

Rockvale Deer Stud Ltd
and AJ Cowley Ltd
Combined Monitoring Programme
Biennial Report
2005-2007

Technical Report 2006-76

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Executive summary

AJ Cowley Limited operates a green waste composting facility at a closed quarry site on Manutahi Road, Bell Block. Rockvale Deer Stud Limited & AJ Cowley Limited operates a cleanfill located on the same closed quarry site on Manutahi Road at Bell Block, in the Waiongana catchment. The site was previously quarried by Winstone Aggregates but operations ceased at the site in 2003. The large site is now being backfilled with cleanfill material, and also accommodates a composting facility. This report for the period July 2005-June 2007 describes the monitoring programme implemented by the Taranaki Regional Council to assess each consent holder's environmental performance during the period under review, and the results and environmental effects of their activities.

Rockvale Deer Stud Limited & AJ Cowley Limited hold one resource consent, which includes a total of eight conditions setting out the requirements that the consent holders must satisfy regarding the discharge of cleanfill onto and into land. AJ Cowley Limited holds one consent to allow it to discharge emissions into the air from composting vegetative waste at the site which includes a total of nine conditions setting out the requirements that the consent holders must satisfy regarding the discharge of emissions into air.

The Council's monitoring programme for the period under review included eight inspections, and six water samples collected for physicochemical analysis.

The monitoring showed that AJ Cowley Limited operated the composting facility at the site to a high standard. Monitoring indicated that there were no odour or fly problems associated with the activity.

The monitoring showed that Rockvale Deer Stud Limited and AJ Cowley Limited's cleanfill operation was poorly managed in terms of acceptance of prohibited materials for the period under review.

During the monitoring period, AJ Cowley Limited demonstrated a high level of environmental performance and compliance with the resource consent relating to the discharge of emissions into the air from composting green waste at the site.

During the monitoring period, Rockvale Deer Stud Limited and AJ Cowley Limited demonstrated a poor level of environmental performance and compliance with the resource consent relating to the cleanfill activity at the site. During the period under review there were numerous discharges of unacceptable material to the cleanfill which led to the issue of an abatement notice.

Overall, improvement is desired in the performance of the consent holders covered by the monitoring programme.

This report includes recommendations for the 2007-2008 year, that monitoring of air emissions from AJ Cowley in the 2007-2008 year continue at the same level as in 2005-2007, and that monitoring of discharges of cleanfill onto and into land by Rockvale Deer Stud Limited & AJ Cowley Limited in the 2007-2008 year continue at the same level as in 2005-2007. The report also recommends that AJ Cowley's consent to discharge emissions to air not be reviewed in the 2007-2008 period, but that Rockvale Deer Stud Limited & AJ Cowley Limited's consent to discharge cleanfill onto and into land should be reviewed in 2007-2008.

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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 Biennial Report for the period July 2005-June 2007 by the Taranaki Regional Council on the monitoring programme associated with resource consents held by Rockvale Deer Stud Limited & AJ Cowley Limited. The Companies operate a cleanfill situated on Manutahi Road at Bell Block, in the Waiongana catchment. The report also includes the monitoring programme associated with resource consents held by AJ Cowley Limited. The Company operates a composting facility situated on Manutahi Road at Bell Block, in the Waiongana catchment.

This report covers the results and findings of the combined monitoring programme implemented by the Council in respect of the consent held by Rockvale Deer Stud Limited & AJ Cowley Limited that relate to the discharge of cleanfill material onto and into land within the Waiongana catchment, and the air discharge permit held by AJ Cowley Limited to cover emissions to air from green waste composting at the site, on Manutahi Road, Bell Block.

One of the intents of the Resource Management Act (1991) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Taranaki Regional Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the Rockvale Deer Stud Limited & AJ Cowley Limited, and AJ Cowley Limited use of water, land, and air, and is the 5th combined monitoring report by the Taranaki Regional Council for the site.

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, the resource consents held by Rockvale Deer Stud Limited & AJ Cowley Limited, and AJ Cowley Limited in the Waiongana catchment, the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted in the Rockvale Deer Stud Limited & AJ Cowley Limited, and AJ Cowley Limited site.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretation, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2007-2008 monitoring year.

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, including 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, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental performance

Besides discussing the various details of the performance and extent of compliance by Rockvale Deer Stud Limited & AJ Cowley Limited, and AJ Cowley Limited in the Waiongana catchment 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 trivial (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 year were negligible or minor at most, items of concern were resolved positively, co-operatively, and quickly, the Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices, 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.

- **improvement desirable** indicates that the Council may have been obliged to record a verified unauthorised incident involving significant environmental impacts against the company, and/or abatement notices may have been issued; there were adverse 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 end of the period under review.
- **poor** performance is used when there were grounds for prosecution or infringement notice.

1.2 Process description

Several companies have operated on the site in the past, carrying out different activities. A more comprehensive overview of the site's history is presented in the Taranaki Regional Council, Technical Report 2004-82 (Taranaki Regional Council, 2004).

Currently the site on Manutahi Road, Bell Block is a closed quarry, which is currently being backfilled with cleanfill material. The quarry is large in size and it will take some years to fill in the open pits on site. The consent to cleanfill is held by Rockvale Deer Stud Limited & AJ Cowley Limited.

The site also accommodates a green waste composting operation which is consented to AJ Cowley Limited. The green waste is principally sourced from a private transfer station in Spotswood, New Plymouth.

1.3 Resource consents

Resource consents associated with the closed quarry site and consents relevant to this report are listed in Table 1.

Table 1 Rockvale Deer Stud Limited and AJ Cowley Limited, and AJ Cowley Limited – consent information summary for the closed quarry site on Manutahi Road, Bell Block

Consent number	Consent granted	Next review	Consent expiry	Consent purpose
5606-1	14 Mar 2000	June 2008	1 June 2014	To discharge cleanfill onto and into land in the vicinity of an unnamed tributary of the Mangaoraka Stream in the Waiongana catchment for quarry reinstatement purposes.
5750-1	12 Dec 2000	June 2005	1 June 2006	To discharge emissions into the air from composting operations.
5750-2	5 Oct 2005	June 2005	1 June 2012	

1.3.1 Air discharge permit

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.

AJ Cowley Limited holds air discharge permit **5750-1** to cover discharge of emissions into the air from composting operations. This permit was issued by the Taranaki Regional Council on 21 December 2000 under Section 87(e) of the Resource

Management Act. It was due to expire on 1 June 2006. The consent was renewed on 5 October 2005, permit 5750-2. It is due to expire on 1 June 2012.

Special condition 1 requires the consent holder to adopt the best practicable option when exercising the consent.

Special condition 2 requires the consent holder to operate the site in general accordance with the information provided in the consent application.

Special condition 3 requires the consent holder to consult with the Council if changes to the composting process are required.

Special condition 4 states that only vegetative waste shall be composted at the site, and no food waste shall be composted.

Special condition 5 relates to changes or cancellation of consent special conditions.

Special condition 6 states that no waste shall be burned on the site.

Special condition 7 states that the exercise of the consent shall not cause an objectionable or offensive odour at any off-site dwelling.

Special condition 8 deals with lapse of the consent.

Special condition 9 deals with review options of the consent.

The permit is attached to this report in Appendix I.

1.3.2 Discharges of wastes to land

Sections 15(1)(b) and (d) of the Resource Management Act stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations.

Rockvale Deer Stud Limited and AJ Cowley Limited hold discharge permit **5606-1** to cover the discharge of cleanfill material onto and into land for quarry reinstatement purposes. This permit was issued by the Taranaki Regional Council on 14 March 2000 under Section 87(e) of the Resource Management Act. It was reviewed on 21 November 2002. It is due to expire on 1 June 2014.

Special condition 1 requires the consent to be exercised in accordance with the information provided with the consent application and limits the discharge of cleanfill to two sites.

Special conditions 2 and 3 specify the types of materials that can and cannot be discharged to the cleanfill, while special condition 4 requires approval from the Council to discharge any materials not specified in conditions 2 or 3.

Special condition 5 prohibits any contamination from the discharge entering surface water, while special condition 6 requires the consent holder to adopt the best practical option to prevent or minimise adverse environmental effects from the discharge;

Special condition 7 refers to site reinstatement, while special condition 8 is a review provision.

The permit is attached to this report in Appendix I.

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the Resource Management Act sets out an obligation for 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.

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 monitoring programme for the Manutahi Road site consisted of three primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Taranaki Regional Council in ongoing liaison with resource consent holders over consent conditions and their interpretation and application, in discussion over monitoring requirements, preparation for any reviews, renewals, or new consents, advice on the Council's environmental management strategies and the content of regional plans, and consultation on associated matters.

1.4.3 Site inspections

The Manutahi Road, Bell Block site was visited eight times during the monitoring period. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. With regard to the discharge of contaminants onto and into land inspections focused on the quality of material discharged to the site and any potential effects on surface water quality.

1.4.4 Chemical sampling

The Taranaki Regional Council undertook sampling of both the discharges from the site and the water quality upstream and downstream of the discharge point and mixing zone.

The Manutahi Road closed quarry site discharge was sampled on two occasions, and the samples analysed for pH, conductivity, suspended solids, turbidity, ammoniacal nitrogen, filtered COD, and dissolved copper. The Mangaoraka Stream was sampled on two occasions, and the samples analysed for turbidity, conductivity, suspended solids, and ammoniacal nitrogen.

The Taranaki Regional Council undertook qualitative monitoring of air emissions from the site for dust and odours at the time of each inspection.

2. Results

2.1 Water

2.1.1 Inspections

7 December 2005

The composting operation appeared to be well managed. There were eight rows which seemed to have recently been turned. It was estimated that there was 1500 cubic metres being composted at the time of the inspection. There were no odour, fly, or vermin issues at the composting area at the time of the inspection. There was no evidence of recent fire at the composting area.

There was a small fire burning at the water filled quarry pit immediately inside the main entrance gate. This had been discussed before with regard to the consent and again noted that burning of waste on the consented site was prohibited.

Materials discharged to various pits at the site included clay, tree stumps, demolition concrete and timber, plastic piping, stones, and gravel. Materials that were discharged to the site but in breach of condition 3 of cleanfill consent 5606-1 were several galvanised sheets, car parts (small in size), metal pipes, and several large loads of wood waste (chip and shavings).

Work on the vermicast operation was being carried out at the time of the inspection. The receiving water appeared in good condition downstream of the discharge from the site.

The consent holder was instructed to prevent any further burning of waste, and further discharges of wood chip and shavings to the site and remove smaller items of sheeting and metal objects immediately.

2 March 2006

There were nine rows being composted at the time of the inspection. Two of the oldest rows had weed growing on them. There were no fly, dust or vermin nuisances noted at the time of the inspection. Odour was noted but dissipated further from the piles and was not a problem beyond the site boundary. There was no ponding of storm water or leachate at the composting area at the time of the inspection.

Cleanfill material was being discharged to the pit immediately inside the access gate to the site. This pit was large and was being backfilled on two sides. Materials discharged included clay and stone which complied with the consent. There was no green waste noted during the inspection and no evidence of recent fire on the site.

It was planned to take water quality samples but the two access gates at the rear of the site were closed at the time of the inspection. Signs on the gate read 'yarding deer keep out'. It was not possible to inspect the pit at the rear of the site which was also being backfilled with cleanfill.

27 April 2006

The site access gate was open at the time of the inspection. Materials discharged to site included wood shavings, tree stumps, concrete pieces, timber, a large quantity of green waste, and a small amount of domestic waste.

The consent holder was instructed to cease accepting and dumping of prohibited wood waste and green waste materials at this site.

1 May 2006

The Council officer who inspected the site on 27 April 2006 spoke to Mr Cowley (he returned the call the Council officer made on 28 April 2006). The officer spoke to Mr Cowley regarding wood waste and green waste discharged to his cleanfill site on Manutahi Road, Bell Block. Mr Cowley stated that he previously had permission from the Council in the 1998-1999 period to discharge wood waste to the site, and also green waste. The officer pointed out that the consent had been issued after that time and that the conditions of the consent applied. Mr Cowley attempted to retrieve some written correspondence on this matter from the 1998-1999 period but could not locate the specific document. The Council officer pointed out that Mr Cowley had a good correspondence record with the Council on materials that he was unsure of e.g. oily waste. However, there was no record of discussion of wood waste in the file.

The officer stated that wood waste was not acceptable cleanfill material as outlined in the MfE guidelines and that this unacceptability was being applied to all cleanfill sites. Mr Cowley suggested that this should be on a case-by-case basis depending on the impact.

15 June 2006

The site access gates were open. A large quantity of wood shavings and green waste had been discharged to the site. Again the consent holder was instructed to cease accepting green waste and wood waste at the site.

21 August 2006

Material discharged to site included clay, topsoil, wood stumps, and green waste. The composting side looked quite full. There was a large volume of surface water ponding at this area due to recent rain. It should be noted that the composting site is some distance from the Mangaoraka Stream, and this run off was unlikely to have any adverse environmental effect on the stream.

There was also a truckload of wood chip discharged to the cleanfill site. An abatement notice (no.11107) was issued requiring the consent holder to cease accepting and dumping of prohibited material. Water quality samples were taken, at the time of the inspection. Dust or odours were not an issue at the site. Follow up of the abatement notice indicated that materials being received were not strictly prohibited by the consent but were undesirable from an environmental perspective. It is therefore recommended that the consent be reviewed at the next available opportunity (June 2008).

1 December 2006

The site access gates were open. A large quantity of material had been discharged to the site since the last inspection. Materials discharged included clay, concrete, green waste, metal, corrugated iron, stumps, saw dust, shavings, and a small amount of domestic rubbish. The composting operation appeared to be operating well.

The consent holder was instructed to cease accepting and remove prohibited materials

1 March 2007

The cleanfill discharge area at the rear of the property was filling at a fast pace. Materials discharged consisted of woodchip, clay, dirt, sand, trees, stumps, branches, grass, a small amount of corrugated iron, concrete, and several truck tyres. In contrast, the composting area had not received much material since the last inspection. There were some piles of green waste that had yet to be added to the rows. There were no odour or dust problems noted at the time of the inspection.

The consent holder was instructed to remove the corrugated iron from the cleanfill discharge area.

2.1.2 Results of discharge monitoring

Analytical results for storm water discharge samples collected at the Manutahi Rd site are given in Table 2.

Table 2 Analytical results Manutahi Rd storm water discharge

Parameter	Unit	Site STW002030	
		15 June 2006	21 August 2006
pH	pH	7.0	6.8
Chemical oxygen demand	g/m ³	*	30
Conductivity	mS/m	66.0	58.4
Suspended solids	g/m ³	*	40
Turbidity	NTU	*	160
Ammoniacal nitrogen	g/m ³	4.18	3.52
Dissolved copper	g/m ³	*	<0.01
Temperature	°C	11.5	12.5

Water quality results for the storm water discharge from the site show the discharge is contaminated as demonstrated by moderate concentrations of suspended solids, ammoniacal nitrogen, and turbidity. While ammoniacal nitrogen concentrations were slightly elevated the unionised ammonia content for both samples was below 0.025 g/m³-N which, along with other parameter results, indicates that the environmental impact of the discharge would not cause adverse environmental effects on the receiving water.

2.1.3 Results of receiving environment monitoring

Analytical results for upstream (MRK000411) and downstream (MRK000412) sampling sites at the Manutahi Rd site are given in Table 3.



Figure 1 Rockvale Deer Stud Limited & AJ Cowley Limited cleanfill, and AJ Cowley Limited composting area at Manutahi Road, Bell Block

Table 3 Analytical results for Mangaoraka Stream receiving waters Manutahi Road site, Bell Block

Parameter	Unit	Site MRK000411		Site MRK000412	
		15 Jun. 2006	21 Aug. 2006	15 Jun. 2006	21 Aug. 2006
pH	pH	7.6	*	7.6	*
Conductivity	mS/m	13.6	13.5	14.0	13.7
Ammoniacal nitrogen	g/m ³	0.016	0.085	0.49	0.121
Suspended solids	g/m ³	*	7	*	6
Turbidity	NTU	*	8.1	*	7.8
Temperature	°C	12.5	11.5	11.5	11.5

Note: * denotes not measured

Results in Table 3 indicated that the leachate discharge from the Manutahi Road site at STW002030 is having a noticeable impact but no adverse environmental impact on the water quality of the Mangaoraka Stream. There was an increase in ammoniacal nitrogen concentration downstream of the discharge on both sampling occasions which reflected ammoniacal nitrogens of the discharge. However, these concentrations and the unionised ammonia component of the downstream sample were unlikely to cause any adverse environmental effect.

2.2 Register of incidents

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 register ('unauthorised incident register') includes events where the company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

Incidents may be alleged to be associated with a particular site. If there is 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).

In the 2005-2007 year, there was one incident recorded by the Council that was associated with Rockvale Deer Stud Limited & AJ Cowley Limited. The unauthorised incident related to the discharge of unacceptable material at the cleanfill areas. The incident was dealt with by way of abatement notice (no. 11107) on 22 August 2006.

3. Discussion

3.1 Discussion of plant performance

The compost operation at the Manutahi Road site was well managed for the monitoring period. Compost rows were tidy and conducive to achieving good internal composting temperatures. There was some surface water pond at this area after recent rain events, but this was unlikely to have any adverse effects on the water quality of the Mangaoraka Stream, which is situated some distance from the composting area.

The cleanfill operation was not very well managed with regards to the quality of fill discharged to the site for the monitoring period. Wood waste and green waste were commonly discharged to the site along with other smaller quantities of unacceptable material. This material breached several conditions of the resource consent for the activity. The principal reason for excluding wood waste and green waste from discharge to cleanfill sites is that this type of material can decay at a fast rate, releasing dissolved organic compounds and ammonia into storm water and leachate discharges from a site. Eventually, this leads to adverse environmental impacts on adjacent rivers and streams. If this occurred, then the consent holder would have to either prevent discharges to any river or stream or treat the contaminated discharge to an acceptable standard before it could be discharged. Both of these options could be financially costly for the consent holder. Therefore, with regard to wood waste and green waste in cleanfills, prevention is better than cure.

3.2 Environmental effects of exercise of consents

The Council monitors the effects of the discharge from the cleanfill area on the Mangaoraka Stream by conducting visual inspections of the streambed, upstream and downstream of the discharge point, and measuring physico-chemical properties of the stormwater and receiving environment.

Monitoring of the Manutahi Rd operations during 2005-2007 did not indicate any significant adverse effects in the receiving waters as a result of exercising the discharge consents held by Rockvale Deer Stud Limited & AJ Cowley, and AJ Cowley Limited. These results were consistent with previous recent monitoring periods.

There were no complaints received by the Council during the monitoring period relating to off site odours as a result of the composting operation.

3.3 Evaluation of performance

A tabular summary of the AJ Cowley Limited, and Rockvale Deer Stud Limited & AJ Cowley Limited compliance record for the period under review is set out in Tables 4-5.

Table 4 Summary of performance for consent 5606-1 to discharge cleanfill material onto and into land for quarry reinstatement purposes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Comply with information submitted in support of application	Site specific monitoring programme – programme management and inspections	No
2. Only discharge cleanfill and/or inert materials	Site specific monitoring programme – inspections	No
3. No discharge of materials detailed in this consent condition	Site specific monitoring programme – inspections	No
4. If the acceptability of a substance is uncertain, obtain approval from the Council	Site specific monitoring programme – programme management and inspections	No
5. Discharge to land shall not result in contamination of surface water	Site specific monitoring programme – water quality sampling	Yes
6. The consent holder shall adopt the best practicable option when exercising the consent	Site specific monitoring programme – programme management	No
7. Upon completion the discharge site shall be stabilised and grassed	Site specific monitoring programme – programme management	N/A
8. Optional review provision re environmental effects due June 2008	Site specific monitoring programme – programme management	Review warranted

N/A = not applicable

Table 5 Summary of performance for consent 5750-2 to discharge emissions into air from composting activities

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall adopt the best practicable option when exercising the consent	Site specific monitoring programme – programme management	Yes
2. Comply with information submitted in support of application	Site specific monitoring programme – programme management	Yes
3. The consent holder shall not change the composting operation at the site without first informing the Council	Site specific monitoring programme – programme management	Yes
4. Only compost vegetation wastes. No meat waste may be composted on the site	Site specific monitoring programme – site inspection	Yes
5. The consent holder may apply for a change or cancellation of any of the conditions	N/A	N/A
6. There shall be no burning of waste on site	Site specific monitoring programme – site inspection	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
7. No offensive odours at off site dwellings due to the activity	Site specific monitoring programme – site inspection	Yes
8. Deal with the lapsing of the consent	Site specific monitoring programme – programme management	Yes
9. Optional review provision re environmental effects due June 2008	Site specific monitoring programme – programme management	Not warranted

During the monitoring period, the AJ Cowley Limited demonstrated a high level of environmental performance and compliance with the resource consent relating to composting on the site. During the period under review there were no complaints received by the Council relating to the operation. The operation continues to be well managed.

During the monitoring period, Rockvale Deer Stud Limited & AJ Cowley Limited demonstrated a poor level of environmental performance and compliance with the resource consent relating to the discharge of cleanfill material to the site. During the period under review there was one abatement notice and numerous inspection notices detailing unacceptable material discharged to the cleanfill area.

3.4 Recommendations from the 2004-2005 Annual Report

In the 2004-2005 Annual Report, it was recommended:

THAT the 2005-2006 monitoring programme for Bell Block Holdings Ltd and AJ Cowley Ltd at the Manutahi Rd site is altered to reflect the transfer of consent 5750 to Rockvale Deer Stud Ltd and AJ Cowley Ltd and that monitoring be continued at the same level as in 2004-2005.

This recommendation has been implemented in the 2005-2006 and 2006-2007 years.

3.5 Alterations to monitoring programmes for 2007-2008

In designing and implementing the monitoring programmes for air/water 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/discharges and 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/discharging to the environment.

In the case of Rockvale Deer Stud Limited & AJ Cowley Limited, and AJ Cowley Limited the programme for 2005-2007 was unchanged from that for 2004-2005. It is now proposed that for 2007-2008, monitoring continues as that of 2005-2007. A recommendation to this effect is attached to this report.

3.6 Exercise of optional review of consent

Resource consent 5606-1 provides for an optional review of the consent in June 2008. Condition eight allows the Council to review the consent, if there are grounds that unforeseen adverse environmental effects have arisen because of the exercise of the consent.

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 grounds to exercise the review option.

A recommendation to this effect is presented in Section 4 of this report.

Resource consent 5750-2 provides for an optional review of the consent in June 2008. Condition nine allows the Council to review the consent, if there are grounds that unforeseen adverse environmental effects have arisen because of the exercise of the consent.

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 to exercise the review option.

A recommendation to this effect is presented in Section 4 of this report.

4. Recommendations

1. THAT monitoring of air emissions from AJ Cowley in the 2007-2008 year continue at the same level as in 2005-2007.
2. THAT monitoring of discharges of cleanfill onto and into land by Rockvale Deer Stud Limited & AJ Cowley Limited in the 2007-2008 year continue at the same level as in 2005-2007.
3. THAT the option for a review of resource consent 5606-1 in June 2008, as set out in condition eight of the consent, be exercised, on the grounds that additional clarity and certainty is required in the consent special conditions as to the acceptability of green waste and wood waste at the cleanfill site.
4. THAT the option for a review of resource consent 5750-2 in June 2008, as set out in condition nine of the consent, not be exercised, on the grounds that conditions are satisfactory at present to prevent adverse environmental effects at the site.

Glossary of common terms and abbreviations

The following abbreviations and terms are used within this report:

Al*	aluminium
As*	arsenic
Biomonitoring	assessing the health of the environment using aquatic organisms
BOD	biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate
BODF	biochemical oxygen demand of a filtered sample
bund	a wall around a tank to contain its contents in the case of a leak
CBOD	carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter, excluding the biological conversion of ammonia to nitrate
cfu	colony forming units. A measure of the concentration of bacteria
COD	chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Condy	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m
Cu*	copper
DO	dissolved oxygen
DRP	dissolved reactive phosphorus
<i>E.coli</i>	<i>Escherichia coli</i> , an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as the number of colonies per 100 ml
Ent	Enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as the number of colonies per 100 ml
F	Fluoride
FC	Faecal coliforms, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as the number of colonies per 100 ml
fresh	elevated flow in a stream, such as after heavy rainfall
g/m ³	grammes per cubic metre, and equivalent to milligrammes per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures
l/s	litres per second
MCI	macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats
mS/m	millisiemens per metre
mixing zone	the zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
NH ₄	ammoniacal nitrogen, normally expressed in terms of the mass of nitrogen (N)
NH ₃	unionised ammonia nitrogen, normally expressed in terms of the mass of nitrogen (N)
NO ₃	nitrate, normally expressed in terms of the mass of nitrogen (N)
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water

O&G	oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons)
Pb*	lead
pH	a numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	measurement of both physical properties(e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment
PM ₁₀	relatively fine airborne particles (less than 10 micrometre diameter)
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 subsequent amendments
SS	suspended solids,
Temp	temperature, measured in °C
Turb	turbidity, expressed in NTU
UIR	Unauthorised Incident Register entry- an event recorded by the Council on the basis that it had potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan
Zn*	zinc

*an abbreviation for a metal or other analyte may be followed by the letter '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

Bibliography and references

Taranaki Regional Council, 2004: Winstone Aggregates Ltd (Manutahi Road quarry), Bell Block Holdings Ltd and A J Cowley Ltd Combined Monitoring Programme Annual Report 2003-2004, Technical Report 2004-82.

Appendix I

**Resource consents held by AJ Cowley Limited,
and Rockvale Deer Stud Limited & AJ Cowley Limited**