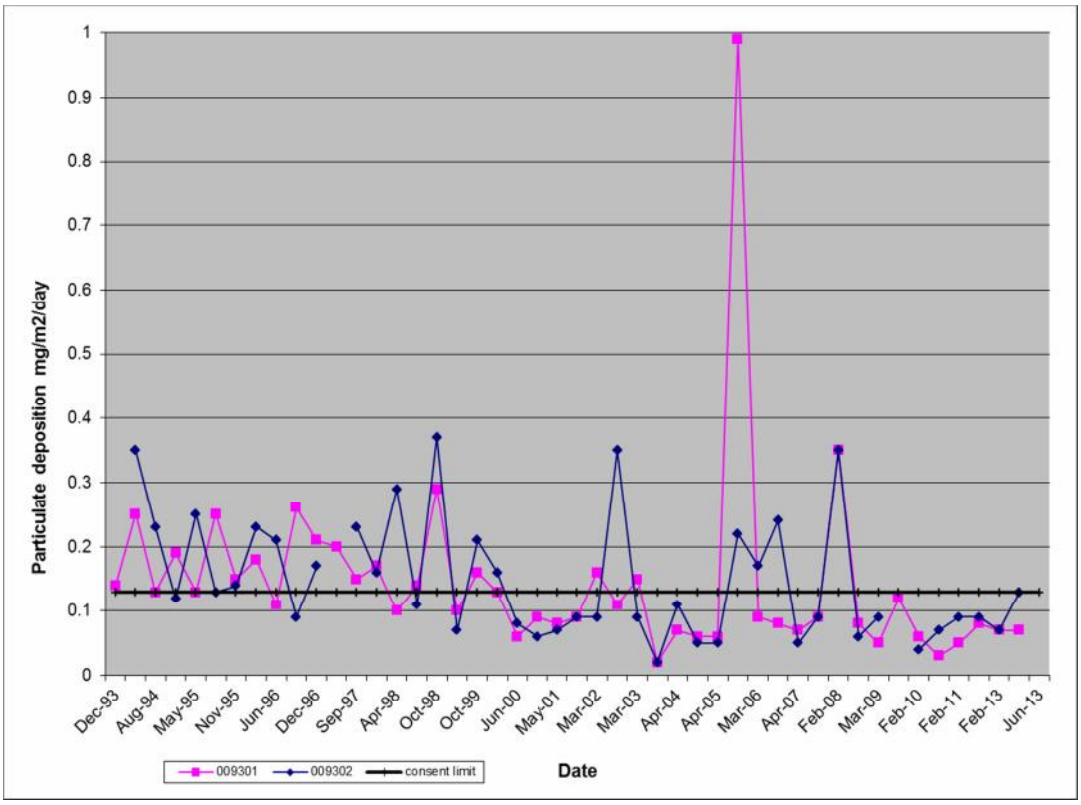

Figure 21 Deposition gauge results for the Viterra (NZ) Limited monitoring sites

Statistical analysis of the data collected to 30 June 2013 found that the statistically significant decreasing particulate deposition rate trends have continued at both monitoring locations (Figure 22 and Figure 23).

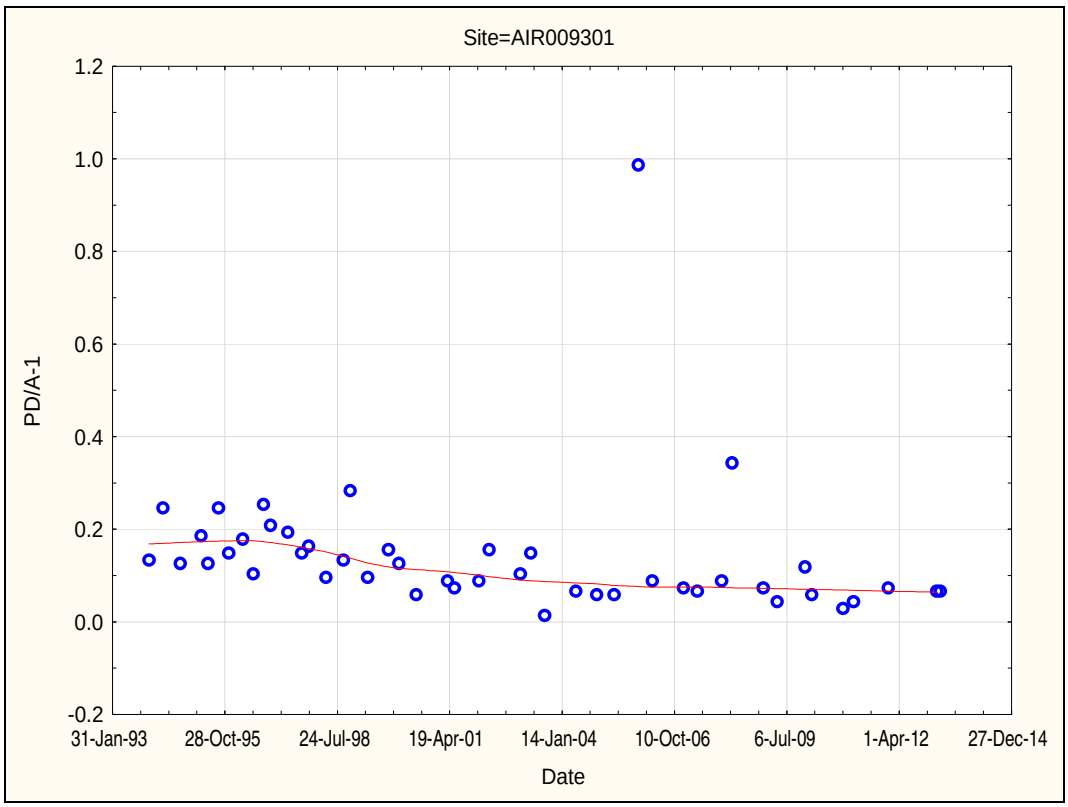

Figure 22 Particulate deposition rate trend at Viterra (NZ) Limited monitoring site AIR009301 (December 1993 – June 2013)

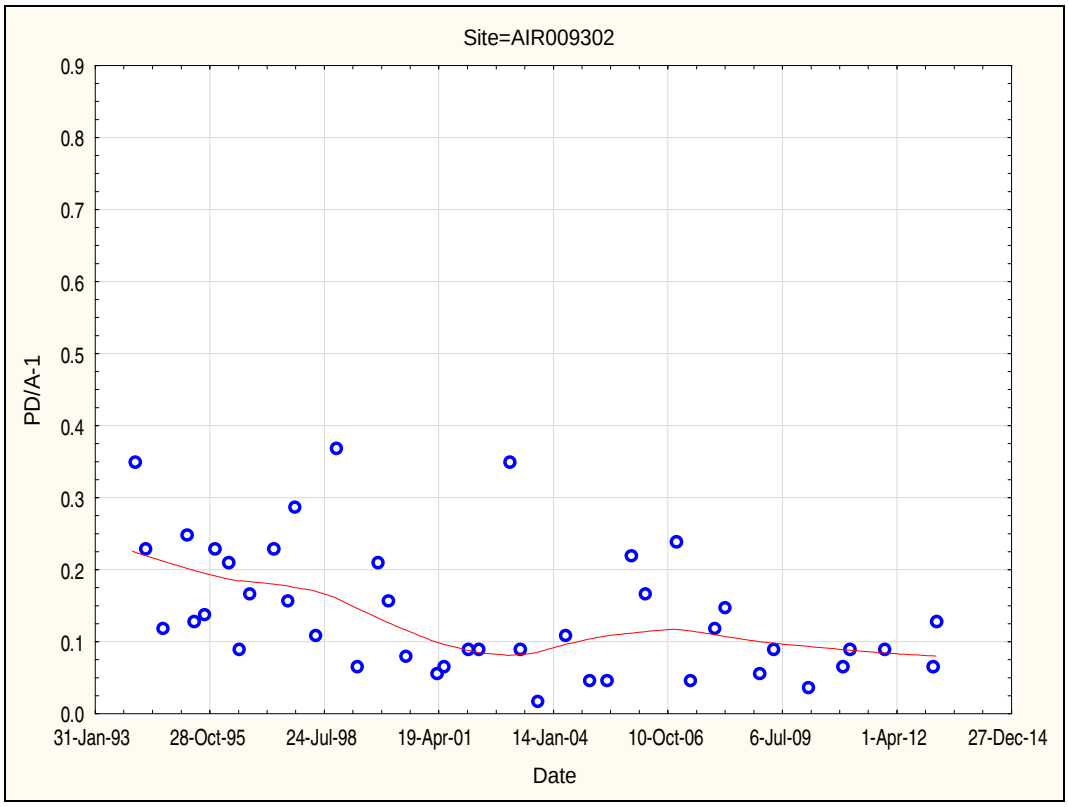

Figure 23 Particulate deposition rate trend at Viterra (NZ) Limited monitoring site AIR009302 (December 1993 – June 2013)

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 4051-5, Viterra (NZ) 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. Council kept informed about upgrades	Yes
3. Preparation of a management plan	Latest plan received and approved by 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 permitted beyond boundary	Odour survey at inspection	Yes
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**

During the year, Viterra (NZ) 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 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.

7.3.4 Recommendation from the 2011-2012 Annual Report

In the 2011-2012 Annual Report, it was recommended:

THAT monitoring of consented activities at Viterra (NZ) Limited's feedmill in the 2012-2013 year continues at the same level as in 2011-2012.

This recommendation was implemented in full.

7.3.5 Alterations to monitoring programmes for 2013-2014

In designing and implementing the monitoring programmes for air discharges in the region, the Taranaki Regional 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 2013-2014 the programme remains unchanged. A recommendation to this effect is attached to this report.

7.3.6 Exercise of optional review of consent

Resource consent 4051-5 provides for an optional review of the consent in June 2014. Condition 9 allows the Council to review the consent, if there are grounds, 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.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

A recommendation to this effect is presented in Section 4.4 of this report.

7.4 Recommendations

1. 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.

2. 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.

8. Airshed performance

8.1 Unauthorised discharges

During the year under review there were 38 air related incidents logged on the Council unauthorised incidents database relating to air quality matters in and around the Waiwhakaiho airshed, all of which resulted from complaints received by Council. Only seven of the thirty nine incidents were substantiated at the time of inspection. Two abatement 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 issues, namely odour, dust, or smoke.

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

Company	Number of substantiated incidents	Number of unsubstantiated complaints
Waiwhakaiho airshed monitoring programme		
Downer EDI Works Limited	0	1
Fitzroy Engineering Grooup Limited	0	0
Katere Surface Coatings Limited	0	0
Ravensdown Fertiliser Co-operative Limited	0	0
Taranak Drum and Pallet Recycling	0	0
Viterra (NZ) Limited	0	0
Other monitored/consented industries	0	1
Permitted activities		
C Parkes	0	1
Graham Harris (2000) Limited (NEW PLYMOUTH)	0	2
Graham Harris (2000) Limited (NEW PLYMOUTH) High End Property Ltd Landon Investments Ltd Madew Trust Ltd Twelve Gauge Limited Timatanga Hou Ltd (BDO Taranaki Ltd)	1	0
K Stott	0	1
Snowdon	1	0
W Eustace Gas and Plumbing Limited Original Pipe Traders Limited	4[a]	22
Unsourced	0	4
Total	**6**	**33**

Key a abatement notice(s) issued

The activities of only one of the consented industries monitored under this programme were the subject of only one of the air related incidents recorded (Downer EDI Works Limited – 1 unsubstantiated). This incident is discussed in the Company's section of the report, with the remaining incidents and the results of Council's investigations described below.

C Parkes
On 13 May 2013 at 1:00 pm a complaint was received regarding smoke from a property on Egmont Road, New Plymouth. Investigation found the remnants of a vegetation fire. At the time of inspection there was no smoke observed off site and the site was compliant with the Regional Air Quality Plan. However, the property owner was advised that smoke from any future fires is not to go off site, and that if this were to occur, then enforcement action would be likely.

Graham Harris (2000) Limited (NEW PLYMOUTH)

7 January 2013
A complaint was received at 4:19 pm concerning dust discharging from a development site on Oropuriri Road, New Plymouth. An inspection of the site found that dust was discharging from the site during a period of high winds. The dust was dissipating quickly, and it appeared that consent conditions were being complied with. A water tanker had been used earlier in the day on part of the site. The consent holder was contacted and advised to be vigilant when it was dry and windy.

12 February 2013
A complaint was received at 11:40 am regarding dust discharging beyond the boundary of an industrial subdivision at Oropuriri Road, New Plymouth. Particulate monitoring was undertaken during an inspection of the complainant's property. It found that there was no dust was discharging at the time of inspection, but there was clear potential for it to do so. The complainant was advised to call the pollution hot line whenever a dust event was occurring. The contractor undertaking the subdivision was contacted, and he outlined that they were using water carts when necessary. He agreed to be extra vigilant in future.

Graham Harris (2000) Limited (NEW PLYMOUTH)
High End Property Ltd
Landon Investments Ltd
Madew Trust Ltd
Twelve Gauge Limited
Timatanga Hou Ltd (BDO Taranaki Ltd)
On 14 February 2013 at 2:00 pm a complaint was received concerning dust discharging from a commercial development site on Oropuriri Road, New Plymouth. A letter requesting an explanation for the discharge of objectionable dust offsite was sent. A response was received from all bar one of the responsible parties. Due to the quality of the photographic evidence collected, no further enforcement action was undertaken.

K Stott
On 5 October 2012 at 3:00 pm a complaint was received concerning smoke discharging from a fire at a rural property on Smart Road, New Plymouth. Investigation found only noticeable smoke and odours at the time of inspection. The responsible party (the person who lit the fire) was identified and advised that a complaint had been received. The landowner decided to put the fire out using a digger and water. No further fires were to be lit.

New Plymouth District Council
On 13 August 2012 at 10:18 am a complaint was received regarding an objectionable odour discharging beyond the boundary of the Colson Road landfill.

An odour survey conducted at the complainant's property found no objectionable odours and no odours attributable to the Colson Road landfill.

Snowdon

On 7 January 2013 at 2:30 pm a complaint was received regarding dust emanating from a subdivision on Links Drive, New Plymouth. Investigation found objectionable dust beyond the boundary of the property. The site manager was spoken to and a water cart was used to reduce the quantity of dust discharging from the subdivision.

W Eustace (Gas & Plumbing Ltd, Original Pipe Traders Ltd), 56 Colson Road

During the year under review a number of complaints were received regarding odours from a non-municipal sewage treatment site at 56 Colson Road. Although three different responsible parties were identified at the time of investigation, those three parties are all related, as Gas and Plumbing Limited and Original Pipe Traders Limited are both owned by W Eustace. The complaints and the findings of Council's investigations are outlined below.

20 August 2012 (W Eustace)

A complaint was received at 11:00 am concerning odour at a property on Colson Road, New Plymouth. An odour survey undertaken in the area could not find any trace of any odours.

22 August 2012 (W Eustace)

A complaint was received at 9:40 am regarding an odour on Colson Road, New Plymouth. Investigation found no odours beyond the boundary of the property. The landowner was in the process of upgrading the system to minimise any odours that may occur.

10 September 2012 (Original Pipe Traders Ltd)

A complaint was received at 12:34 pm concerning a sewage type odour from a property on Colson Road, New Plymouth. Investigation found that an objectionable odour was present along Colson Road. The odour was traced to an industrial site. At the time of investigation it was found that the first holding tank by the main doors of the shed was full of waste. It was noted that the waste from the first tank was gravity fed into a plastic tank, which is set into the ground beside the shed. The top of the plastic tank had numerous large holes in it, thereby exposing the waste to the air. The investigating officer was informed that approximately 16 m^3 of waste was delivered to the site per day, and that the first holding tank held about that quantity. It was reported that the waste was brought onto site by pump truck, and was pumped into the first holding tank from where it fed into a second holding tank. The waste was then pumped from the second holding tank to the de-watering machine. The liquids and solids were then separated, with the solids being trucked off site for disposal and the liquid being pumped into a second plastic tank immediately adjacent to the second holding tank. The separated liquids were then pumped into the sewer system via a plastic pipe. It was noted that a spray system had recently been installed for the purpose of deodorising the first holding tank. It was found that, initially, the spray was not operational at the time of inspection. It was turned on during the inspection, and it was noted that the spray system was ineffective due to the effects of the wind at

the time of inspection. It was also noted that some of the spray nozzles were not operational. Photographs were taken.

As a result of the investigation Abatement Notice 11861 was issued on 13 September 2012, requiring that works were to be undertaken to ensure that no objectionable or offensive odour discharges beyond the boundary of the site. The site was then the subject of on-going monitoring. The abatement notice was being complied with at the time of these on-going monitoring inspections. It was also reported that a resource consent was in the process of being applied for.

30 September 2012 (W Eustace)
A complaint was received at 2:20 pm concerning an odour emanating from a sewage treatment site on Colson Road, New Plymouth. An odour survey was undertaken in the area, and no odour could be found beyond the boundary of the site.

3 October 2012 (W Eustace)
A complaint was received at 12:00 pm concerning an odour emanating from a sewage treatment site at Colson Road, New Plymouth. An odour survey was undertaken in the area and no odour could be found beyond the boundary of the site.

5 October 2012 (W Eustace)
A complaint was received at 4:00 pm concerning an odour from a sewage treatment site on Colson Road, New Plymouth. An odour survey was undertaken, and it was found that there was only a slight and intermittent odour present beyond the boundary of the site. The site was the subject of an abatement notice and, at the time of inspection, the abatement notice was being complied with.

6 October 2012 (W Eustace)
A complaint was received at 11:09 am concerning an odour from a sewage treatment site on Colson Road, New Plymouth. An odour survey was undertaken. Although there was only a slight and intermittent odour found beyond the boundary of the site, Abatement Notice 11879 was issued requiring the cessation of all activity relating to the handling, processing and storage of waste from industrial or trade premises that was discharging or likely to discharge contaminants to air. Reinspection the following day found that the notice was being complied with at the time of inspection.

18 October 2012 (W Eustace)
A complaint was received at 1:35 pm concerning an odour emanating from a sewage treatment site on Colson Road, New Plymouth. An odour survey was undertaken in the area, and no odours could be found beyond the boundary of the site.

19 October 2012 (W Eustace)
A complaint was received at 1:40 pm regarding odours emanating from a sewage treatment site on Colson Road, New Plymouth. Investigation found intermittent noticeable odours beyond the boundary of the property. The site operator undertook works to eliminate the odour during the inspection. The activity had been allowed to continue that day after substantial works had been undertaken at the site, including the sealing of the building and the installation of a bio-filter.

23 October 2012 (W Eustace)
A complaint was received at 9:55 am concerning odours from a sewage treatment site on Colson Road, New Plymouth. Investigation found noticeable odours off-site. Inspection of the site found that further improvements were being made to the building's airtightness. The site operator was continuing to work with the Taranaki Regional Council to achieve a nil discharge of odour from the site.

24 October 2012 (W Eustace)
A complaint was received at 3:33 pm concerning odours emanating from a sewage treatment site on Colson Road, New Plymouth. An odour survey was undertaken in the area, and noticeable odours were found at the boundary of the property. A follow up inspection was carried out. At this inspection it was found that all exterior operations had ceased, and the activities had been moved into a totally sealed area. No odours were discharging from the site at the time of the reinspection.

25 October 2012 (W Eustace)
A complaint was received at 4:40 pm about an odour from a private sewage treatment plant on Colson Road, New Plymouth. An inspection was undertaken to investigate the allegation of the presence of an all-day sewage odour. There were no odours found at the time of inspection, however the inspecting officer was informed that the supplier of portable latrines had, throughout the day, been emptying and cleaning two plastic sewage storage tanks at his processing site, as instructed by Taranaki Regional Council. It was thought that this was probably the activity that had generated the odours, which were not evident by the time of the inspection, as both tanks had been emptied and cleaned. The complainant was informed of the outcome of the investigation.

6 November 2012 (Gas & Plumbing Ltd)
A complaint was received at 2:00 pm regarding odours emanating from an industrial site on Colson Road, New Plymouth. An odour survey was undertaken 2 hours later, and no odour was detected. It was noted that at the time of investigation, the wind was not blowing in the direction of the complainant's premises.

12 November 2012 (Gas & Plumbing Ltd)
A complaint was received at 9:00 am regarding odours discharging beyond the boundary of an industrial site on Colson Road, New Plymouth. An odour survey was undertaken, and no odours were found beyond the boundary of the site. The site occupier outlined that no deliveries had occurred all morning. The outcome was discussed with the complainant who was advised to call again if the odour re-occurred.

13 November 2012 (W Eustace)
A complaint was received at 1:20 pm regarding an odour emanating from a sewage treatment plant on Colson Road, New Plymouth. An odour survey was undertaken, and no odours were found during the survey. It was noted that a truck was unloading during the odour survey. An inspection of the site found the shed to be sealed, the plastic tanks had been removed and the biofilter was working well.

14 November 2012 (W Eustace)
A complaint was received at 2:10 pm concerning odour emanating from a sewage treatment facility on Colson Road. An odour survey was carried out in the surrounding area. No sewage type odours were detected from the sewage facility. The complainant confirmed no sewage odour was present at the time of the visit.

16 November 2012 (W Eustace)
A complaint was received at 3:45 pm concerning odour emanating from a sewage treatment facility on Colson Road. An odour survey was carried out in the area, and no sewage type odours were detected from the sewage facility. The complainant confirmed no sewage odour was present at the time of the inspection.

19 November 2012 (Gas & Plumbing Ltd)
A complaint was received at 9:00 am regarding odours discharging beyond the boundary of an industrial site on Colson Road, New Plymouth. An odour survey in the vicinity of the complainant's property found light intermittent noticeable sewage odours, which were not considered objectionable at the time of inspection.

21 November 2012 (Original Pipe Traders Ltd)
A complaint was received at 8:00 pm regarding a sewage type odour coming from an industrial site on Colson Rd, New Plymouth. An inspection was carried out and no odour was detected.

23 November 2012 (Gas & Plumbing Ltd)
A complaint was received at 10:30 am regarding odours emanating from an industrial site on Colson Road, New Plymouth. An odour survey was conducted at the complainant's property, and no odour was found that could have been attributable to the site. The complainant acknowledged that no odour was present at the time of inspection. It was alleged that the odour was 'foul' the previous day. An odour survey conducted around the site found only light intermittent sewage type odours, which were found to be emanating from the biofilter. Site staff agreed to wet the bark within the bed. They were also to trial applying a layer of shade cloth and sand to the top of the bed to see if it would filter the emissions further.

3 December 2012 (W Eustace)
A complaint was received at 3:10 pm regarding an odour emanating from a sewage treatment plant on Colson Road, New Plymouth. An odour survey found no odours in the vicinity of the sewage treatment plant. It was noted that the wind was in the wrong direction for any odours to be sourced from the sewage treatment plant.

31 December 2012 (W Eustace)
A complaint was received at 11:35 am regarding an odour emanating from a sewage treatment plant on Colson Road, New Plymouth. Investigation found intermittent noticeable odours at the boundary of the property.

14 January 2013 (W Eustace)
A complaint was received at 3:53 pm concerning odour emanating from a sewage processing facility on Colson Road, New Plymouth. An odour survey was undertaken in the vicinity of the complainant’s property and the site. No odour was found beyond the boundary of the site.

7 February 2013 (W Eustace)
A complaint was received at 2:45 pm concerning odours emanating from a sewage treatment facility on Colson Road, New Plymouth. An odour survey carried out at the complainant's property failed to detect any odours associated with the sewage treatment works. The complainant confirmed that the odour was not present at the time of investigation.

14 February 2013 (W Eustace)
A complaint was received at 9:00 am concerning odours emanating from a sewage treatment facility on Colson Road, New Plymouth. An odour survey was undertaken in the vicinity of the site, and no odour was found beyond the boundary of the site.

8 April 2013 (W Eustace)
A complaint was received at 4:30 pm concerning odour emanating from a sewage treatment site at Colson Road, New Plymouth. An odour survey was undertaken in the area and no odour could be found beyond the boundary of the property.

12 April 2013 (W Eustace)
A complaint was received at 12:00 pm concerning odour emanating from a sewage treatment site at Colson Road, New Plymouth. An odour survey was undertaken, and only a noticeable odour was found beyond the boundary of the site. Staff on site stated that they had been transferring material from one tank to another 20 minutes prior to the inspection, and it was reported that this could have been the source of some odour. The complainant was spoken to who agreed that the odour had dissipated by the time of inspection.

Unsourced

11 August 2012
A complaint was received at 10:30 am about smoke coming from a property on Pohutakawa Place, Bell Block, within the defined urban area, but over 5000m^2. Investigation found that the fire was a small domestic rubbish fire that had been extinguished by the time of inspection. There were no off-site effects at the time of inspection. Therefore this burning was permitted by the Regional Air Quality Plan for Taranaki.

19 June 2013
A complaint was received at 7:15 am concerning sewage type odours on Smart Road, New Plymouth. An odour survey was carried out within minutes of receiving the complaint. No sewage type odours were detected. An inspection of a nearby sewage treatment facility found it to be closed with no odours discharging from the site.

23 May 2013
A complaint was received at 10:30 am regarding a sewage odour at Smart Road, New Plymouth. An odour survey was carried out in and around the complainant's property, and there were no odours of any description found.

4 August 2012
A complaint was received at 11:00 am regarding an odour on Kauri Street, New Plymouth. An odour survey in the area found no trace of any odour.

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 Taranaki Regional Council 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 site and within the surrounding community. The gauges were left in place for between two weeks and a month, on two separate occasions. Material from the gauges was analysed for solid particulates with the sites and results shown in Figure 24.

Guideline values used by the Taranaki Regional Council for dust deposition are $4g/m^2/30$ days or $0.13g/m^2/day$ deposited matter. Consideration is given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values.

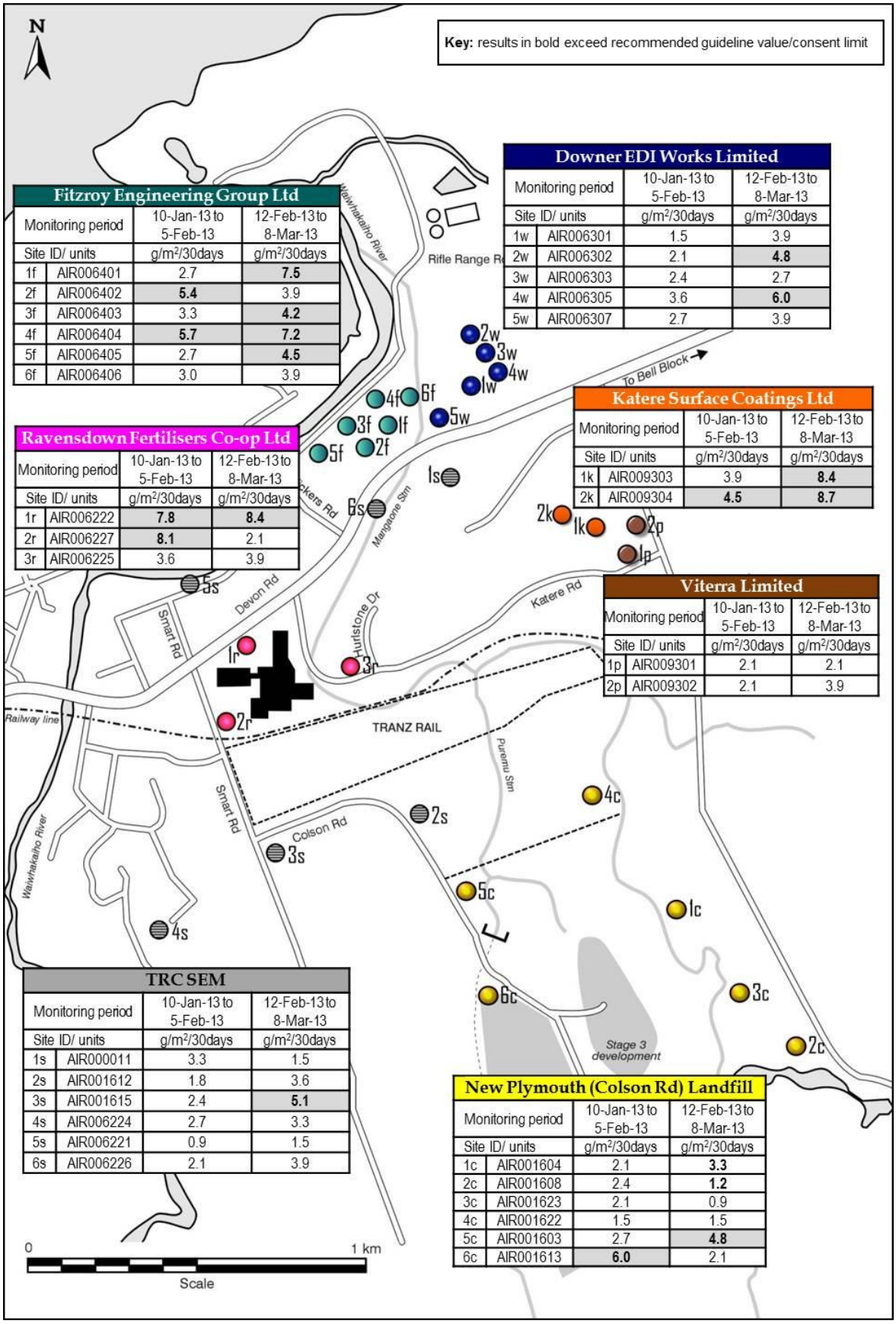

Figure 24 Dust deposition for the Waiwhakaiho airshed in the 2012-2013 monitoring period

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.

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 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 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/m^2/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m^2/30 days. From experience, rates above 3-4 g/m^2/30 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 generally good. During the 2012-2013 year only one of the "TRC SEM" samples exceeded the 4g/m^2/30 days guideline. This was a slight exceedance at the monitoring location on the corner of Colson and Smart Roads.

Figure 25 shows the number of guideline exceedances relative to the number of SEM gauges successfully deployed and analysed since the 2001-2002 monitoring year.

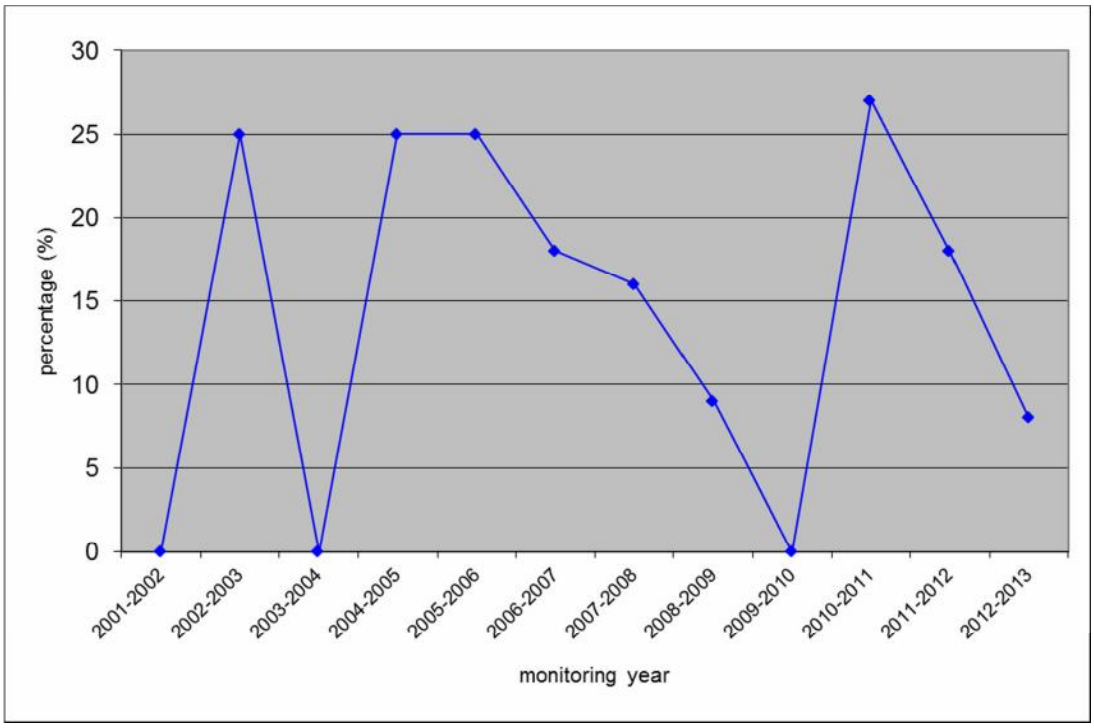

Figure 25 Percentage of SEM gauges exceeding the guideline each monitoring year (2001-2013)

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

In the case of the January-February survey, 20% 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 the newly established monitoring locations near Katere Surface Coatings Limited, and also near Ravensdown Fertiliser Co-operative Limited. During this survey there was no clear relationship between the locations of the gauges where the guideline was exceeded, and the 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 west round to the north west for 51 % of the time, and from the north round to the west for 35 % of the time.

In the case of the February- March survey 36 % of the gauges 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 opposing prevailing wind directions observed during this gauging period again make it difficult to comment on any possible relationship between the gauge locations and the site activities taking place. The main wind directions were from the south (13.7 % of the time), south west (20.1 % of the time), west (29 % of the time), and north east (14 % of the time).

Figure 26 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 26 that the maximum 2012-2013 particulate deposition rate is still below the 2004-2008 levels when development in the air shed intensified significantly.

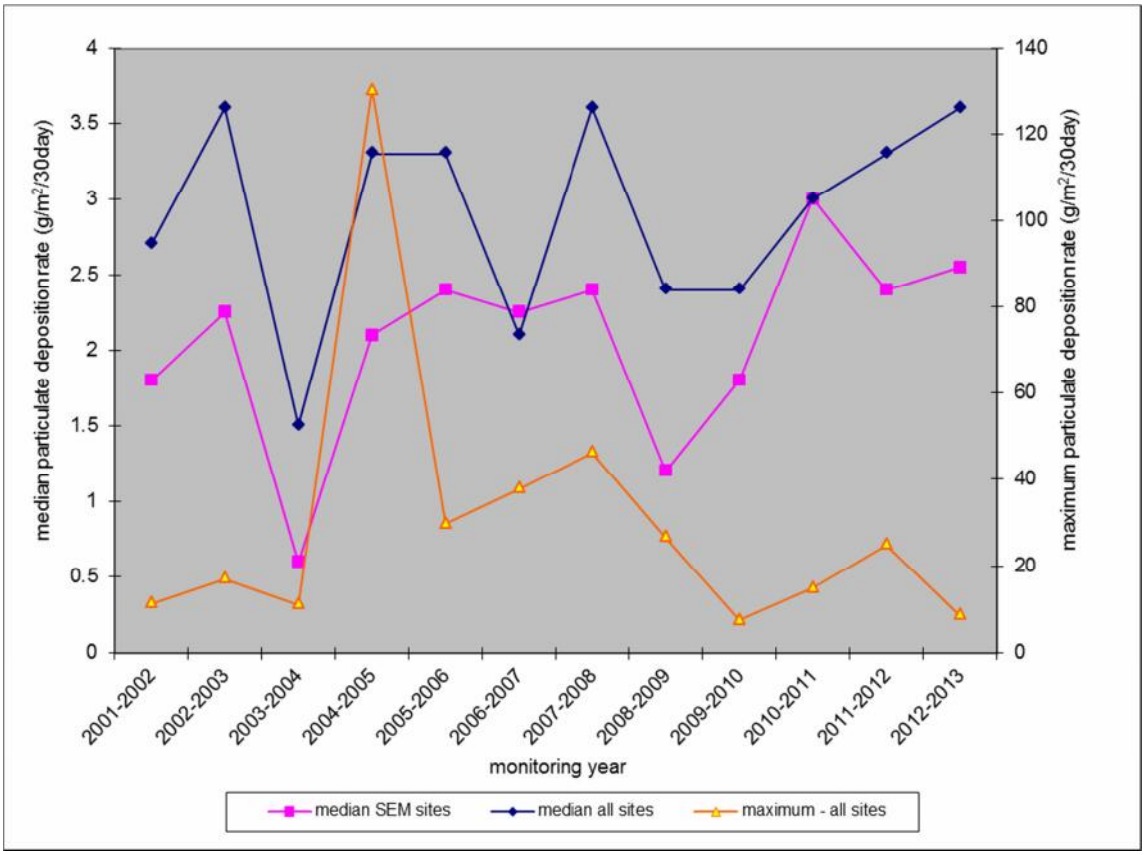

Figure 26 Summary of historical data for deposition rates within the Waiwhakaiho airshed

9. Summary of recommendations

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

2. 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.

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

4. THAT the option for a review of resource consent 4025-3 in June 2014, as set out in condition 31 of the consent, not be exercised, on the grounds that historical monitoring has found that the existing conditions are adequate.

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

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

Glossary of common terms and abbreviations

The following abbreviations and terms may have been used within this report:

bund	a wall around a tank to contain its contents in the case of a leak
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 Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring
investigation	action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident
NOx	oxides of nitrogen
PM10	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	Resource Management Act 1991 and including all subsequent amendments
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.

*an abbreviation for a metal or other analyte may be followed by the letters 'As', to denote the amount of metal recoverable in acidic conditions. This is taken as indicating the total amount of metal that might be solubilised under extreme environmental conditions. The abbreviation may alternatively be followed by the letter 'D', denoting the amount of the metal present in dissolved form rather than in particulate or solid form.
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)

Consent 4060-4

TARANAKI REGIONAL COUNCIL

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE: 06-765 7127
FAX: 06-765 5097
www.trc.govt.nz

Please quote our file number on all correspondence

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

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. 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.

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.

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.

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

Consent 4025-3

TARANAKI REGIONAL COUNCIL

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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

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

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/m^3 (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.

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/m^2/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.

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.

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/m^3 [measured under ambient conditions], and the deposition of dust shall not exceed a mean daily rate of 0.13 g/m^2/day beyond the property boundary or beyond 50 metres of the discharge when sited on public amenity areas, whichever is less.

Review

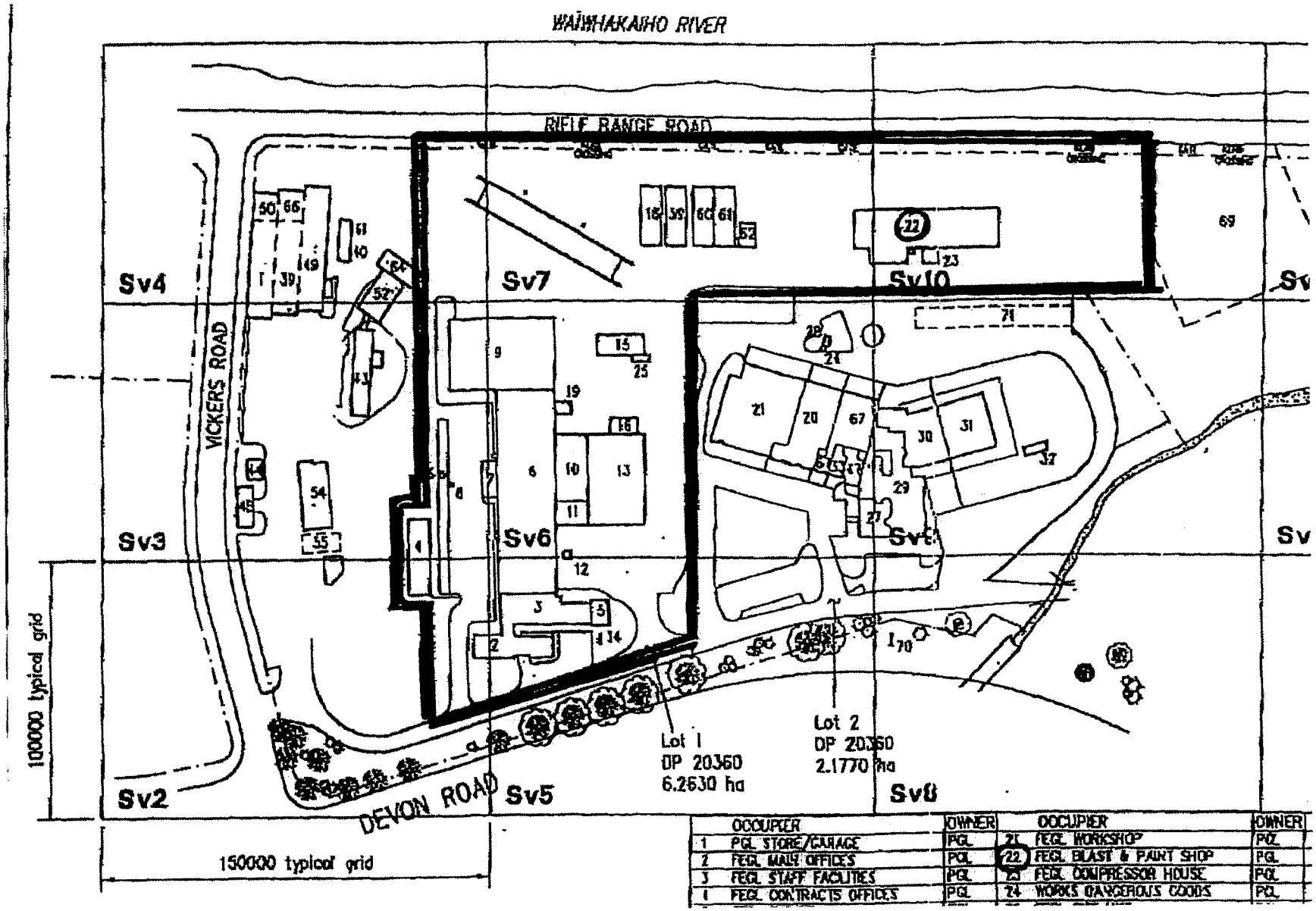
31. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2007 and/or June 2008 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



	OCCUPIER	OWNER		OCCUPIER	OWNER
1	PGL STORE/GARAGE	PGL	21	FEGL WORKSHOP	PGL
2	FEGL MAIN 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

Consent 4475-2

TARANAKI REGIONAL COUNCIL

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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 Date:	18 February 2009

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.

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/m^3 [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 $g/m^2/30$ 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').

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/m^3 [measured under ambient conditions], and the deposition of dust shall not exceed 0.13 $g/m^2/day$ 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.

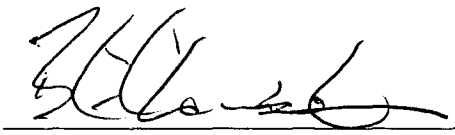
Review

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.

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

Consent 4024-3

TARANAKI REGIONAL COUNCIL

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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

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. Not withstanding 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 g/m^2/ day or 4.0 g/m^2/30 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.

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

Consent 4051-5

TARANAKI REGIONAL COUNCIL

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Discharge Permit

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

Name of Consent Holder:	Viterra (NZ) Limited P O Box 3345 AUCKLAND 1140
Decision Date:	
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/m^3 normal temperature and pressure (NTP).

5. The dust deposition rate beyond the property boundary arising from the discharge shall be less than 4.0 $g/m^2/30$ 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/m^3 (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.

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 13 August 2010

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Consent 6073-1

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

Discharge Permit

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

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

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.

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 2014for 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

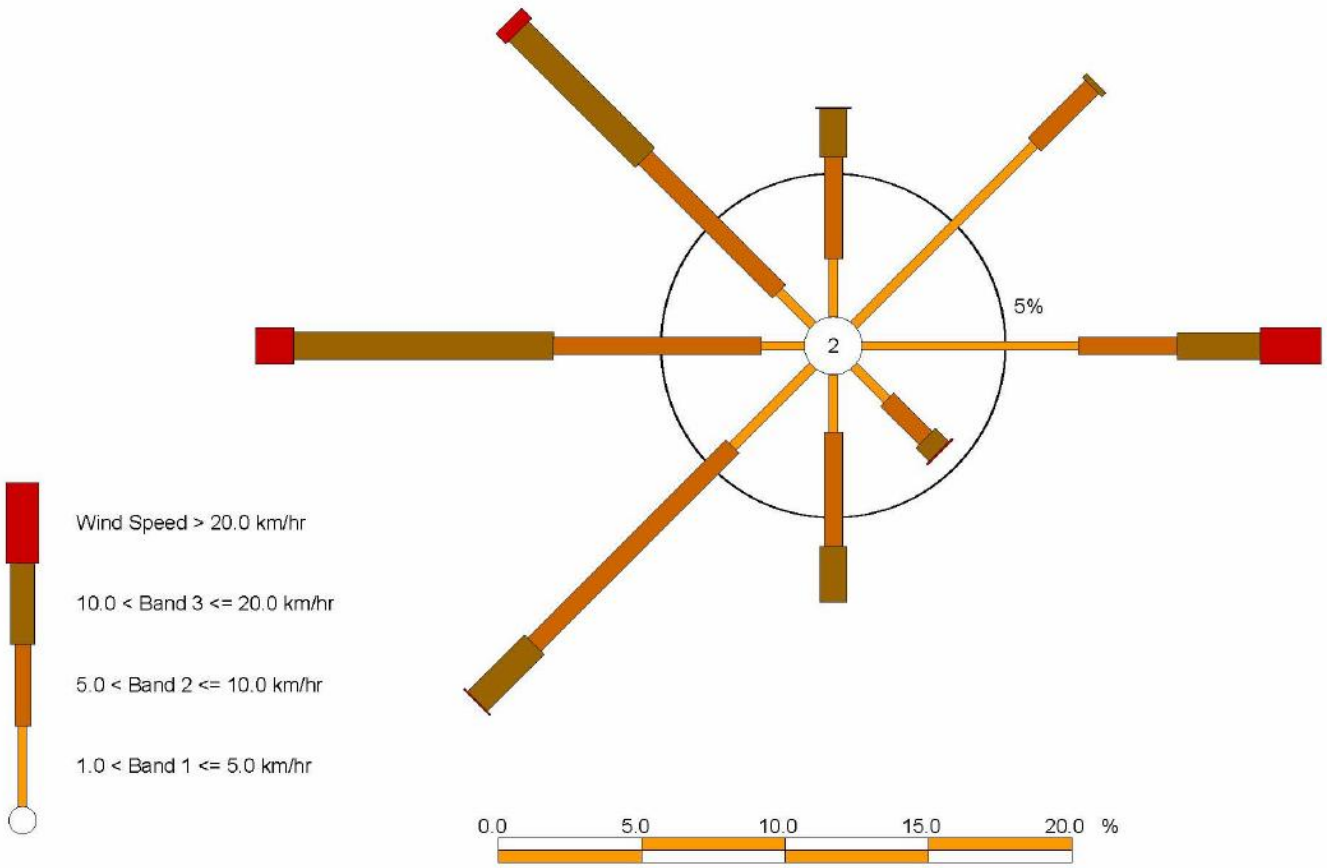
For and on behalf of
Taranaki Regional Council

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 10-Jan-2013 08:00:00 to 5-Feb-2013 17:00:00



~~~ Hilltop Hydro ~~~ Version 6.32 21-Aug-2013
~~~ PLWind ~~~

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 10-Jan-2013 08:00:00 to 5-Feb-2013 17:00:00

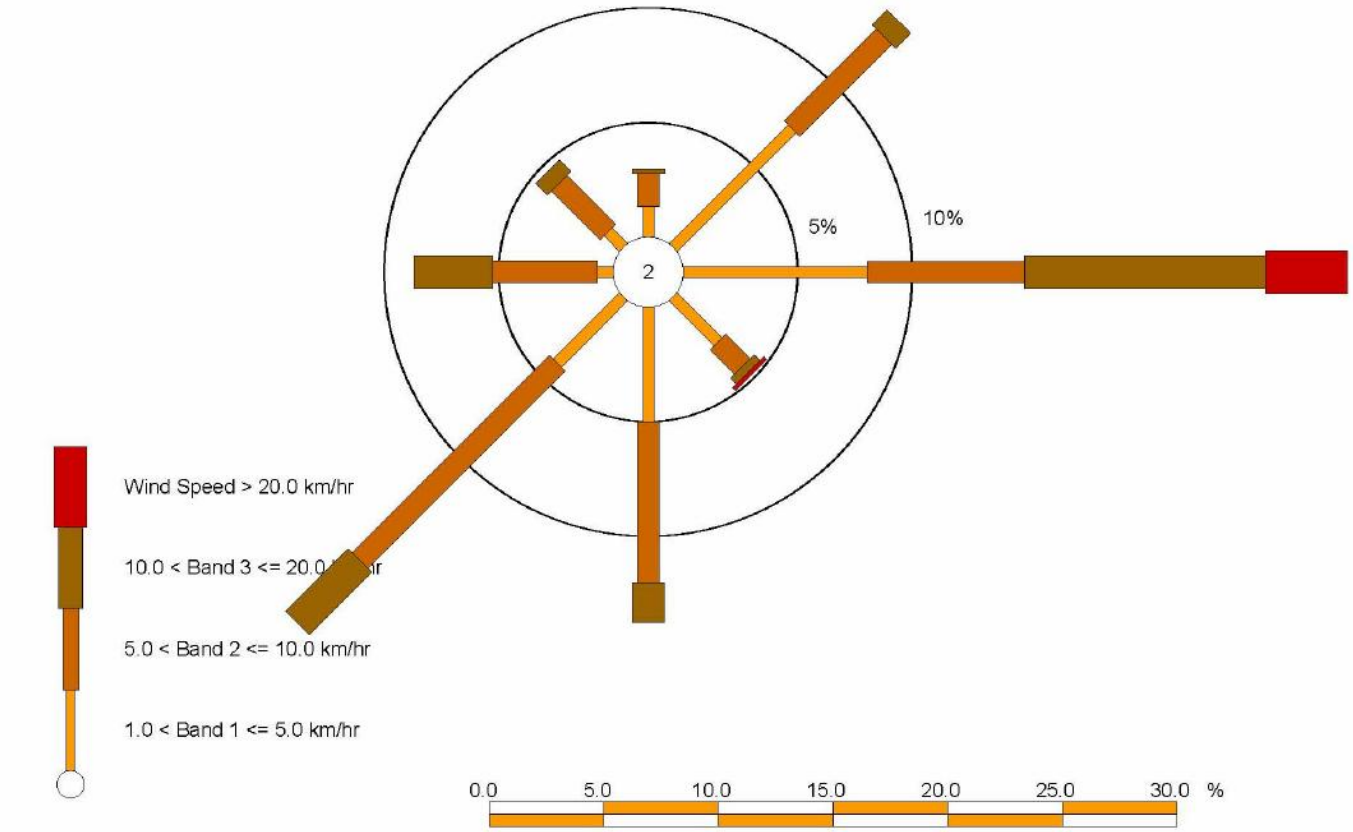
Number of data points read : 3798
Number of directions <0.0 or >360.0 deg. : 0
Limits for Wind Speed are 0.0 to 50.0 km/hr
Number of readings outside limits : 0
Number of data points used : 3798

Percentange of time in each band

Direction	Band 1	Band 2	Band 3	Band 4	Total
337.5 - 22.4	2.1	3.5	1.7	0.0	7.3
22.5 - 67.4	8.9	2.8	0.2	0.0	12.0
67.5 - 112.4	7.6	3.4	2.9	2.1	16.0
112.5 - 157.4	1.7	1.9	0.7	0.1	4.3
157.5 - 202.4	2.0	4.0	1.9	0.0	7.9
202.5 - 247.4	4.0	9.8	2.8	0.0	16.6
247.5 - 292.4	1.5	7.2	9.1	1.3	19.1
292.5 - 337.4	1.7	6.6	6.2	0.5	15.0
Total	29.4	39.3	25.5	4.0	98.2
			Percentage <= 1.0		1.8

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

Wind Direction at Wastewater Treatment Plant N.P
Wind Speed at Wastewater Treatment Plant N.P
From 12-Feb-2013 08:00:00 to 8-Mar-2013 17:00:00



~~~ Hilltop Hydro ~~~ Version 6.32 21-Aug-2013
~~~ PLWind ~~~

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 12-Feb-2013 08:00:00 to 8-Mar-2013 17:00:00

Number of data points read : 3510
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 : 3510

Percentange of time in each band

Direction	Band 1	Band 2	Band 3	Band 4	Total
337.5 - 22.4	1.3	1.4	0.2	0.0	3.0
22.5 - 67.4	7.4	5.7	0.9	0.0	13.9
67.5 - 112.4	8.0	6.9	10.5	3.6	28.9
112.5 - 157.4	2.8	1.5	0.3	0.2	4.8
157.5 - 202.4	5.0	7.0	1.7	0.0	13.7
202.5 - 247.4	4.1	12.2	3.8	0.0	20.1
247.5 - 292.4	0.7	4.6	3.4	0.0	8.7
292.5 - 337.4	1.0	3.0	0.7	0.0	4.7
Total	30.3	42.2	21.6	3.7	97.9
			Percentage <= 1.0		2.1

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