

TR Jane Family Trust
Quarry Monitoring Programme
Biennial Report
2008-2010

Technical Report 2010–75

ISSN: 0114-8184 (Print)
ISSN: 1178-1467 (Online)
Document: 845012

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March 2010

Executive summary

TR Jane Family Trust operates one quarry site in Taranaki located off Tariki Road, Tariki, in the Waitara catchment. This report for the period July 2008-June 2010 describes the monitoring programme implemented by the Taranaki Regional Council to assess the consent holder's environmental performance during the period under review, and the results and environmental effects of the consent holder's activities.

The Trust holds one resource consent which includes a total of 17 conditions setting out the requirements that must be satisfied by the Trust. The consent allows treated stormwater to be discharged from the quarry site to land and into an unnamed tributary of the Manganui River in the Waitara catchment.

The Council's monitoring programme for the period under review included a total of three inspections. No sampling was undertaken for physicochemical analysis.

During the 2008-2010 monitoring period, the Trust demonstrated a high level of environmental performance and compliance with the resource consents. The monitoring showed that the site was generally well managed.

No unauthorized incidents were reported and no adverse effects on the environment were observed.

This report includes a recommendation for the 2010-2012 monitoring period.

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1. Introduction

This report is the Biennial Report for the period July 2008-June 2010 by the Taranaki Regional Council describing the monitoring programme associated with the resource consent held by the TR Jane Family Trust. The Trust operates a quarry situated off Tariki Road.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consent held by TR Jane Family Trust that relates to discharges of stormwater in the Waitara catchment.

This is the first biennial report to be prepared by the Taranaki Regional Council to cover the Company's stormwater discharges and their effects. A 2006-2008 biennial report was not produced due to there being no significant activity taking place at the TR Jane Family Trust quarry during this timeframe.

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 TR Jane Family Trust in the Waitara catchment, the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted in the quarry.

Section 2 presents the results of monitoring during the period under review.

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

Section 4 presents recommendations to be implemented in the 2010-2012 monitoring year.

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

1.2 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 (eg, recreational, cultural, or aesthetic);

(e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Taranaki Regional Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each discharge source. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the Resource Management Act to assess the effects of the exercise of consents.

In accordance with section 35 of the Resource Management Act 1991, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of performance of resource users against regional plans and consents. Compliance monitoring, including impact monitoring, also enables the Council to assess continuously its own performance in resource management as well as that of resource users, particularly consent holders. It further enables the Council to re-evaluate continually its approach and that of consent holders to resource management and, ultimately, through the refinement of methods, to move closer to achieving sustainable management 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 Company during the period under review, this report also assigns an overall rating. The categories used by the Council, and their interpretation, are as follows:

- a **high** level of environmental performance and compliance indicates that essentially there were no adverse environmental effects to be concerned about, and no, or trivial (such as data supplied after a deadline) non-compliance with conditions.
- a **good** level of environmental performance and compliance indicates that adverse environmental effects of activities during the year were negligible or minor at most, items of concern were resolved positively, co-operatively, and quickly, the Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices, there were perhaps some items noted on inspection notices for attention but these items were neither urgent nor critical, and follow-up inspections showed they have been dealt with.
- **improvement desirable** indicates that the Council may have been obliged to record a verified unauthorised incident involving significant environmental impacts against the company, and/or abatement notices may have been issued; there were adverse environmental effects arising from activities and intervention by Council staff was required, and there were matters that required urgent intervention, took some time to resolve, or remained unresolved at end of the period under review.
- **poor** performance is used when there were grounds for prosecution or infringement notice

1.3 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-utilised. 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).

Thirty-one 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, although Taranaki aggregates are known to have a lower crushing strength (85 kN) than aggregates from most other parts of the country. Importation of various aggregates may need to continue to meet the requirement for aggregate types not available in Taranaki.

Quarrying and shingle extraction in Taranaki is covered by the Resource Management Act 1991 and, if the minerals in question are Crown owned, by the Crown Minerals Act 1991.

Regional councils have no control over the provision of exclusive rights to minerals. However, regional councils do have control over the environmental effects of aggregate extraction from river and lake beds, and land in certain circumstances, and 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.

1.4 Process Description

TR Jane Family Trust operates a small quarry off Tariki Road on a part time basis to supply aggregate to a mostly local market. The site is entirely on the applicant's own land and was formerly used as a farm quarry.

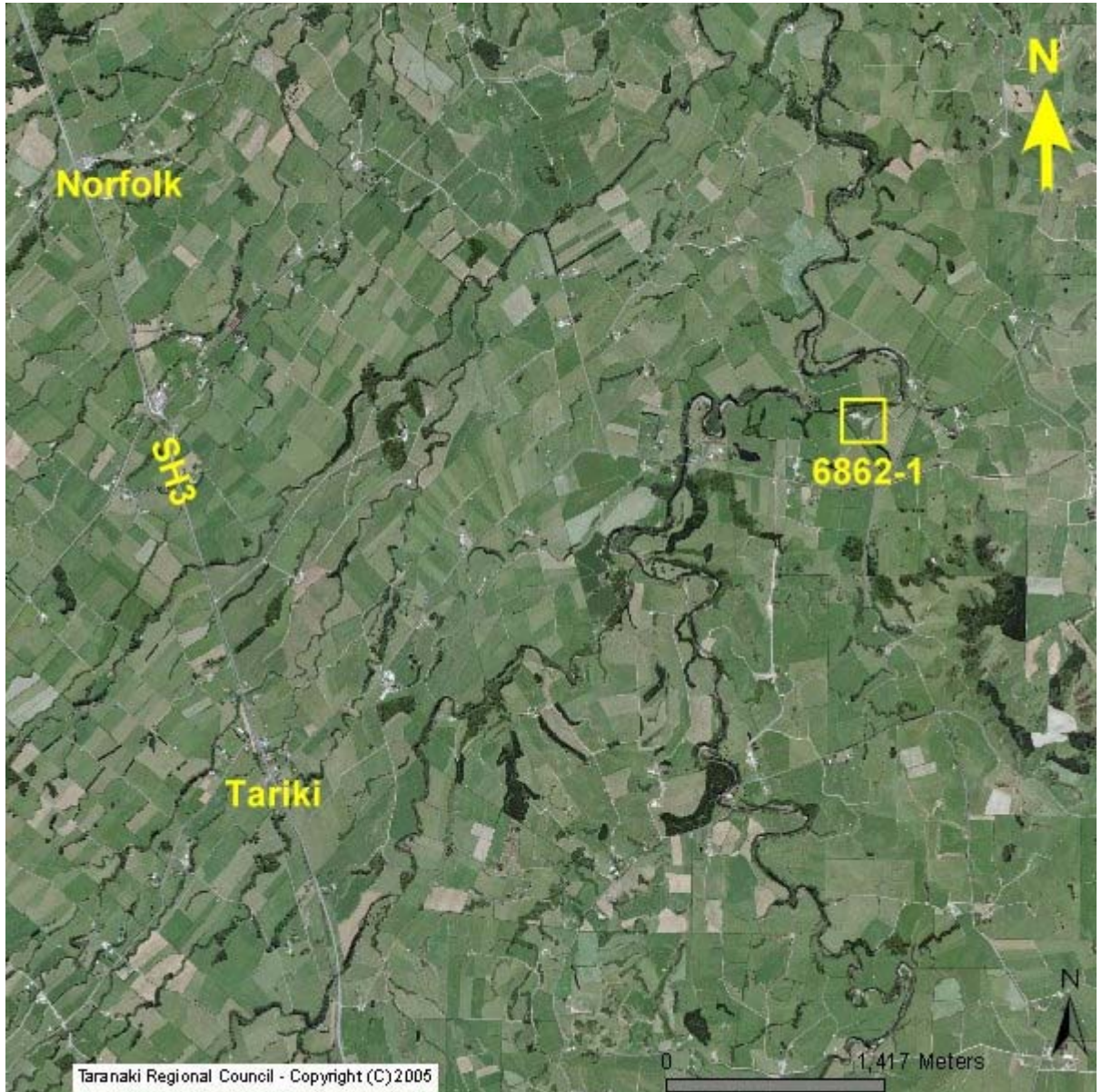


Figure 1 Location of TR Jane Family Trust Quarry

The workings cover an area of approximately 0.5 ha, although this area is expected to become larger as the quarry operation develops, to a maximum area of 1 ha.



Figure 2 Aerial photograph of the TR Jane Family Trust quarry

The quarry site is essentially flat terrace on the true right bank of the Manganui River, and contains predominantly fine-grained river sorted aggregate. The material will be stockpiled onsite as required. No washing is carried out at this site.

Settling ponds with a holding capacity appropriate to the scale of the operation have been constructed to treat stormwater from the site. The consent holder has contoured and bunded the active site to achieve adequate stormwater control, and to directed site stormwater to a settling pond system.

Treated stormwater is discharged from the final pond into a small excavated drain [*the unnamed tributary*] which discharges into the Manganui River at or about NZTM reference 1711383E-5658605N. Silt retention structures were installed in the unnamed tributary to provide further (polishing) treatment of the discharge prior to it entering the river.

1.5 Resource consents

The Trust holds one resource consent to cover the stormwater discharges from the quarry. Permit 6862 allows the Trust to discharge treated stormwater onto and into land and into an unnamed tributary of the Manganui River in the Waitara catchment.

This permit was issued by the Taranaki Regional Council as a resource consent under Section 87(e) of the Resource Management Act. This consent is discussed in more detail below in sections 1.5.1, 1.5.2 and 1.5.3. A copy of the consent certificate is attached to this report in Appendix I.

1.5.1 Water abstraction permits

Section 14 of the Resource Management Act 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.

The maintenance of sufficient volumes of water within streams and rivers to protect aquatic habitat is a primary concern of the Regional Council with respect to water abstraction permits. Water abstraction for quarries is mainly 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.

TR Jane Family Trust holds no resource consent to take and use water as there is no abstraction (no ground washing on the site).

1.5.2 Water discharge permits

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 water body, particularly to a river during low flow, results in a smothering of in-stream 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.

TR Jane Family Trust holds water discharge permit **6862-1** to cover the discharge of treated stormwater from quarrying and rock washing operations onto and into land and into an unnamed tributary of the Manganui River in the Waitara Catchment. This permit was issued by the Taranaki Regional Council on 20 October 2006 under Section 87(e) of the Resource Management Act. It is due to expire on 1 June 2021.

There are 17 special conditions attached to this consent.

Condition 1 requires the consent holder to adopt the best practicable option to prevent any adverse effects.

Condition 2 states that exercise of the consent is to be carried out in accordance with documentation submitted in support of the application.

Condition 3 states that there must be no direct discharge of untreated stormwater to the unnamed tributary.

Condition 4 requires that the active quarry site be bunded so that all water is directed to the silt control structures.

Condition 5 requires the consent holder to undertake measures to control erosion and minimise sediment in the stormwater discharge.

Condition 6 requires the consent holder to progressively reinstate the quarry.

Condition 7 states that the maximum stormwater catchment area shall be less than one hectare.

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

Condition 9 states the concentration limits for the discharge.

Condition 10 states that the discharge shall not give rise to any effects on the receiving waters beyond the mixing zone.

Condition 11 states that the discharge shall not increase the turbidity in the receiving waters by more than 50%.

Condition 12 requires the consent holder to fence off certain areas and prevent stock access at all times to those areas.

Condition 13 requires the consent holder to undertake planting and maintenance of the riparian margins within fenced areas.

Condition 14 requires the consent holder to provide the Council with a site plan, contingency plan, and stormwater management plan.

Condition 15 states that on the cessation of quarrying, the consent holder shall reinstate the quarry and surrounding areas.

Condition 16 relates to consent lapse.

Condition 17 is a review provision.

1.5.3 Air discharge permit

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

Rule 17 of the Council's Regional Air Quality Plan (RQAP) for Taranaki allows the discharge of emissions from quarrying operations as a permitted activity, subject to compliance with various environmental performance conditions.

TR Jane Family Trust does not hold an air discharge permit, as activities comply with the RAQP.

1.6 Monitoring programme

1.6.1 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 TR Jane Family Trust quarry site consists of three primary components.

1.6.2 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.

1.6.3 Site inspections

During the 2008-2010 monitoring period, the Taranaki Regional Council inspected the TR Jane Family Trust quarry site on three occasions and the neighbourhood was surveyed for environmental effects. Routine inspections were made of the quarry operational areas and adjacent waterways, with particular reference to consent conditions.

With regard to the consent for discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater. Where relevant, 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.

1.6.4 Sampling

No sampling of the discharge from the site was undertaken during the period under review.

2. Results

2.1 Water

2.1.1 Inspections

During the period under review the site was visited three times.

16 February 2009

The inspection occurred following recent rain and showers occurring during the inspection. No machinery was located onsite and there was no product was stockpiled onsite. Some extraction had occurred but the site did not appear to have been worked on recently. Upon inspection there was no stormwater runoff into the stream. Both the stream and the site looked to be in good condition.

2 June 2009

The inspection was carried out following recent rain. Some extraction had occurred since the last inspection. A digger was located onsite. The plant was not discharging stormwater into the unnamed tributary.

25 June 2010

The site was visited following overnight rain. There was no machinery located onsite and very little product was stockpiled onsite. The site did not appear to have been worked on recently. Upon inspection stormwater was not being discharged into the unnamed tributary of the Manganui River.

2.1.2 Results of discharge monitoring

No samples were collected from the stormwater settling pond during the period under review as no discharge was occurring during the compliance monitoring inspections.

2.1.3 Results of receiving environment monitoring

No sampling of the receiving waters was undertaken in the 2008-2010 monitoring period. At the time of the inspections the site was not discharging stormwater into the unnamed tributary of the Manganui River.

2.2 Register of Incidents

The Taranaki Regional Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The 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.

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

In the 2008-2010 monitoring period, there were no incidents recorded by the Council that were associated with the TR Jane Family Trust quarry.

3. Discussion

3.1 Discussion of performance

Operations at the site were generally good during the 2008-2010 monitoring period. No adverse effects were observed on the receiving environment as a result of the activities of the plant. The quarry has been operated in accordance with the resource consent conditions.

3.2 Environmental effects of exercise of discharge permits

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 life forms, 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, and measuring physicochemical properties of the stormwater and receiving environment if warranted.

Compliance monitoring inspections of the site during the 2008-2010 period revealed that the quarry was not discharging to the receiving waterbody and was therefore in compliance with consent 6862-1.

3.3 Evaluation of performance

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

Table 1 Summary of performance for Consent 6862 - discharge stormwater into the Manganui River

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections of the site	Yes
2. Exercise consent in accordance with documentation submitted in support of application	Inspections of site	Yes
3. No direct discharge of untreated stormwater	Inspections of site and stream banks	Yes
4. Active quarry site to be bunded and all water directed to treatment system	Inspections of site and treatment system	Yes
5. Undertake to control erosion and minimise sediment in the stormwater discharge	Inspections of stormwater system and excavation area	Yes
6. Operate and progressively reinstate the quarry to minimise stormwater catchment area	Inspections of the stormwater catchment area	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
7. Stormwater catchment area to be no more than 1 hectare	Inspections of the stormwater catchment area	Yes
8. Maintain and operate the silt control structures to minimise discharge of sediment	Inspections of the silt control structures and stormwater discharge areas	Yes
9. Concentration limits in the discharge	Sampling of stormwater discharge	Yes
10. Discharge shall not give rise to effects beyond the mixing zone	Inspection of stream, both upstream and downstream of mixing zone	Yes
11. Discharge not to increase turbidity by more than 50%	Sampling of Manganui River	Yes
12. Fence of prescribed areas and prevent stock access	Inspections of site	N/A
13. Planting and subsequent maintenance of the riparian margins	Inspections of site	N/A
14. Provision of site, stormwater management and contingency plans	Provision of plans	Yes
15. Reinstatement of the site on cessation of quarrying operations	Quarry still operating	N/A
16. Consent lapse	N/A	N/A
17. Review provision	Option for review in June 2009	Yes- review not undertaken
Overall assessment of consent compliance and environmental performance in respect of this consent		High

N/A = not applicable

During the period under review, the TR Jane Family Trust quarry demonstrated a high level of environmental performance and compliance with its resource consent.

3.4 Recommendations from the previous report

This is the first biennial report to be produced by the Council for the TR Jane Family Trust quarry.

3.5 Alterations to monitoring programmes for 2010-2012

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.

The 2008-2010 monitoring programme for the TR Jane Family Trust quarry was first undertaken for consent 6862-1, issued in October 2006. It is proposed that for the 2010-2012 period monitoring should continue at the same level as in 2008-2010. A recommendation to this effect is attached to this report.

4. Recommendation

1. THAT monitoring of discharges from the TR Jane Family Trust quarry in the 2010-2012 monitoring period continue at the same level as in 2008-2010.

Glossary of common terms and abbreviations

The following abbreviations and terms are used within this report:

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
bund	a wall around a tank to contain its contents in the case of a leak
Condy	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m
DO	dissolved oxygen
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
l/s	litres per second
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.
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)
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
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)
SS	suspended solids
Temp	temperature, measured in °C
Turb	turbidity, expressed in NTU
UI	Unauthorised Incident - an event recorded by the Council on the basis that it had potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan
UIR	Unauthorised Incident Register

References

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

Appendix I

**Resource consent held by
TR Jane Family Trust**



**TARANAKI
REGIONAL
COUNCIL**

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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: T R Jane Family Trust
Tariki Road
R D 10
INGLEWOOD

Consent Granted
Date: 20 October 2006

Conditions of Consent

Consent Granted: To discharge treated stormwater from a quarry site onto
and into land and into an unnamed tributary of the
Manganui River in the Waitara catchment at or about
GR: Q19:214-202

Expiry Date: 1 June 2021

Review Date(s): June 2009, June 2015

Site Location: Off 539 Tariki Road, Tariki

Legal Description: Lot 2 DP 345368 Pt Sec 2 Blk V Huiroa SD

Catchment: Waitara

Tributary: Manganui

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

General conditions

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

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment 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 4175 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 4175 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 Manganui River 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 unnamed tributary of the Manganui River, 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 confluence of the unnamed tributary and the Manganui River, the discharge shall not give rise to any of the following effects in the receiving waters of the Manganui River:

- 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 confluence of the unnamed tributary and the Manganui River, the discharge shall not give rise to an increase in turbidity of more than 50 % in the Manganui River, as determined by NTU [nephelometric turbidity units].

12. The consent holder shall fence off all areas described in Section 3 of riparian management plan RMP 1479 and prevent stock access at all times to those areas.

13. The consent holder shall undertake planting and subsequent maintenance of the riparian margins within the fenced areas as required by special condition 12, to the satisfaction of the Chief Executive, Taranaki Regional Council, within three years of the granting of this consent, for the purposes of enhancing water quality and aquatic habitat.

14. Prior to the exercise of this consent, 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.

Consent 6862-1

15. 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.
16. 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.
17. 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 2009 and/or June 2015, 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 20 October 2006

For and on behalf of
Taranaki Regional Council



~~Director Resource Management~~