

GR & LJ Jones
Quarry Monitoring Programme
Biennial Report
2012-2014
Technical Report 2014–44

ISSN: 0114-8184 (Print)
ISSN: 1178-1467 (Online)
Document: 1375864 (Word)
Document: 1410848 (Pdf)

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October 2014

Executive summary

GR & LJ Jones operates a quarry located on Mahoetahi Road at Brixton, Waitara, in the Waiongana catchment. The quarry has been operating at this site since 2004. This report for the period July 2012-June 2014 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 24 conditions setting out the requirements that the Company must satisfy. The first consent allows the discharge of treated stormwater and washwater to land and water, and the other allows the discharge of cleanfill to land.

The Council's monitoring programme for the period under review included six inspections. One sample was collected during the monitoring period, to ensure consent conditions would be complied with should a discharge occur.

The monitoring showed that the site was generally well managed. There were no complaints received regarding operations at the site.

During the monitoring period, the Company demonstrated a high 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 (the Council) describing the monitoring programme associated with resource consents held by GR & LJ Jones quarry. The Company operates a quarry situated on Mahoetahi Road at Brixton, Waitara.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by GR & LJ Jones quarry. This is the fifth biennial report to be prepared by the Council to cover the Company's stormwater and washwater discharges and discharge of cleanfill onto and into land 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 or biennial programmes, the resource consents held by Company 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 the GR & LJ Jones quarry 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 2014-2016 monitoring year.

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

1.2 The Resource Management Act 1991 and Compliance Monitoring

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 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 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 the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.2.1 Evaluation of environmental and consent 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 2012-2013 period, 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.

1.3 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 laharic 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 shingle extraction in Taranaki is covered by the RMA 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 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 GR & LJ Jones quarry and cleanfill

GR & LJ Jones quarrying operation is located on the true right of the Mangaoraka Stream at Mahoetahi Road, Brixton, Waitara. GR & LJ Jones was granted resource consent 6274-1 in March 2004. The operator applied for and was granted the right to discharge stormwater and washwater from the site, although to date inspections have found no washing has been carried out at this site.

Since the commencement of quarrying at the site, the operator has set up a processing area, separate from where the extraction is taking place.

The processing site is set up to direct the stormwater away from the unnamed tributary of the Mangaoraka Stream. The stormwater around the crusher is directed to two settling ponds, which in turn discharge to a network of drains that flow to the tributary. Stormwater from the area where stockpiling is taking place is directed to an adjoining paddock where it soaks away.



Figure 1 GR & LJ Jones quarry site

The cleanfill area is in the area where quarrying has been undertaken on the site. Quarry operations commenced in 2004, there is now an area of approximately 1300

square metres where metal has been removed from the ground to a depth of approximately 15 metres, where quarrying has ceased due to poor metal quality.

The depression is to be used as a cleanfill where local contractors can take clean debris as per the guidelines for acceptance criteria for cleanfills. After sufficient material has been dumped and when suitable topsoil is available the topsoil will be spread over the area and then regrassed.

The estimated volume of fill is approximately 48,000 m³. Access to the site is via the quarry driveway. It is therefore expected that workers in the crushing and stockpiling area will be able to monitor the site and restrict any inappropriate material from being dumped.

The following mitigation measures have been put in place to safeguard the surrounding natural environment:

- Construction of a small barrier consisting of metal around the bottom of the tip-head area to stop debris from contaminating the water
- A designed drainage system at the bottom of the quarry pit which consists of settling pools from where water will be pumped onto land adjacent to the Mangaoraka Stream.
- A floating device attached to the intake of the pumping system which prevents highly sediment laden water from being pumped from the bottom of the pool.
- To only pump out water when it is clear and uncontaminated.

The consent conditions prohibit the discharge of materials which may cause leachate, or contamination of the soil. Such material includes food, green waste, steel, galvanised metals, batteries, and general domestic refuse.

Monitoring of other consented cleanfills in the region suggest that the absence of vegetative waste reduces the likelihood of ammoniacal nitrogen contamination and low pH discharges from the waste body.

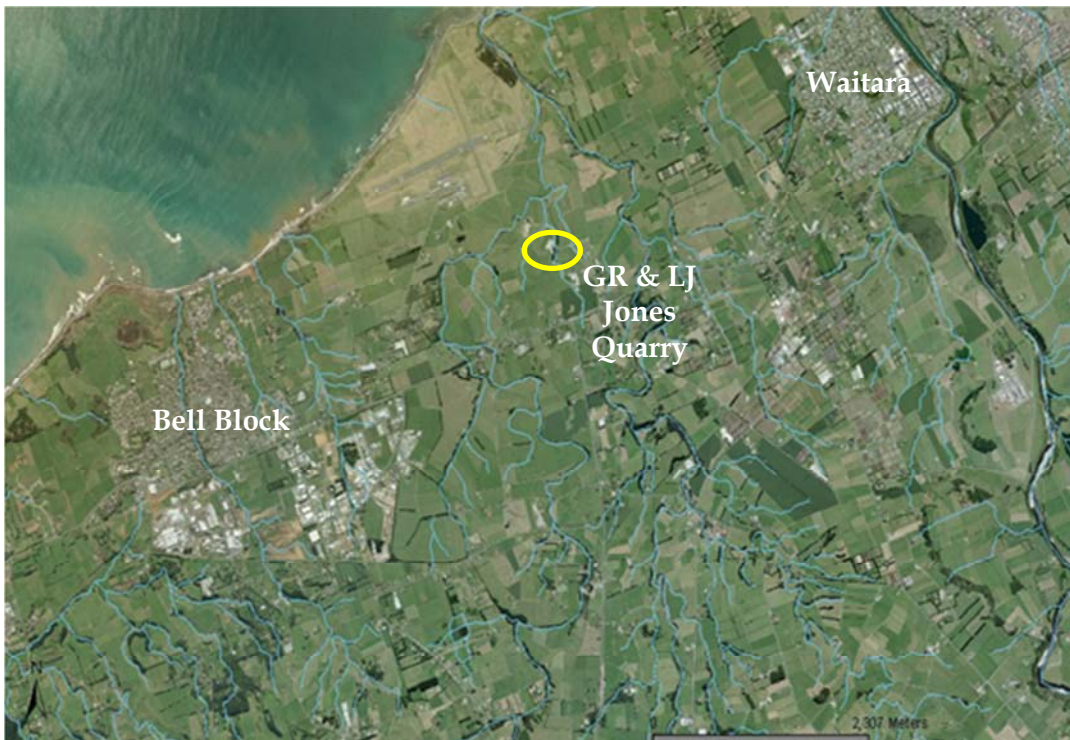


Figure 2 Approximate location of GR & LJ Jones quarry

1.4 Resource consents

1.4.1 Water abstraction permit

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 Council with respect to water abstraction permits. Water abstraction for quarries is primarily 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 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.

GR & LJ Jones hold water discharge permit **6274-1** to cover the discharge of treated stormwater and treated washwater 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 Council on 25 March 2004 under Section 87(e) of the RMA. It is due to expire on 1 June 2020.

There are sixteen special conditions attached to this consent.

Condition 1 relates to best practicable option to prevent adverse effects on the environment.

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

Condition 3 states that there is to be no direct discharge of untreated stormwater or washwater and condition 4 requires that the washing and washwater areas be bunded.

Condition 5 requires the quarry site to be contoured and bunded to ensure water is directed to silt control structures.

Condition 6 requires the consent holder to control erosion and minimise sediment in the stormwater discharge.

Condition 7 requires the consent holder to progressively reinstate the quarry.

Condition 8 states that the maximum stormwater catchment area shall be less than two hectares.

Condition 9 requires the consent holder to properly maintain and operate the silt control structures.

Condition 10 states the concentration limits for the discharge.

Condition 11 states that the discharge shall not give rise to any effects on the receiving waters beyond the mixing zone.

Condition 12 states that the discharge shall not increase the turbidity in the receiving waters by more than 50%.

Condition 13 requires the consent holder to provide the Council with a site plan, contingency plan, and stormwater management plan.

Condition 14 states that on the cessation of quarrying, the consent holder shall reinstate the quarry and surrounding areas.

Condition 15 relates to consent lapse.

Condition 16 is a review provision.

A copy of 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.

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.

GR & LJ Jones holds discharge permit **7439-1** to cover the discharge of cleanfill onto and into land in the vicinity of the Mangaoraka Stream. This permit was issued by the Council on 27 January 2009 under Section 87(e) of the RMA. It is due to expire on 1 June 2026.

There are eight special conditions attached to this consent.

Condition 1 states that the discharge of cleanfill is limited to the pit area.

Condition 2 states which materials can be dumped in the cleanfill.

Condition 3 states which materials must not be dumped in the cleanfill.

Condition 4 requires the consent holder to obtain written approval if uncertain if material can be dumped.

Condition 5 requires the consent holder to adopt best practicable option.

Condition 6 requires the site to be stabilised and revegetated upon completion of discharge of cleanfill.

Condition 7 relates to consent lapse.

Condition 8 allows the Council to review, amend, delete or add to the conditions of consent.

A copy of 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 Council to: gather information, monitor, and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region.

The 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 GR & LJ Jones 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 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 GR & LJ Jones site was visited six times during the monitoring period. With regard to consents for the abstraction of or discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and washwater. 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

One sample was collected from the settlement pond during the 2012-2014 monitoring period, however visual inspections on each visit confirmed no indication of any effect.

2. Results

2.1 Water

2.1.1 Inspections

18 September 2012

There was some product stockpiled onsite. There was no processing or washing occurring at the time of inspection. There was product being extracted from the pit. The water that was being pumped from the pit into the stream was clear and having no visual impact on the stream. The clean fill consisted of soil. The site was tidy and complying with consent conditions at the time of inspection.

23 January 2013

There was a lot of product stockpiled onsite. At the time of inspection processing was taking place onsite and there was some product being extracted from the pit. The clean fill was mainly made up of large quantities of clay and topsoil for reinstatement. There was no discharge at the time of inspection however a sample was taken of pit water to ensure consent conditions would have been complied with should a discharge occur.

24 June 2013

There was a lot of product stockpiled onsite but the area looked good. There was processing occurring at time of inspection. The extraction area looked good. There had been a lot of product dumped in the clean fill area; the materials consisted mainly of clay and dirt. All was satisfactory at time of inspection.

31 July 2013

The site was processing at time of inspection. There was a lot of product stockpiled onsite. The crusher was getting repaired and there was a big pile of concrete slabs to be processed. The clean fill area and the extraction area looked good. The inspecting officer spoke with the site manager during the inspection. All was satisfactory at time of inspection.

13 January 2014

There was processing occurring at time of inspection. There was a lot of material onsite. Overall the site looked good, the extraction area and clean fill were well maintained. There had been a lot of material dumped since last inspection. The materials consisted of clay, dirt, broken concrete-bricks and tree stumps. All was satisfactory at time of inspection. There were no dust issues, as sprinklers were operating in the driveway.

12 March 2014

There was processing occurring at time of inspection. There was a lot of product stockpiled onsite. They were extracting near where the old pump was and the clean fill looked good. There had been a lot of material dumped since last inspection. Materials mainly consisted of soil, clay and stumps. All was satisfactory at time of inspection.

2.1.2 Results of discharge monitoring

One sample was collected of the receiving waters during the 2012-2014 monitoring

period Inspections of the site found it to be tidy and complying with consent conditions. The discharge from the site to the receiving water was having no visible impact beyond the mixing zone during six inspections at the site.

Table 1 Results of samples taken on 23 January 2013

Parameters	Consent limit	Settlement pond
pH	6-9	8.6
suspended solid (g/m ³)	100	19
Hydrocarbon (g/m ³)	15	<0.5
Turbidity (NTU)	-	-

The results above show that had a discharge occurred, it would have met the consent conditions.

2.1.3 Results of receiving environment monitoring

No samples were collected of the receiving waters during the 2012-2014 monitoring period. Inspections of the site found the discharge was not having any visual effect on the unnamed tributary of the Mangaoraka Stream.

2.2 Air

2.2.1 Inspections

Air inspections are undertaken in conjunction with compliance monitoring inspections.

2.2.2 Results of monitoring

Inspections found there was no noticeable effect on air quality in the vicinity of the quarry or on the surrounding area as a result of operations at the quarry.

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 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 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 period, there were no incidents recorded by the Council that were associated with operations at the GR & LJ Jones quarry site.

3. Discussion

3.1 Discussion of plant performance

Operations at the site were generally very good during the 2012-2014 monitoring period. No adverse effects were observed on the receiving environment as a result of the activities at the site. The site was generally tidy; no unauthorized material was noted in the cleanfill during inspections at the site. The quarry and cleanfill have been operating in accordance with resource consent conditions.

3.2 Environmental effects of exercise of water permit

The main potential environment effect on waterways that quarries may have is the discharge of washwater containing high levels of suspended solids 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 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 when suspected non-compliance is occurring.

As in previous years, the stormwater from the site was visibly of good quality. Monitoring of the site during the 2012-2014 monitoring period revealed that the quarry was not causing any visual effect on the receiving waterbody and was in compliance with consent 6274-1.

3.3 Evaluation of performance

A summary of the Company's compliance record for the period under review is set out in Tables 2 and 3.

Table 2 Summary of performance for Consent 6274-1 to discharge treated stormwater and washwater

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	Inspections of site	Yes
3. No direct discharge of untreated stormwater	Inspections of site and stream banks	Yes
4. Washwater treatment system to be bunded to prevent inflow of stormwater and groundwater	Inspections of system	Yes
5. Active quarry site to be bunded and all water directed to treatment system	Inspections of site and treatment system	Yes
6. Control erosion and minimise sediment in the stormwater	Inspections of stormwater system and excavation area	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
7. Operate and progressive reinstatement of the site	Inspections of the excavation area	Yes
8. Stormwater catchment area to be no more than 2 hectares	Inspections of the quarry site	Yes
9. Maintain and operate silt control structures	Inspections of the silt control structures and stormwater discharge areas	Yes
10. Concentration limits in the discharge	Observations and sampling of stormwater discharge	Yes
11. Discharge shall not give rise to effects beyond the mixing zone	Inspections of the stream, upstream and downstream of the discharge point	Yes
12. Discharge must not increase turbidity by more than 50%	Inspections of the tributary and the Mangaoraka Stream	Yes
13. Site plan, stormwater management plan, and a contingency plan	Plans received	Yes
14. Reinstatement on cessation of quarrying	Quarry still operating	N/A
15. Consent lapse	N/A	N/A
16. Review provision	Next optional review June 2014	N/A
Overall assessment of compliance and environmental performance in respect of this consent		High

N/A = not applicable

Table 3 Summary of performance for Consent 7439-1 to discharge cleanfill into land

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Disposal only to occur in pit area shown in appendix I	Inspections of cleanfill site	Yes
2. Materials permitted to be disposed of	Inspections of cleanfill site	Yes
3. Materials not permitted to be disposed of	Inspections of cleanfill site	Yes
4. Written approval required if unsure material is acceptable or not	No requests received regarding appropriateness of material	Yes
5. Adopt best practicable option	Inspections of cleanfill site	Yes
6. Stabilisation and revegetation of site on completion of cleanfill operation	N/A – cleanfill still operating	N/A
7. Consent lapse	N/A	N/A
8. Review, amend, delete or add to conditions of consent	Next optional review June 2014	N/A
Overall assessment of compliance and environmental performance in respect of this consent		High

N/A = not applicable

During the period under review, the Company demonstrated a high level of environmental performance and compliance with the resource consents. During the period under review no visual effects on the receiving waters were observed. The operators appear to be aware of the environmental issues related to the site, and are able and willing to improve the site when and where necessary. There were no incidents recorded regarding operations at the quarry site during the 2012-2014 monitoring period.

3.4 Recommendations from the 2010-2012 Biennial Report

1. THAT monitoring of discharges from the GR & LJ Jones quarry in the 2012-2014 period continue at the same level as in 2010-2012.
2. THAT the option for a review of resource consent(s) 6274-1 and 7439-1 in June 2014, as set out in conditions 16 and 8 of the consents, not be exercised, on the grounds that the current conditions are adequate to deal with any environmental effects on the environment arising as a result of exercising the consents.

These recommendation were carried out.

3.5 Alterations to monitoring programmes for 2014-2016

In designing and implementing the monitoring programmes for air/water discharges in the region, the 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.

In the case of GR & LJ Jones quarry, the programme for 2012-2014 was unchanged from that for 2010-2012 on the grounds that the level of monitoring for both the quarry and cleanfill is adequate. It is now proposed that for 2014-2016, the programme remain unchanged. A recommendation to this effect is attached to this report.

3.6 Exercise of optional review of consent

Resource consents 6274-1 and 7439-1 provided for an optional review of the consent in June 2014. Condition 16 of consent 6427-1 and condition 8 of consent 7439-1 allow the Council to review the consents, for the purpose of ensuring conditions are adequate to deal with any adverse effects on the environment arising from the exercise of the consents, which were not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Based on the results of monitoring in the period under review, and in previous years as set out in earlier compliance monitoring reports, it was considered that there were no grounds that required reviews to be pursued.

4. Recommendation

1. THAT monitoring of discharges from the GR & LJ Jones quarry 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:

Al*	Aluminium.
As*	Arsenic.
Biomonitoring	Assessing the health of the environment using aquatic organisms.
BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
BODF	Biochemical oxygen demand of a filtered sample.
Bund	A wall around a tank to contain its contents in the case of a leak.
CBOD	Carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter, excluding the biological conversion of ammonia to nitrate.
cfu	Colony forming units. A measure of the concentration of bacteria.
COD	Chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Condy	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m.
Cu*	Copper.
DO	Dissolved oxygen.
DRP	Dissolved reactive phosphorus.
<i>E.coli</i>	<i>Escherichia coli</i> , an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as the number of colonies per 100 ml.
Ent	Enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as the number of colonies per 100 ml.
F	Fluoride.
FC	Faecal coliforms, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as the number of colonies per 100 ml.
Fresh g/m ³	Elevated flow in a stream, such as after heavy rainfall. Grammes per cubic metre, and equivalent to milligrammes per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
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	Ammoniacal nitrogen, normally expressed in terms of the mass of nitrogen (N).
NH ₃	Unionised ammonia nitrogen, normally expressed in terms of the mass of nitrogen (N).
NO ₃	Nitrate, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
O&G	Oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons).
Pb*	Lead.
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties(e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
PM ₁₀	Relatively fine airborne particles (less than 10 micrometre diameter
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15)
RMA	Resource Management Act 1991 and subsequent amendments.
SS	Suspended solids.
Temp	Temperature, measured in °C.
Turb	Turbidity, expressed in NTU.
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 letter 'As', to denote the amount of metal recoverable in acidic conditions. This is taken as indicating the total amount of metal that might be solubilised under extreme environmental conditions. The abbreviation may alternatively be followed by the letter 'D', denoting the amount of the metal present in dissolved form rather than in particulate or solid form. For further information on analytical methods, contact the Council's laboratory

Bibliography and references

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

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Taranaki Regional Council 2010: 'GR & LJ Jones quarry Monitoring Programme Biennial Report 2008-2010;. Technical Report 10-72, Taranaki Regional Council, Stratford.

Taranaki Regional Council 2012: 'GR & LJ Jones quarry Monitoring Programme Biennial Report 2010-2012;. Technical Report 12-52, Taranaki Regional Council, Stratford.

Appendix I

Resource consents held by GR & LJ Jones



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

Please quote our file number
on all correspondence

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

Name of
Consent Holder: Jones Quarry Limited
Gavin Roy & Linda Jean Jones
29 Mahoetahi Road
R D 42
WAITARA

Consent Granted
Date: 27 January 2009

Conditions of Consent

Consent Granted: To discharge cleanfill onto and into land in the vicinity of
the Mangaoraka Stream at or about (NZTM)
1702940E-5681127N

Expiry Date: 1 June 2026

Review Date(s): June 2014, June 2020

Site Location: 29 Mahoetahi Road, Waitara

Legal Description: Pt Lot 3 DP 6390 Blk III Paritutu SD

Catchment: Waiongana

Tributary: Mangaoraka

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

Consent 7439-1

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 discharge of cleanfill shall only occur in the open pit area shown in Appendix 1.
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, roading seal/bitumen recovered from existing roading pavements (excluding any freshly prepared roading cover material) or any other material (subject to condition 3) 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 including but not limited to wastes containing foliage or other vegetation (other than tree stumps and roots as permitted under condition 2), 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. If the consent holder is uncertain as to the acceptability or not of a certain material the consent holder shall obtain written approval from the Consents Manager, Taranaki Regional Council, prior to its discharge.
5. The consent holder shall at all times adopt the best practicable option or options [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.

Consent 7439-1

6. Upon completion of the cleanfill discharge authorised by this consent, the discharge site shall be stabilised and revegetated.
7. This consent shall lapse on 31 March 2014, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
8. 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/or 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.

Signed at Stratford on 27 January 2009

For and on behalf of
Taranaki Regional Council



Director Resource Management

Appendix 1.

Cleanfill area map

