

Hey Trust
Quarry Monitoring Programme
Biennial Report
2011-2013
Technical Report 2013–77

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Taranaki Regional Council
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Executive summary

The Hey Trust quarry is located on Monmouth Road, Stratford in the Patea catchment. The consent holder holds a resource consent to allow the discharge of treated stormwater from a quarry site onto and into land and into the Kahouri Stream in the Patea catchment. This report for the period July 2011-June 2013 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.

Hey Trust holds one resource consent, which includes a total of 15 special conditions setting out the requirements that the Company must satisfy.

The Council's monitoring programme for the period under review included two inspections. No water samples were collected for laboratory analyses.

The monitoring showed that the site was tidy and complying with consent conditions. All stormwater was directed to the settling pond. The settling ponds were discharging on two occasions. No adverse effects were observed in the receiving waters.

During the reporting period there were no unauthorised incidents associated with the consent holder.

Hey Trust quarry achieved a high level of environmental performance and compliance with the resource consent in the 2011-2013 monitoring period.

This report includes recommendations for the 2013-2015 monitoring period.

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1. Introduction

This report is the Biennial Report for the period July 2011-June 2013 by the Taranaki Regional Council describing the monitoring programme associated with resource consents held by Hey Trust. The Company operates a quarry situated on Monmouth Road, Stratford.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consent held by Hey Trust that relate to the discharge of water in the Patea catchment. This is the second report to be prepared by the Taranaki Regional Council to cover Hey Trust's stormwater discharges 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 and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consent held by Hey Trust in the Patea catchment, the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted at Hey Trust's 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 2013-2015 monitoring period.

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

1.1.1 Compliance monitoring and the Resource Management Act (1991)

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 (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 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.

1.1.2 Evaluation of environmental performance

Besides discussing the various details of the performance and extent of compliance by the consent holder(s) during the period under review, this report also assigns an overall rating. The categories used by the Council, and their interpretation, are as follows:

- a **high** level of environmental performance and compliance indicates that essentially there were no adverse environmental effects to be concerned about, and no, or inconsequential (such as data supplied after a deadline) non-compliance with conditions.
- a **good** level of environmental performance and compliance indicates that adverse environmental effects of activities during the monitoring period were negligible or minor at most, or, the Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices, or, there were perhaps some items noted on inspection notices for attention but these items were not urgent nor critical, and follow-up inspections showed they have been dealt with, and any inconsequential non-compliances with conditions were resolved positively, co-operatively, and quickly.
- **improvement desirable (environmental) or improvement desirable (administrative compliance)** (as appropriate) indicates that the Council may have been obliged to record a verified unauthorised incident involving measurable environmental impacts, and/or, there were measurable environmental effects arising from activities and intervention by Council staff was required and there were matters that required urgent intervention, took some time to resolve, or remained unresolved at the end of the period under review, and/or, there were on-going issues around meeting resource consent conditions even in the absence of environmental effects. Abatement notices may have been issued.

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

For reference, in the 2012-2013 year, 35% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 59% demonstrated a good level of environmental performance and compliance with their consents.

1.2 Process description

1.2.1 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-seven 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 lahatic 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 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 1991 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 Resource Management Act 1991 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.

1.2.2 Hey Trust quarry, Monmouth Road, Stratford.

The consent holder's quarry is located off Monmouth Road, Stratford, on the true right bank of the Kahouri Stream (Figure 1). The consent holder operates a small quarry on a part time basis to supply aggregate mostly for use on their farm, however it occasionally supplies the local market on demand.



Figure 1 Approximate location of Hey Trust Quarry on Monmouth Road

The site workings cover an area of about 0.5 ha, although this area may become larger as the quarry operation develops, to a maximum area of 1 ha. Aggregate extracted from the site is suitable for use on farm races and for hardfill. The material will be extracted as required, and there is no intention to stockpile material onsite. No washing is carried out at this site.

A thin layer of topsoil which forms the overburden will be stripped off and set aside for reinstatement.

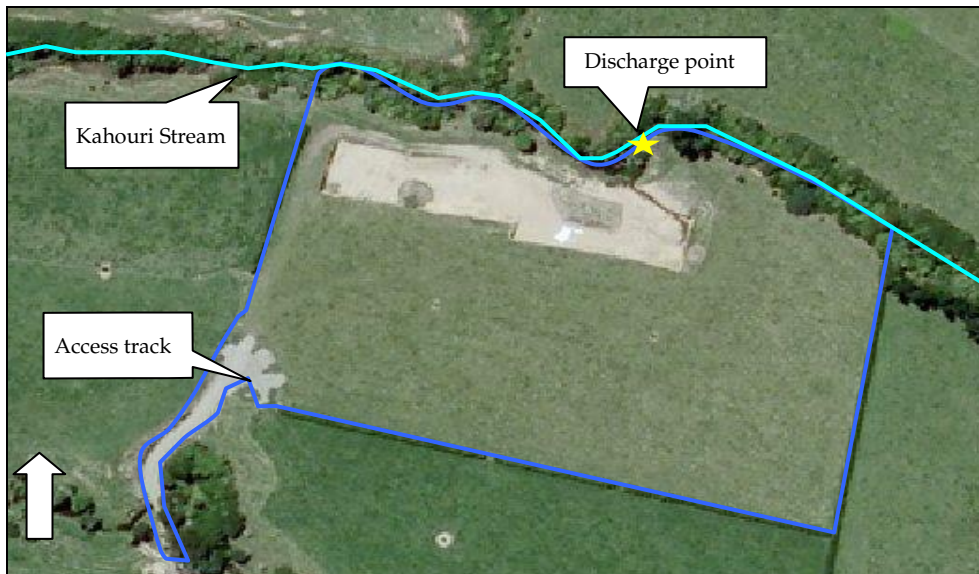


Figure 2 Hey Trust quarry - site layout and discharge point

1.3 Resource consent

1.3.1 Water discharge permit

Section 15(1)(a) of the Resource Management Act 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 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.

Hey Trust holds consent **7123-1** to discharge treated stormwater from a quarry site onto and into land and into the Kahouri Stream in the Patea Catchment. This permit was issued by the Taranaki Regional Council on 10 July 2007 under Section 87(e) of the Resource Management Act, and is due to expire on 1 June 2022.

There are 15 special conditions attached to this consent.

Condition 1 requires the consent holder to adopt the best practicable option to prevent or minimise effects.

Condition 2 requires exercise of consent to be undertaken in accordance with documentation submitted.

Condition 3 states there shall be no direct discharge of untreated stormwater from the site.

Condition 4 requires the site to be bunded and contoured so that all water is directed for treatment.

Condition 5 requires the consent holder to control erosion of exposed soil and minimise sediment contained in stormwater.

Condition 6 requires progressive reinstatement of the site.

Condition 7 states the maximum stormwater catchment area.

Condition 8 requires the consent holder to maintain and operate the sediment control structures to ensure compliance with conditions.

Condition 9 states concentration limits for suspended solids and hydrocarbons.

Condition 10 relates to the mixing zone and adverse effects.

Condition 11 relates to turbidity levels following mixing.

Condition 12 relates to stormwater management and contingency planning requirements.

Condition 13 relates to site reinstatement.

Condition 14 relates to consent lapse.

Condition 15 allows Council to review, amend, delete or add to conditions of consent.

A copy of the consent is attached to Appendix I of this report.

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 Hey Trust 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 quarry site was visited two times during the monitoring period. The monitoring programme for 2011-2013 required a minimum of one inspection per year following wet weather. The main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. The neighbourhood and particularly the receiving waters were surveyed for environmental effects.

1.4.4 Chemical sampling

The monitoring programme includes physicochemical sampling of the treated discharge at the stormwater outfall, if warranted. Samples are to be analysed for turbidity, suspended solids and hydrocarbons. No samples were collected during the monitoring period under review, as upon site inspections none were justified.

2. Results

2.1 Water

2.1.1 Inspections

During the 2011-2013 monitoring period the Council carried out two routine inspections of the consent holder's quarry site. Inspection notes are summarised below.

23 October 2012

A small amount of product was stockpiled near the gate. The site was tidy with no dust or ponding issues. There was no discharge from the settling pond. The site was complying with the consent conditions at the time of inspection.

26 October 2011

There was no product stockpiled on the site. There was a small discharge from the ponds having no visual impact on the receiving waters. The site was tidy and complying with consent conditions at the time of inspection.

2.1.2 Sampling

No water samples were collected for physicochemical analyses during either inspection as this was considered unnecessary (the discharge was clear and there were no adverse effects visible in the receiving waters).

2.2 Investigations, interventions, and incidents

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

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

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

No incidents were recorded by the Council that were associated with the Hey Trust quarry during the 2011-2013 monitoring period.

3. Discussion

3.1 Discussion of plant performance

During the 2011-2013 monitoring period two compliance monitoring inspections of the consent holder's quarry site were carried out.

No problems were noted at the site during either inspection.

In terms of the discharges, stormwater control was found to be satisfactory and in compliance with consent conditions.

3.2 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 1.

Table 1 Summary of performance for Consent 7123-1 discharge stormwater onto land and into water

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option	Inspections of site and records	Yes
2. Exercise of consent in accordance with documentation	Inspections of site and records	Yes
3. No direct discharge of untreated stormwater	Inspections of site	Yes
4. Active quarry site to be bunded	Inspections of site	Yes
5. Control erosion of exposed areas and minimise silt/sediment in stormwater	Inspections of site	Yes
6. Progressive reinstatement of site	Inspections of site	Yes
7. Maximum stormwater catchment area	Inspections of site	Yes
8. Maintain and operate silt control structures	Inspections of site	Yes
9. Concentration limits	Sampling and visual inspection	Yes
10. Receiving water – mixing zone effects	Sampling and visual inspection	Yes
11. Turbidity not to be increased by more than 50%	Sampling and visual inspection	Yes
12. Site plan, stormwater management plan and contingency plan	Plans received	Yes
13. Site reinstatement on cessation of quarrying	N/A	N/A
14. Consent lapse	N/A	N/A

Condition requirement	Means of monitoring during period under review	Compliance achieved?
15. Council may review, amend, delete or add to conditions	N/A – next optional review date – June 2016	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High

N/A= Not applicable

The Hey Trust quarry achieved a high level of environmental performance and compliance with the resource consent in the 2011-2013 monitoring period. There were no unauthorised incidents at the site.

3.3 Recommendations from the 2009-2011 Annual Report

In the 2009-2011 Annual Report, it was recommended:

1. THAT monitoring of discharges from the Hey Trust quarry site in 2011-2013 continue at the same level as in 2009-2011.

3.4 Alterations to monitoring programme for 2013-2015

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 Hey Trust, it is proposed that the monitoring programmes for 2013-2015 remain unaltered from that of 2011-2013. Recommendations to this effect are made in section 4.

4. Recommendation

1. THAT monitoring of discharges from the Hey Trust quarry site in 2013-2015 continue at the same level as in 2011-2013.

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 usually expressed as per 100 millilitre sample
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
Cumec	A volumetric measure of flow- 1 cubic metre per second (1 m ³ s ⁻¹)
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 colony forming units per 100 millilitre sample
Ent	enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre of sample
F	fluoride
FC	faecal coliforms, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample
Fresh	elevated flow in a stream, such as after heavy rainfall
g/m ³	grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures
incident	an event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred
intervention	action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring
investigation	action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident
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	ammonium, normally expressed in terms of the mass of nitrogen (N)
NH ₃	unionised ammonia, 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 including all subsequent amendments
SS	suspended solids
SQMCI	semi quantitative macroinvertebrate community index;
Temp	temperature, measured in °C (degrees Celsius)
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
Zn*	zinc

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

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

Bibliography and references

Taranaki Regional Council, 2011: Hey Trust Quarry Monitoring Programme Biennial Report. Technical Report 2011-64.

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

Appendix I
Resource consent held by Hey Trust



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
www.trc.govt.nz

Please quote our file number
on all correspondence

Name of Consent Holder: Hey Trust
224 Monmouth Road
R D 24
STRATFORD

Consent Granted Date: 10 July 2007

Conditions of Consent

Consent Granted: To discharge treated stormwater from a quarry site onto and into land and into the Kahouri Stream in the Patea catchment at or about 2618825E-6210055N

Expiry Date: 1 June 2022

Review Date(s): June 2010, June 2016

Site Location: 224 Monmouth Road, Stratford

Legal Description: Lot 2 DP 307233 Blk XIII Huiroa SD

Catchment: Patea

Tributary: Kahouri

Consent 7123-1

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 consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 4660 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 4660 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 Kahouri Stream as a result of the exercise of this consent.
4. The active quarry site shall be contoured and/or 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 1.0 hectare at any one time.

8. The consent holder shall 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
total recoverable hydrocarbons [infrared spectroscopic technique]	15 gm ³
suspended solids	100 gm ³

This condition shall apply prior to the entry of the stormwater into the receiving waters of the Kahouri Stream, at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

10. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point to the Kahouri Stream, the discharge shall not give rise to any of the following effects in the receiving waters of the Kahouri 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 25 metres downstream of the discharge point to the Kahouri Stream, the discharge shall not give rise to an increase in turbidity of more than 50 % in the Kahouri Stream, as determined by NTU [nephelometric turbidity units].

12. 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.

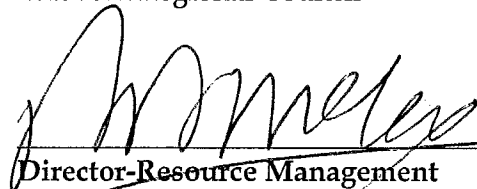
13. On cessation of quarrying operations, or prior to the surrender or lapsing of this consent at the site licensed by this consent, the active quarry area including silt control structures and surrounding areas, shall be reinstated to the satisfaction of the Chief Executive, Taranaki Regional Council.

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 2010 and/or June 2016, 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 10 July 2007

For and on behalf of
Taranaki Regional Council



Director-Resource Management