

Ferndene Quarries Limited  
Monitoring Programme  
Biennial Report  
2012-2014  
Technical Report 2014–35

ISSN: 0114-8184  
ISSN: 1178-1467  
Document:1374957 (Word)  
Document:1385035 (Pdf)

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September 2014



## **Executive summary**

Ferndene Quarries Limited operates a quarry located on Upland Road at Egmont Village, in the Waiongana catchment. The quarry has been operating since 2004 and the cleanfill has been operating since 2007. This report for the period July 2012-June 2014 and describes the monitoring programme implemented by the Taranaki Regional Council to assess the Company's environmental performance during the period under review, and the results and environmental effects of the Company's activities.

The Company holds two resource consents, which include a total of 25 conditions setting out the requirements that the Company must satisfy. The Company holds one consent to allow it discharge treated stormwater into and onto land and into an unnamed tributary of the Mangaoraka Stream, and one consent to discharge cleanfill into and onto land for quarry reinstatement purposes.

The Council's monitoring programme for the period under review included seven inspections.

The monitoring showed that the site was generally tidy and well managed.

One incident regarding operations at the quarry site was recorded. Investigations found an unauthorised discharge and the company received an infringement notice.

During the period, the Company demonstrated an overall 'improvement required' level of environmental performance and compliance with the resource consents.

This report includes recommendations for the 2014-2016 period.



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## 1. Introduction

This is the biennial report for the period July 2012-June 2014 by the Taranaki Regional Council describing the monitoring programme associated with resource consents held by Ferndene Quarries Limited (Ferndene Quarries). The Company operates a quarry situated on Upland Road, Egmont Village.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by Ferndene Quarries that relate to abstractions and discharges of water in the Waiongana catchment. This is the fifth biennial report to be prepared by the Taranaki Regional Council to cover the Company's stormwater discharges and cleanfill operation and their effects.

### 1.1 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 1991* (RMA) and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consents held by Ferndene Quarries 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 at Ferndene Quarries.

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 2014-2016 monitoring period.

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

### 1.2 Compliance monitoring & the Resource Management Act 1991

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

- (a) the neighbourhood or the wider community around an activity, and may include cultural and 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 (e.g., 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 activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans; and maintains an overview of 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.

### 1.2.1 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 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 required (environmental) or improvement required (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 2013-2014 period, 60% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 29% demonstrated a good level of environmental performance and compliance with their consents.

## **1.3 Process description**

### **1.3.1 Background**

In the past, a large percentage of aggregate production came from river-based sites within Taranaki. The Waiwhakaiho River supplied much of New Plymouth's requirements as far back as the 1950s with the Waitara River, Waiongana River, Kapuni Stream and Waingongoro River also providing a valuable source of aggregate. The aggregate source within these rivers was often over-exploited. The protective armouring of the boulders and gravel was removed in places, exposing the underlying erodible ash beds and creating deep narrow channels, which moved progressively upstream with no noticeable recovery. This brought about the need for the Shingle Extraction Bylaw introduced in 1974. Aggregate extraction from rivers was then controlled through the issue of permits accompanied by a set of conditions, with the removal of river-based aggregate being restricted to that for river control purposes only.

Historically, land-based sites required steady markets to compete with the easily won river-based extraction operations. However, in the early 1980s, due to the restriction placed on river-based aggregate extraction (and the completion of various major river control programmes and 'Think Big' projects) land-based sites became more widespread (Taranaki Regional Council, 1992).

Twenty-five operating quarries presently supply aggregate in Taranaki. These quarries are generally located in a reasonable proximity to urban areas, from which the greatest demand for aggregate stems.

Provision of aggregate to meet longer term demand will continue to be dominated by several large quarry operations. Extra demand on alluvial terraces and laharcic deposits has occurred due to the controlled river bed extraction. These resources are of good quality and are relatively plentiful. Importation of various aggregates may need to continue to meet the requirement for aggregate types not available in Taranaki.

Quarrying and extraction of gravel in NZ is regulated by two statutory processes. Allocation and protection of priority rights to extract gravel is obtained under the Crown Minerals Act from the NZ Petroleum and Minerals, a division of the Ministry of Economic Development.

Regulatory responsibility for control of environmental effects of quarrying and extraction is under the RMA as applied by respective regional councils. In some cases these controls may act as a constraint or limitation on allocation decisions.

Sections 15 and 30 of the RMA give regional councils responsibility for the discharge of contaminants into the environment. Discharges of water into water, contaminants onto or into land that may result in water contamination, and contaminants from industrial premises into air or onto/into land, may not take place unless expressly allowed by a rule in a regional plan, a resource consent, or regulations. Aggregate extraction usually involves washing aggregates, and therefore requires the discharge of wastes. Other discharges, such as emissions to air from crushing and processing plants, disposal of spoil and solid wastes, and discharges of stormwater are also the responsibility of regional councils.

### **1.3.2 Ferndene Quarry – Upland Road**

Ferndene Quarries operates a quarry situated on the true right of an unnamed tributary of the Mangaoraka Stream in the Waiongana catchment, at Upland Road, Egmont Village. Activities carried out on site include the extraction of aggregate, and the crushing, sorting and stockpiling of aggregate. No washing is undertaken on site, and consequently the only discharge from the site is stormwater. This stormwater is likely to contain suspended sediment, and may potentially carry hydrocarbons lost from the operating machinery.

This quarry began operating in 2004. At the extraction area, situated upstream of the Ferndene speedway, stormwater is collected at the bottom of the extraction pit. It was initially intended to pump the water from the pit to a settling pond from where it would discharge via a pipe to the unnamed tributary. However, the operator has opted to let the water settle in the extraction pit, and then pump it directly to the unnamed tributary.

Stormwater at the processing site is directed to two settling ponds, set in series. The final settling pond discharges to the unnamed tributary.



**Figure 1** Location of Ferndene Quarry, Upland Road, Egmont Village



**Figure 2** Location of Ferndene Quarry

## 1.4 Resource consents

### 1.4.1 Water abstraction

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14.

Sufficient volumes of water within streams and rivers to protect aquatic habitat is a primary concern of the Taranaki Regional Council with respect to water abstraction permits. Water abstraction for quarries is usually only required for the washing of aggregate, and in this regard the Council encourages the recycling of both washwater and stormwater to minimise the requirement to abstract surface water. Often when combined with efficient recycling, the small volumes of surface water required to be abstracted for washing at quarries fit within the permitted activity rule [Rule 15] of the Regional Fresh Water Plan for Taranaki. That is, the abstraction volume shall not exceed 50 cubic metres per day, and the abstraction rate shall not exceed 1.5 litres per second.

### 1.4.2 Water discharge permit

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

Water quality is a primary concern to the Taranaki Regional Council with regard to aggregate extraction. A quarry can operate as either a 'dry' quarry discharging only stormwater or a 'washing' quarry where aggregate washing facilities are in place. Many of the quarries in Taranaki have some form of washing facility and also operate in the vicinity of a water body or have some form of discharge into a water body.

Waste water from aggregate washing has a high silt concentration. Discharge of this water into a waterbody, particularly to a river during low flow, results in a smothering of instream life and deterioration in aesthetic conditions and can affect downstream abstractions of water, local fisheries and recreational activity.

Stormwater is generally less contaminated (in terms of silt concentration) and run-off tends to occur when rivers are in higher flow. This means that the effect of silt contamination is reduced due to lower quantities, dilution and carrying capacity. The installation of appropriate stormwater diversion structures, together with construction and maintenance of contaminated stormwater and aggregate washing discharge treatment facilities are most important in maintaining water quality.

Ferndene Quarries Limited holds water discharge permit **6453-1** to cover discharge of treated stormwater from quarrying and rock crushing operations onto and into land and into an unnamed tributary of the Mangaoraka Stream. This permit was issued by the Taranaki Regional Council on 16 September 2004 under Section 87(e) of the RMA. It is due to expire on 1 June 2020.

There are 15 special conditions attached to this consent.

Condition 1 requires the consent holder to adopt the best practicable option.

Condition 2 requires the exercise of consent to be in accordance with information submitted in support of application.

Condition 3 states there is to be no direct discharge of untreated stormwater.

Condition 4 requires bunding and contouring of the site.

Condition 5 requires the consent holder to control erosion of exposed areas within the quarry site.

Condition 6 requires progressive reinstatement of the site.

Condition 7 limits the maximum stormwater catchment area.

Condition 8 requires the consent holder to maintain and operate the silt control structures.

Condition 9 relates to concentration limits that apply to the discharge.

Conditions 10 and 11 relate to mixing zone effects.

Condition 12 relates to supply of a contingency plan, a stormwater management plan and a site layout plan.

Condition 13 relates to site reinstatement on cessation or surrender of consent.

Condition 14 relates to consent lapse.

Condition 15 allows Council to review, amend, delete or add to conditions of consent. The permit is attached to this report in Appendix I.

### **1.4.3 Air discharge permit**

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

Rule 16 of the Council's Regional Air Quality Plan for Taranaki (July 2011) allows the discharge of emissions from quarrying operations as a permitted activity, subject to compliance with various environmental performance conditions.

Ferndene Quarries does not hold a permit for discharge to air as it meets the requirements of Rule 16 of the Regional Air Quality Plan for Taranaki as a permitted activity.

### **1.4.4 Discharges of wastes to land**

Sections 15(1)(b) and (d) of the RMA 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.

Ferndene Quarries Limited holds discharge permit **7089-1** to discharge cleanfill onto and into land for quarry reinstatement purposes. This permit was issued by the Taranaki Regional Council on 2 April 2007 under Section 87(e) of the RMA. It is due to expire on 1 June 2026.

There are 10 special conditions attached to this consent.

Condition 1 requires the consent to be exercised in accordance with information submitted in support of application.

Condition 2 lists the contaminants which may be discharged to the cleanfill.

Condition 3 lists contaminants which should not be discharged to the cleanfill.

Condition 4 states that the discharge must not result in contaminants reaching water.

Condition 5 requires the consent holder to install and maintain silt control structures.

Condition 6 requires the consent holder to install and maintain stormwater diversion drains.

Condition 7 relates to supply of a cleanfill management plan.

Condition 8 requires the consent holder to adopt best practicable option.

Condition 9 requires the site to be stabilised and revegetated upon completion of cleanfill operation.

Condition 10 allows Council to review, amend, delete or add to conditions of consent.

The permit is attached to this report in Appendix I.

## **1.5 Monitoring programme**

### **1.5.1 Introduction**

Section 35 of the RMA 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 Ferndene Quarries site consisted of three primary components.

### **1.5.2 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.

### **1.5.3 Site inspections**

The Ferndene Quarries site was visited 10 times during the monitoring period. With regard to consents for the discharge to water and land, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater. Air 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.

### **1.5.4 Chemical sampling**

The monitoring programme required sampling of the discharge and the receiving waters upstream and downstream of the discharge and downstream of the mixing zone, when warranted.

No sampling was undertaken of the discharge or receiving water at the site during the monitoring period. Only clear discharges were occurring during most inspections and were having no visible impact beyond the mixing zone.

## **2. Results**

### **2.1 Water**

#### **2.1.1 Inspections**

During the 2012-2014 monitoring period the Council carried out a total of seven routine site inspections. Inspection notes are summarised below:

##### **10 September 2012**

There were showers following heavy rain at the time of inspection. The plant was not operating and the silt ponds looked good. There was no visual impact on the receiving waters. The speedway area was being utilised and product was stockpiled onsite. Any runoff was directed to the silt ponds.

The extraction areas were tidy and the clean fill area looked good and mainly consisted of clay and dirt.

##### **23 January 2013**

Processing was occurring at the time of inspection. A new crusher had been set up near the existing racetrack. The washwater had been piped to existing ponds and stormwater had been diverted to a small pond. The big treatment ponds were in the process of being cleaned out so washwater was going into the second pond. Clean fill was being dumped along side of the existing speedway track to build up the bank and to re contour the paddock. The area looked good.

##### **24 May 2013**

The inspecting officer met onsite with the quarry manager. The plant was in use at the time of inspection. It was found that the pipe running from the small pond was blocked and wash water was discharging over land and into the unnamed tributary. The stream was discoloured below the discharge point. Photos were taken. The site manager was informed of this happening and he unblocked the pipe at the time and the pond level dropped immediately. Discussion covered the need to ensure this pipe was checked daily to ensure this does not happen again. The large silt ponds looked good, the discharge from the ponds was clean and clear. The clean fill area looked good as no unauthorised material had been dumped. The extraction area looked good also. However the access track has changed.

Advice was given to ensure that all wash water is directed through the silt ponds for adequate treatment and that no untreated washwater discharges.

An infringement notice was issued for the unauthorised discharge.

##### **1 August 2013**

The inspecting officer met onsite with the quarry manager and drove around the site. The site was in use and the clean fill area looked good, concerns were discussed about some of the material that had been accepted and it was emphasized that burning must not occur in the clean fill. There was a building to be demolished; a lot of material will need to be taken to a landfill. Advice was given and options were discussed about cleaning out and removing silt from silt ponds. There was a lot of product stored onsite and the extraction area looked good. Everything looked satisfactory at time of inspection.

**5 September 2013**

A phone call was received from the quarry site manager regarding the dumping of old sawdust into the quarry. During a site visit the material looked fine and did not appear to be sawdust at all, rather clay mixed with dirt.

**19 November 2013**

The inspecting officer met onsite with the quarry manager and drove around the site. The extraction area looked good and crushing was taking place. There was a lot of product stockpiled onsite. The clean fill area looked good, a lot of material had been accepted, which consisted of clay, dirt, building material and broken concrete. Site was tidy. Everything looked satisfactory at time of inspection.

**13 January 2014**

There was processing occurring at the time of inspection, but no washing taking place. There was a lot of product stockpiled on site. The extraction area looked good and was pumping out of the bottom and top pit. The clean fill area looked good. Relatively little material had been received since the last inspection. Materials consisted of broken concrete, clay, dirt, stumps, plastics and a small amount of re-bar. Everything looked satisfactory at time of inspection.

**2.1.2 Results of receiving environment monitoring**

No samples were collected from the receiving waters during the period under review as during inspections of the site the discharge was found to be having no visible effect on the receiving water beyond the mixing zone.

**2.2 Air****2.2.1 Inspections**

Monitoring of discharges to air was carried out in conjunction with routine compliance monitoring inspections. Inspections found no issues with regards to dust or other emissions to air. Sprinklers were utilised when required to minimise dust leaving the site.

**2.3 Investigations, interventions, and incidents**

The monitoring programme for the period was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the consent holder. During the period matters may arise which require additional activity by the Council for example provision of advice and information, or investigation of potential or actual causes 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).

In the 2012-2014 monitoring period there was one occasion when an unauthorised discharge from the ponds was discovered. The stream was discoloured below the discharge point, but no effects were evident beyond the mixing zone. An infringement notice was issued.



**Photo 1** Silt pond



**Photo 2** Extraction area

### 3. Discussion

#### 3.1 Discussion of plant performance

In the 2012-2014 monitoring period there was one occasion when an unauthorised discharge of wash water from the ponds was discovered which was discoloured and it appeared to have no effect beyond the mixing zone. An infringement notice was issued.

Ferndene Quarry had recently upgraded the settling pond system at the site with the installation of a new pond. All stormwater was directed to the treatment system and discharge from the ponds was generally clear and there was no visible effects noted in the receiving waters beyond the mixing zone.

There were no issues noted during the monitoring period associated with discharges to air. Sprinklers were used to water down the yard and track to minimise dust during periods of fine weather.

The operators appear to be aware of the environmental issues related to operations at the site and undertake measures to minimise potential effects. The site was generally tidy.

#### 3.2 Environmental effects of exercise of water permit

The main potential environment effect on waterways that quarries have is the discharges of wash water containing high suspended solids concentrations into nearby waterways. Such discharges may result in discolouration of the waterway near the discharge point and may result in smothering of benthic lifeforms, form a barrier to fish movement and may affect fish spawning habitats.

The Taranaki Regional Council monitors for possible effects on stream life by conducting a visual inspection of the streambed both up and downstream of the quarry.

Monitoring of the site during the 2012-2014 period found that as in previous years the discharge of treated stormwater from the ponds at the site has had no adverse effect on the receiving waters.

#### 3.3 Evaluation of performance

A summary of the Company's compliance record for the period under review is set out in Tables 1 and 2.

**Table 1** Summary of performance for Consent 6453-1 to discharge treated stormwater

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections of site	Yes
2. Exercise of consent in accordance with application	Site inspections	No

Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. No direct discharge of untreated stormwater	Inspections of treatment system and discharge point	Yes
4. Bunding of site to contain contaminated waters	Site inspections	Yes
5. Take measures to prevent erosion of exposed areas	Site inspections	Yes
6. Progressive reinstatement of quarry	Site inspections	Yes
7. Maximum stormwater catchment	Site inspections	Yes
8. Management of the silt control structures	Inspections of the silt control structures	Yes
9. Concentration limits	Inspections of discharge point and receiving water. No discharge sampling warranted	Yes
10. No effects on receiving water below mixing zone	Inspections of receiving water	Yes
11. Limits on turbidity & suspended solids	Inspections of discharge point and receiving water. No discharge sampling warranted	Yes
12. Provision of site plan, stormwater management plan and contingency plan	Plans received	Yes
13. Reinstatement of quarry	Quarry still operating	N/A
14. Consent lapse	N/A	N/A
15. Review	This consent will expire in 2020	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Poor</b>

N/A = not applicable

**Table 2** Summary of performance for Consent 7089-1 to discharge cleanfill

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Exercise of consent to be in accordance with information submitted	Site inspections	Yes
2. Materials permitted to be disposed of to cleanfill	Site inspections	Yes
3. Materials not permitted to be disposed of to cleanfill	Site inspections – some steel disposed of – further inspections found no prohibited material	Yes
4. No contaminants entering water	Inspections of site	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Maintain silt retention structures	Inspections of site	Yes
6. Install and maintain stormwater diversion drains	Inspections of site	Yes
7. Cleanfill management plan	Received	Yes
8. Adopt best practicable option	Inspections of site	Yes
9. Stabilisation and revegetation of site	N/A	N/A
10. Review	Optional review June 2014	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>

During the monitoring period, the Company overall demonstrated an 'improvement required' level of environmental performance and compliance with the resource consents while the performance of the exercise of consent 7089-1 was 'high' throughout the two years, an incident for which an infringement notice was issued ment a 'poor' rating for the stormwater consent 6453-1. During the period under review the Ferndene Quarry site was generally well managed and tidy. The stormwater system was upgraded, with a new pond installed. There were no issues with dust at the site as sprinklers were used to damp down dust during dry weather.

The cleanfill area was generally tidy and inspections of the site found only permitted materials were being disposed of to the cleanfill.

### 3.4 Recommendations from the 2010-2012 Biennial Report

In the 2010-2012 Biennial Report, it was recommended:

1. THAT monitoring of air emissions from Ferndene Quarries Limited in the 2012-2014 year continue at the same level as in 2010-2012.
2. THAT monitoring of discharges from Ferndene Quarries Limited in the 2012-2014 year continue at the same level as in 2010-2012.
3. That the optional review of both consent 6453-1 and 7089-1 not be carried out in June 2014.

This recommendation was subsequently implemented.

### 3.5 Alterations to monitoring programmes for 2014-2016

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 RMA, 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.

The monitoring programme has been extended to include the cleanfill operation taken over by Ferndene Quarry and was included in the 2010-2012 monitoring programme.

The monitoring programme for the Ferndene Quarry has been reviewed and several alterations have been made. Additional programme supervision/ job management changes have been added to the programme which now includes administration for the programme.

### **3.6 Exercise of optional review of consent**

Resource consents 6453-1 and 7089-1 provide for an optional review of the consent in June 2014. Special Condition 15 of consent 6453-1 and Special Condition 10 of consent 7089-1 allow the Council to review the consents, 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.

As noted in section 3.4 above, the optional reviews of both consents were not carried out in June 2014 as the monitoring programme and resource consents currently in place are adequate to deal with any adverse effects on the environment.

#### **4. Recommendations**

1. THAT monitoring of air emissions from Ferndene Quarries Limited in the 2014-2016 period continue at the same level as in 2012-2014.
2. THAT monitoring of discharges from Ferndene Quarries Limited in the 2014-2016 period continue at the same level as in 2012-2014.

## Glossary of common terms and abbreviations

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

Bund	A wall around a tank to contain its contents in the case of a leak.
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.
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.
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.
Turb	Turbidity, expressed in NTU.
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.

## **Bibliography and references**

Taranaki Regional Council, 1992: Regional Policy Statement Working Paper. Aggregate extraction in Taranaki. TRC Report

Taranaki Regional Council 2006: 'Ferndene Quarries Limited Quarry Monitoring Programme Biennial Report 2004-2006'. Technical Report 2006-70

Taranaki Regional Council 2008: 'Ferndene Quarries Limited Quarry Monitoring Programme Biennial Report 2006-2008'. Technical Report 2008-22

Taranaki Regional Council 2010: 'Ferndene Quarries Limited Quarry Monitoring Programme Biennial Report 2008-2010'. Technical Report 2010-67

Taranaki Regional Council 2012: 'Ferndene Quarries Limited Quarry Monitoring Programme Biennial Report 2010-2012'. Technical Report 2012-41



## **Appendix I**

### **Resource consents held by Ferndene Quarries Limited**





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

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

Please quote our file number  
on all correspondence

Name of Consent Holder: Ferndene Quarries Limited  
3A Horizon Heights  
NEW PLYMOUTH  
New Address:  
P O Box 86  
Inglewood 4347

Consent Granted Date: 16 September 2004

**Conditions of Consent**

Consent Granted: To discharge treated stormwater from quarrying and rock crushing operations onto and into land and into an unnamed tributary of the Mangaoraka Stream in the Waiongana catchment at or about GR: Q19:106-269

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2014

Site Location: 1059 Upland Road, Tarurutangi  
[Property owner: DG & GS Marsh]

Legal Description: Sec 117 & E Pt Sec 118 Tarurutangi Dist Blk III Egmont SD

Catchment: Waiongana

Tributary: Mangaoraka

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

[www.trc.govt.nz](http://www.trc.govt.nz)

### 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 from the exercise of this resource consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3309 and to ensure that the conditions of this consent are met at all times. In the case of any contradiction between the documentation submitted in support of application 3309 and the conditions of this consent, the conditions of this consent shall prevail.
3. There shall be no direct discharge of untreated stormwater from the quarry into the unnamed tributary of the Mangaoraka Stream, as a result of the exercise of this consent.
4. The active quarry site shall be contoured/bunded so that: all water generated in this area is directed to the silt control structures for treatment prior to discharge; and the flow of uncontaminated stormwater into this area is prevented.
5. The consent holder shall undertake measures during excavation to control erosion of exposed areas within the quarry site and to minimise the amounts of sediment contained in the stormwater discharge licensed by this consent.
6. The consent holder shall operate and progressively reinstate the quarry site in a manner which ensures that the area of exposed, unvegetated earth within the quarry's stormwater catchment is kept to a minimum at all times.

7. The maximum disturbed stormwater catchment area shall be no more than one hectare at any one time.
8. The consent holder shall properly and efficiently maintain and operate the silt control structures in such a manner that any discharge which may occur shall not breach the conditions of this consent. The silt control structures shall be operated, as far as practicable, so as to maximise the treatment of the stormwater, and to minimise the duration and frequency of the discharge.
9. The following concentrations shall not be exceeded in the discharge:

Component	Concentration
pH [range]	6-9
total recoverable hydrocarbons [infrared spectroscopic technique]	15 gm <sup>-3</sup>
Suspended solids	100 gm <sup>-3</sup>

This condition shall apply prior to the entry of the stormwater into the receiving waters of the unnamed tributary of the Mangaoraka Stream, at designated sampling points approved by the Chief Executive, Taranaki Regional Council.

10. After allowing for reasonable mixing, within a mixing zone extending 40 metres downstream of the second discharge point [Area B], the discharge shall not give rise to any of the following effects in the receiving waters of the unnamed tributary of the Mangaoraka Stream:
  - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material;
  - 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.
11. After allowing for reasonable mixing, within a mixing zone extending 40 metres downstream of the second discharge point in the unnamed tributary of the Mangaoraka Stream, the discharge shall not give rise to either of the following effects in the receiving waters of the unnamed tributary of the Mangaoraka Stream:
  - a) an increase in suspended solids concentration in excess of 10 gm<sup>-3</sup> when the stream turbidity as measured immediately upstream of the first discharge point [Area A] in the unnamed tributary of Mangaoraka Stream is equal to or less than 5 NTU [nephelometric turbidity units]; or
  - b) an increase in turbidity of more than 50% when the stream turbidity as measured immediately upstream of the first discharge point [Area A] in the unnamed tributary of the Mangaoraka Stream is greater than 5 NTU [nephelometric turbidity units].

12. Prior to the exercise of this consent, in each of the two areas identified in the documentation submitted in support of application 3309, the consent holder shall provide a site plan, stormwater management plan, and contingency plan to the Taranaki Regional Council. These plans are to outline the measures and procedures to be undertaken to prevent the spillage or accidental discharge of contaminants into the stormwater catchment, and measures to avoid, remedy or mitigate environmental effects from the exercise of this consent.
13. On cessation of quarrying operations or prior to the surrender or lapsing of this consent at the site licensed by this consent, the active quarry area, including the silt control structures, and surrounding areas shall be reinstated to the satisfaction of the Chief Executive, Taranaki Regional Council.
14. This consent shall lapse on the expiry of five years after the date of issue of this consent, 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.
15. 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.

Signed at Stratford on 16 September 2004

For and on behalf of  
Taranaki Regional Council



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Director-Resource Management



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

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

Please quote our file number  
on all correspondence

Name of Consent Holder:	Ferndene Quarries Limited <del>3A Horizon Heights</del> NEW PLYMOUTH	New Address:  31D Crown Hill Street NEW PLYMOUTH
Consent Granted Date:	16 September 2004	

**Conditions of Consent**

Consent Granted:	To discharge treated stormwater from quarrying and rock crushing operations onto and into land and into an unnamed tributary of the Mangaoraka Stream in the Waiongana catchment at or about GR: Q19:106-269
Expiry Date:	1 June 2020
Review Date(s):	June 2008, June 2014
Site Location:	1059 Upland Road, Tarurutangi [Property owner: DG & GS Marsh]
Legal Description:	Sec 117 & E Pt Sec 118 Tarurutangi Dist Blk III Egmont SD
Catchment:	Waiongana
Tributary:	Mangaoraka

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

[www.trc.govt.nz](http://www.trc.govt.nz)

**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 from the exercise of this resource consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3309 and to ensure that the conditions of this consent are met at all times. In the case of any contradiction between the documentation submitted in support of application 3309 and the conditions of this consent, the conditions of this consent shall prevail.
3. There shall be no direct discharge of untreated stormwater from the quarry into the unnamed tributary of the Mangaoraka Stream, as a result of the exercise of this consent.
4. The active quarry site shall be contoured/bunded so that: all water generated in this area is directed to the silt control structures for treatment prior to discharge; and the flow of uncontaminated stormwater into this area is prevented.
5. The consent holder shall undertake measures during excavation to control erosion of exposed areas within the quarry site and to minimise the amounts of sediment contained in the stormwater discharge licensed by this consent.
6. The consent holder shall operate and progressively reinstate the quarry site in a manner which ensures that the area of exposed, unvegetated earth within the quarry's stormwater catchment is kept to a minimum at all times.

## Consent 6453-1

7. The maximum disturbed stormwater catchment area shall be no more than one hectare at any one time.
8. The consent holder shall properly and efficiently maintain and operate the silt control structures in such a manner that any discharge which may occur shall not breach the conditions of this consent. The silt control structures shall be operated, as far as practicable, so as to maximise the treatment of the stormwater, and to minimise the duration and frequency of the discharge.
9. The following concentrations shall not be exceeded in the discharge:

Component	Concentration
pH [range]	6-9
total recoverable hydrocarbons [infrared spectroscopic technique]	15 gm <sup>3</sup>
Suspended solids	100 gm <sup>3</sup>

This condition shall apply prior to the entry of the stormwater into the receiving waters of the unnamed tributary of the Mangaoraka Stream, at designated sampling points approved by the Chief Executive, Taranaki Regional Council.

10. After allowing for reasonable mixing, within a mixing zone extending 40 metres downstream of the second discharge point [Area B], the discharge shall not give rise to any of the following effects in the receiving waters of the unnamed tributary of the Mangaoraka Stream:
  - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material;
  - 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.
11. After allowing for reasonable mixing, within a mixing zone extending 40 metres downstream of the second discharge point in the unnamed tributary of the Mangaoraka Stream, the discharge shall not give rise to either of the following effects in the receiving waters of the unnamed tributary of the Mangaoraka Stream:
  - a) an increase in suspended solids concentration in excess of 10 gm<sup>3</sup> when the stream turbidity as measured immediately upstream of the first discharge point [Area A] in the unnamed tributary of Mangaoraka Stream is equal to or less than 5 NTU [nephelometric turbidity units]; or
  - b) an increase in turbidity of more than 50% when the stream turbidity as measured immediately upstream of the first discharge point [Area A] in the unnamed tributary of the Mangaoraka Stream is greater than 5 NTU [nephelometric turbidity units].

Consent 6453-1

12. Prior to the exercise of this consent, in each of the two areas identified in the documentation submitted in support of application 3309, the consent holder shall provide a site plan, stormwater management plan, and contingency plan to the Taranaki Regional Council. These plans are to outline the measures and procedures to be undertaken to prevent the spillage or accidental discharge of contaminants into the stormwater catchment, and measures to avoid, remedy or mitigate environmental effects from the exercise of this consent.
13. On cessation of quarrying operations or prior to the surrender or lapsing of this consent at the site licensed by this consent, the active quarry area, including the silt control structures, and surrounding areas shall be reinstated to the satisfaction of the Chief Executive, Taranaki Regional Council.
14. This consent shall lapse on the expiry of five years after the date of issue of this consent, 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.
15. 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.

Signed at Stratford on 16 September 2004

For and on behalf of  
Taranaki Regional Council

  
\_\_\_\_\_  
Director-Resource Management



CHIEF EXECUTIVE  
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47 CLOTEN ROAD  
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PHONE: 06-765 7127  
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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: Ferndene Quarries Limited  
4 Dunbar Place  
Highlands Park  
NEW PLYMOUTH 4312

Decision Date: 2 April 2007

Commencement  
Date: 2 April 2007

**Conditions of Consent**

Consent Granted: To discharge cleanfill onto and into land for quarry  
reinstatement purposes at or about (NZTM)  
1700536E-5665456N

Expiry Date: 1 June 2026

Review Date(s): June 2014, June 2020

Site Location: Upland Road, Inglewood

Legal Description: Sec 117 & E Pt Sec 118 Tarurutangi Dist Blk III  
Egmont SD

Catchment: Waiongana

*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 exercise of this consent shall be carried out in general accordance with the information submitted in support of the application.
- 2. The contaminants to be discharged shall be limited to cleanfill and/or inert materials. For the purposes of this condition, "clean fill and inert materials" are defined as materials consisting of any concrete, cement or cement wastes, bricks, mortar, tiles (clay, ceramic or concrete), non-tanalised timber, porcelain, glass, gravels, boulders, shingles, fibreglass, plastics, sand, soils and clays, and/or tree stumps and roots, whether singly or in combination or mixture, or any other material that when placed onto and into land will not render that land or any vegetation grown on that land toxic to vegetation or animals consuming vegetation.
- 3. The discharge of the following contaminants shall not occur: food wastes, paper and cardboard, grass clippings, garden wastes containing green vegetation, textiles, steel, galvanised metals, construction materials containing paint or fillers or sealers or their containers, oils or greases or any liquids or sludges or their containers, any industrial process by-products other than as permitted under condition 2, any poisons or solvents or their containers, batteries, general domestic refuse not otherwise described, or any wastes with the potential to render land or any vegetation grown on the land toxic to vegetation or to animals consuming such vegetation.
- 4. The discharge to land shall not result in any contaminant entering surface water.
- 5. Silt retention structures shall be installed and maintained to the satisfaction of the Chief Executive, Taranaki Regional Council.
- 6. The consent holder shall install and maintain stormwater diversion drains to minimise stormwater movement across, or ponding on the site, to the satisfaction of the Chief Executive, Taranaki Regional Council.
- 7. Within three months of the granting of this consent a cleanfill management plan is to be submitted and approved by the Chief Executive, Taranaki Regional Council.

Consent 7089-1

8. Notwithstanding any conditions within this consent, 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 actual or potential effect on the environment arising from any discharge at the site.
9. Upon completion of the works associated with the exercise of this consent, the discharge site covered by this consent shall be stabilised and revegetated to the satisfaction of the Chief Executive, Taranaki Regional Council.
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 2014 and June 2020, 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 20 September 2010

For and on behalf of  
Taranaki Regional Council



Director-Resource Management

