

Burgess and Crowley Limited  
Quarry Monitoring Programme  
Biennial Report  
2013-2015

Technical Report 2015-41

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## Executive summary

Burgess and Crowley Limited (the Company) operates a quarry located on East Road in Toko, in the Patea catchment. This report for the period July 2013 to June 2015 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental performance during the period under review, and the results and environmental effects of the Company's activities.

During the 2013-2015 monitoring period, the Company held four resource consents, which included a total of 38 conditions setting out the requirements that the Company had to satisfy. Of these consents, one was related to the take and diversion of groundwater, two consents related to stormwater discharge, and one consent related to the discharge of waste onto and into land at this site.

**During the monitoring period, the Company demonstrated an overall high level of environmental performance.**

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

The monitoring showed that the site was processing and storing a lot of product on site at times during the monitoring period. Stormwater was directed to the ponds. During the inspections the silt controls were in place and the stormwater discharge complied with consent limits. The cleanfill area generally looked good.

During the monitoring period, the Company demonstrated a high level of environmental and administrative performance with the resource consents. The Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in resource consents or provisions in Regional Plans.

For reference, in the 2013-2014 year, 60% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 29% demonstrated a good level of environmental performance and compliance with their consents. In the 2014-2015 year, 75% 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 22% demonstrated a good level of environmental performance and compliance with their consents.

This report includes a recommendation for the 2015-2017 period.



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# **1. Introduction**

## **1.1 Compliance monitoring programme reports and the Resource Management Act 1991**

### **1.1.1 Introduction**

This report is for the period July 2013 to June 2015 by the Taranaki Regional Council (the Council) describing the monitoring programme associated with resource consents held by Burgess & Crowley Limited (the Company). The Company operates a quarry situated on East Road in Toko.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to abstractions and discharges of water in the Patea catchment. This is the twelfth report to be prepared by the Council to cover the quarry's environmental monitoring programme.

### **1.1.2 Structure of this report**

Section 1 of this report is a background section. It sets out general information about compliance monitoring under the *Resource Management Act 1991* (RMA) and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consents held by the Company 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 the 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 interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2015-2017 monitoring period.

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

### **1.1.3 The Resource Management Act 1991 and monitoring**

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

- (a) the neighbourhood or the wider community around an activity, and may include cultural and social-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 (for example 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.

#### 1.1.4 Evaluation of environmental and administrative 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 a rating as to the Company's environmental and administrative performance.

**Environmental performance** is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. **Administrative performance** is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

##### **Environmental Performance**

- **High:** No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. 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 in relation to such impacts.
- **Good:** Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or

infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
  - Strong odour beyond boundary but no residential properties or other recipient nearby.
- **Improvement required:** Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.
  - **Poor:** Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

#### **Administrative performance**

- **High:** The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.
- **Good:** Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.
- **Improvement required:** Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.
- **Poor:** Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2013-2014 year, 60% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 29% demonstrated a good level of environmental performance and compliance with their

consents. In the 2014-2015 year, 75% 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 22% demonstrated a good level of environmental performance and compliance with their consents.

## **1.2 Process description**

### **1.2.1 Quarrying in Taranaki**

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).

Currently, there are twenty six quarries in the region that are monitored by the Council. 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 extraction of gravel in New Zealand is regulated by two statutory processes. Allocation and protection of priority rights to extract gravel is obtained under the Crown Minerals Act from the NZ Petroleum and Minerals, a division of the Ministry of Economic Development.

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

Sections 15 and 30 of the RMA give regional councils responsibility for the discharge of contaminants into the environment. Discharges of water into water, contaminants onto or into land that may result in water contamination, and contaminants from industrial premises into air or onto/into land, may not take place unless expressly allowed by a

rule in a regional plan, a resource consent, or regulations. Aggregate extraction usually involves washing aggregates, and therefore requires the discharge of wastes. Other discharges, such as emissions to air from crushing and processing plants, disposal of spoil and solid wastes, and discharges of stormwater are also the responsibility of regional councils.

### 1.2.2 Burgess & Crowley quarry

The Company's quarrying operation is located east of Stratford next to a wetland tributary of the Patea River at East Road, Toko. At the upstream end of the tributary, flow from the wetland enters the site and is directed via a drain along the southern side of the quarry, where it then flows (piped) under the entrance access to the wetland, which surrounds the active quarry site. The wetland extends some 85 metres before entering the Patea River.



**Figure 1** Location of the Burgess and Crowley quarry

No aggregate washing is performed at this site. Machinery includes an excavator, an articulated dump truck, a loader, and a mobile crushing unit.

The quarrying area is contoured and bunded so that stormwater is directed to a settling pond adjacent to the quarry face. Stormwater and groundwater are pumped from the quarry pit when necessary through two settling ponds before the treated stormwater is discharged to the wetland.

Along a third of the perimeter of the exposed area is a 20 to 30 metre wide strip of grassed slope, situated between the stockpiled overburden and the wetland. This provides a good buffer zone for any silt-contaminated run-off. The western end of the quarry beside the wetland is now protected by bunding, and untreated stormwater can no longer discharge directly into the wetland.



**Figure 2** Burgess and Crowley quarry site

The Company also holds a consent to discharge cleanfill at the quarry site. The principle source of cleanfill material to be discharged is that from the quarrying activity on the site.

## 1.3 Resource consents

### 1.3.1 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.

The primary effects of taking and diverting groundwater is the potential for the water table to be lowered, consequently impacting on nearby surface water such as the Patea River or the Toko Wetland.

The Company holds water permit **7964-1** to cover the incidental take and diversion of water due to quarrying activities. This permit was issued by the Council on 10 September 2012 under Section 87(d) of the RMA. It is due to expire on 1 June 2028.

However, due to a misunderstanding over the commencement date, consent conditions have not been exercised and have failed to receive monitoring. After obtaining further information regarding the scope of future quarrying operations, the condition requiring the installation of three piezometers was deemed unnecessary. Subsequently, the conditions of this resource consent are in the process of being altered.

### 1.3.2 Water discharge permits

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.

The Company holds water discharge permit **3916-3** to cover the discharge of stormwater and groundwater seepage from quarrying activities into an unnamed tributary of the Patea River. This permit was issued by the Council on 23 June 2010 under Section 87(e) of the RMA. It was intended that this resource consent would be superseded by resource consent 7963-1, however, due to a misunderstanding over the transition dates, resource consent 3916-3 remained active over the 2013-2015 monitoring period. Resource consent 3916-3 was surrendered on 31 July 2015.

This permit has eight special conditions.

Condition 1 requires that there be no direct discharge of untreated stormwater or groundwater into the unnamed tributary.

Condition 2 stipulates runoff from unvegetated areas is to pass through settling ponds or sediment traps.

Condition 3 states that there is to be no aggregate washing.

Condition 4 requires site to be contoured and bunded.

Condition 5 states the concentration of suspended solids which must not be exceeded.

Condition 6 relates to the mixing zone in the receiving waters.

Condition 7 relates to site reinstatement.

Condition 8 relates to consent review.

A copy of the consent is attached in Appendix I.

Burgess & Crowley also hold water discharge permit **7963-1** to cover the discharge of stormwater into the 'Toko Wetland'. This permit was issued by the Council on 10 September 2012 under Section 87(e) of the RMA. As of 31 July 2015, this is the sole consent addressing water discharges from the company's quarry. The consent will expire on 1 June 2028.

This permit has nine special conditions.

Condition 1 requires all stormwater to be treated via settlement pond prior to discharge.

Condition 2 requires quarry expansion to be implemented in progressive stages.

Condition 3 requires the reinstatement of previous stage within 3 months of transition.

Condition 4 prohibits any discharges from aggregate washing.

Condition 5 requires contouring and bunding of the active quarry site to control the movement of stormwater.

Condition 6 states a concentration limit for suspended solids in any discharge from site.

Condition 7 prohibits adverse effects on the receiving environment.

Condition 8 relates to consent lapse.

Condition 9 relates to consent review.

A copy of the consent is attached in Appendix I.

### **1.3.3 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.

Burgess & Crowley holds discharge permit **6505-1** to cover the discharge of cleanfill onto and into land for quarry reinstatement purposes. This permit was issued by the Council on 15 December 2004 under Section 87(e) of the RMA. It is due to expire on 1 June 2022. The permit contains eleven conditions.

In June 2010 a review of consent conditions was carried out and as a result some minor changes were made to consent conditions to make the intention of the consent clearer.

Condition 1 requires that the consent is exercised in accordance with the information submitted.

Condition 2 stipulates that contaminants discharged consist of cleanfill and/or inert materials; a list of suitable materials is specified.

Condition 3 stipulates items which may not be discharged.

Condition 4 requires written approval for items of which the consent holder is unsure.

Condition 5 stipulates that the discharge to land is not to result in any contaminant entering surface water or groundwater.

Condition 6 requires silt retention structures be installed and maintained.

Condition 7 requires that stormwater diversion drains are installed and maintained.

Condition 8 requires a management plan be prepared within three months of the consent being granted.

Condition 9 requires that the best practicable option be adopted in order to prevent or minimise adverse effects on the environment.

Condition 10 stipulates that upon completion of works the site is stabilised and revegetated.

Condition 11 deals with review provisions.

A copy of the consent is attached in Appendix I.

## **1.4 Monitoring programme**

### **1.4.1 Introduction**

Section 35 of the RMA sets out obligations upon the Council to gather information, monitor, and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region and report upon these.

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 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 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;
- new consents;

- advice on the Council's environmental management strategies and content of regional plans and;
- consultation on associated matters.

#### **1.4.3 Site inspections**

The East Road quarry site was visited eight 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 process wastewaters. The neighbourhood was surveyed for environmental effects.

#### **1.4.4 Chemical sampling**

The Council undertook sampling of the treated discharge from the site at the stormwater outfall on one occasion. The sample was analysed for suspended solids, hydrocarbons and turbidity.

## **2. Results**

### **2.1 Water**

#### **2.1.1 Inspections**

During the 2013-2015 monitoring period the Council carried out eight inspections of the consent holder's East Road quarry site. The results of these inspections were as follows:

##### **4 September 2013**

A full inspection of the site was conducted with quarry personnel. Silt ponds and traps appeared to be working well. Fencing off of the wetland area was discussed. The extraction area was inspected and the direction of future excavation was looked at. Some discussion was had around filling in the old pond area, installing new ponds and fencing off the reinstatement area. There was a lot of material stockpiled on site. The cleanfill area was in a satisfactory condition, however it was requested that certain items be removed.

##### **11 October 2013**

The quarry was processing at the time of the inspection. The extraction area was found to be in a satisfactory condition. Some discussion was had around the options for treating stormwater runoff and also reinstating an area for grazing. The new entry track was inspected as well as an area that had been scraped back for processing.

##### **28 November 2013**

The quarry was processing and there was a lot of product onsite. There were a lot of piles of top soil to be leveled over the reinstated cleanfill area. The cleanfill was in a satisfactory condition and the settlement ponds were working well in the wet weather. The wetland was yet to be fenced, however there were posts onsite. The extraction area and overall operation was satisfactory at the time of the inspection.

##### **14 March 2014**

There was a lot of material stockpiled and a number of trucks picking up product during the inspection. A large pile of cleanfill from the Toko Fire Station had been dumped near the treatment ponds. Materials consisted of timber, concrete, textiles, etc. Overall, the site was in a satisfactory condition and appeared to be well managed.

##### **24 June 2014**

The quarry was not processing at the time of the inspection as the crusher had broken down. There was only a small amount of product stockpiled onsite. The silt and sediment ponds appeared to be working well; a discharge sample was collected. It was asked that the wetland be fenced as soon as possible. It was also asked that any top soil dumped on the western side of the wetland be bulldozed away and not back towards the wetland.

##### **2 April 2015**

The quarry was processing and a crusher was being repaired at the time of the inspection. There was a large amount of material onsite. Not a lot had been dumped at the cleanfill; materials consisted of clay, dirt and roadside scrapings. The flat had been levelled and a crop planted, although this had not started growing yet. A new track had also been cut. The extraction area and overall site was in a satisfactory condition.

**15 May 2015**

There was heavy rain and the quarry was not processing at the time of the inspection. There was a large amount of material on site, including large piles of big rocks. All stormwater was being directed through the silt and sediment controls. Overall, the quarry and cleanfill were in a satisfactory condition.

**27 November 2014**

The quarry was not processing at the time of the inspection. There was a large amount of product stockpiled on site. A new access track had been installed and the old access track area was being stripped. The silt and sediment ponds appeared to be working well; a clear discharge was observed. The old extraction hole at the back of the site was being backfilled. Only a small amount of cleanfill had been dumped since the previous inspection. Fencing of the wetland had been completed. Overall, the site was in a satisfactory condition.

**2.1.2 Results of discharge monitoring**

One sample of the discharge at the wetland was taken during the monitoring period.

**Table 1** Stormwater discharge results - sampled 24 June 2014

	<b>Hydrocarbons</b>	<b>Turbidity</b>	<b>Suspended solids</b>
<b>Units</b>	g/m <sup>3</sup>	NTU	g/m <sup>3</sup>
<b>Consent limits</b>	-	-	50
<b>24 June 2014</b>	<0.5	3.0	2.0

These results indicate that the sample collected in June 2014 complied with special condition six of the resource consent 7963-1, with regard to suspended solids concentrations (limit of 50 g/m<sup>3</sup>). A clear discharge was observed at the time of sampling.

**2.2 Investigations, interventions, and incidents**

The monitoring programme for the 2013-2015 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 monitoring 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 Incident Register (IR) 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 2013-2015 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in resource consents or provisions in Regional Plans.

### 3. Discussion

#### 3.1 Discussion of site performance

During the 2013-2015 monitoring period eight inspections of the consent holder's East Road quarry site were carried out.

The site was processing and storing a lot of product on site at times during the monitoring period. Throughout the inspections (two of which in wet weather), site contouring and bunding was effective at directing stormwater to the settlement ponds. Silt and sediment pond and trap systems appeared to be working effectively. The cleanfill area was generally found in a satisfactory state.

#### 3.2 Environmental effects of exercise of consents

On the occasions where a discharge was observed it was described as being clear. Results from the sampling indicated low levels of turbidity and suspended solids. The concentration of hydrocarbons was below the detectable limit. These results support the effectiveness of the current stormwater treatment controls. The potential effects of discharges from this quarry into the receiving environment are likely to be negligible.

#### 3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Tables 2-5.

**Table 2** Summary of performance for consent 3916-3

Purpose: To discharge stormwater and groundwater to an unnamed tributary of the Patea River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. No direct discharge of untreated stormwater or groundwater	Inspections of the site	Yes
2. All runoff from unvegetated areas to pass through settling ponds	Inspections of the site	Yes
3. No aggregate washing to occur	Inspections of the site	Yes
4. Contour and bund site so all water is directed to silt control structures	Inspections of the site	Yes
5. Suspended solids not to exceed 100 g/m <sup>3</sup> in the discharge	Inspections and sampling	Yes
6. Mixing zone	Inspections of the receiving water	Yes
7. Progressive reinstatement of the site	Inspections of the site	Yes
8. Review condition	Next review date June 2016	Yes
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

**Table 3** Summary of performance for consent 7963-1

Purpose: To discharge stormwater into the 'Toko Wetland'		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Settlement pond requirements	Inspections	Yes
2. Stage development of quarry	Inspections	Yes
3. Reinstatement of previous stages	Inspections	Yes
4. Aggregate washing prohibited	Inspections	Yes
5. Contouring and bunding	Inspections	Yes
6. Suspended solids limits for discharge	Sampling	Yes
7. No effects on receiving waters	Inspections	Yes
8. Consent lapse	N/A	N/A
9. Consent review	Next review date June 2016	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

**Table 4** Summary of performance for consent 7964-1

Purpose: To take and divert groundwater in the vicinity of the Patea River and the 'Toko Wetland' incidental to quarrying activities		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Piezometer installation	N/A	N/A
2. Piezometer monitoring	N/A	N/A
3. Piezometer access	N/A	N/A
4. Consent lapse	N/A	N/A
5. Consent review	N/A – conditions currently being amended	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>N/A</b>
Overall assessment of administrative performance in respect of this consent		<b>N/A</b>

N/A = not applicable

**Table 5** Summary of performance for consent 6505-1

Purpose: To discharge cleanfill to land		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
6. Operations in accordance with information submitted on application	Site inspections	Yes
7. Specified cleanfill materials discharged only	Cleanfill inspections, site manager to monitor external material contributed to cleanfill	Yes
8. Contaminants prohibited to enter/ be combined with cleanfill	Cleanfill inspections	Yes
9. Consent holder to check with Council if unsure that the material is authorised	Discussion with consent holder/ site manager	Yes
10. Discharge shall not contaminate surface water or groundwater	Site inspections	Yes
11. Maintain silt structures	Site inspections and discuss with manager	Yes
12. Maintain drains to minimise stormwater and ponding	Site inspections and discuss with manager	Yes
13. Maintain and adhere to a cleanfill management plan	Received	Yes
14. Adopt best practicable option to prevent/minimise effect on environment	Site inspection and discussion with site manager	Yes
15. Discharge site to be stabilised and revegetated on cessation of operations	N/A	N/A
16. Consent review	Next review date June 2016	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

During the year, the Company demonstrated a high level of environmental and administrative performance with the resource consents as defined in Section 1.1.4.

### 3.4 Recommendations from the 2011-2013 Biennial Report

In the 2011-2013 Biennial Report, it was recommended:

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

### 3.5 Alterations to monitoring programmes for 2015-2017

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, its obligations to monitor emissions/ discharges and effects under the RMA, and report to the regional community. The Council also takes into account 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.

It is proposed that for 2015-2017 the monitoring programme remains unchanged from that of 2013-2015.

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

Resource consents 7963-1, 7964-1 and 6505-1 all provide for an optional review of the consent in June 2016. Conditions nine, five and sixteen of the respective consents allow the Council to review the consent, if there are grounds that the current conditions are inadequate to deal with any adverse effects on the environment arising from the exercise of this consent.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued or grounds to exercise the review option. Resource consent 7964-1 is already undergoing a process in which the special conditions will be amended.

#### **4. Recommendations**

1. THAT monitoring of consented activities at the Company's East Road quarry in the 2015-2017 period continues at the same level as in 2013-2015.
2. THAT the option for a review of resource consents in June 2016, not be exercised, on the grounds that the current conditions are adequate to deal with adverse effects on the environment arising from exercise of the consents.

## Glossary of common terms and abbreviations

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

Biomonitoring	Assessing the health of the environment using aquatic organisms.
Bund	A wall around a tank to contain its contents in the case of a leak.
Conductivity	An indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m <sup>3</sup>	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.
IR	Incident Register.
l/s	Litres per second.
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.
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)
RMA	Resource Management Act 1991 and subsequent amendments.
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.

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.
- 1996 Quarries Monitoring Programme Annual Report 1995-96 Combined Quarries Limited, Victoria Road Stratford. Technical Report 96-15F
- 1997 Quarries Monitoring Programme Annual Report 1996-97 Combined Quarries Limited, Victoria Road Stratford. Technical Report 97-35
- 1998 Quarries Monitoring Programme Annual Report 1997-98 Combined Quarries Limited, Victoria Road Stratford. Technical Report 98-14
- 1999 Quarries Monitoring Programme Annual Report 1998-99 Burgess and Crowley Quarry, East Road, Toko. Technical Report 99-43
- Taranaki Regional Council, 2001: 'Burgess and Crowley Quarry Monitoring Programme Biennial Report 1999-2001.' Technical Report 01-75
- Taranaki Regional Council, 2003: 'Burgess and Crowley Quarry Monitoring Programme Biennial Report 2001-2003.' Technical Report 03-86
- Taranaki Regional Council, 2005: 'Burgess and Crowley Quarry Monitoring Programme Biennial Report 2003-2005.' Technical Report 05-33
- Taranaki Regional Council, 2007: 'Burgess and Crowley Quarry Monitoring Programme Biennial Report 2005-2007.' Technical Report 07-78
- Taranaki Regional Council, 2009: 'Burgess and Crowley Quarry Monitoring Programme Biennial Report 2007-2009.' Technical Report 09-73
- Taranaki Regional Council, 2011: 'Burgess and Crowley Quarry Monitoring Programme Biennial Report 2009-2011.' Technical Report 11-93
- Taranaki Regional Council, 2013: Burgess and Crowley Toko Quarry Monitoring Programme Biennial Report 2011-2013. Technical Report 13-78

## **Appendix I**

### **Resource consents held by Burgess and Crowley Limited**



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

Name of Consent Holder: OW Burgess & TH Crowley Partnership  
[Owen Wayne Burgess & Thomas Harold Crowley]  
P O Box 150  
INGLEWOOD 4347

Consent Granted Date: 23 June 2010

**Conditions of Consent**

Consent Granted: To discharge stormwater and groundwater seepage from quarrying activities into an unnamed tributary of the Patea River at or about (NZTM) 1717123E-5643515N

Expiry Date: 1 June 2028

Review Date(s): June 2016, June 2022

Site Location: East Road, Toko, Stratford

Legal Description: Pt Lots 9 & 14 DP 141 Blk III Ngaere SD

Catchment: Patea

### General condition

- a. The consent holder shall pay to the Taranaki Regional Council [the Council] all the administration, monitoring and supervision costs of this consent, fixed in accordance to section 36 of the Resource Management Act.

### Special conditions

1. That there shall be no direct discharge of untreated stormwater or groundwater from the quarry site into the unnamed tributary as a result of the exercise of this consent.
2. All runoff from any unvegetated area shall pass through settlement ponds or sediment traps with a minimum total capacity of:
  - a) 100 cubic metres for every hectare of exposed soil between 1 November to 30 April; and
  - b) 200 cubic metres for every hectare of exposed soil between 1 May to 31 October;unless other sediment control measures that achieve an equivalent standard are agreed to by the Chief Executive of the Taranaki Regional Council.
3. This consent does not authorise discharge from any aggregate-washing.
4. That the active quarry site shall be contoured/bunded so that: all water generated in this area is directed to the silt control structures for treatment prior to discharge; and the flow of uncontaminated stormwater into this area is prevented, as far as is practicable.
5. The concentration of Suspended Solids shall not exceed  $100 \text{ gm}^{-3}$  in any discharge. This condition shall apply prior to the entry of any discharge into the receiving waters of the unnamed tributary of the Patea River, at the Council's designated sampling point **STW002029**.
6. After allowing for reasonable mixing within a mixing zone extending 10 metres downstream of the discharge point, the discharge shall not give rise to any of the following effects in the receiving waters of the unnamed tributary of the Patea River:
  - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
  - 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.
7. On cessation of quarrying operations the consent holder shall progressively reinstate the quarry site in a manner which ensures that the area of exposed, unvegetated earth, within the active quarry site is kept to a minimum at all times. This shall be undertaken to the satisfaction of the Chief Executive, Taranaki Regional Council.

Consent 3916-3

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 2016 and/or June 2022, 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 23 June 2010

For and on behalf of  
Taranaki Regional Council

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**Director-Resource Management**

Surrendered



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

Name of  
Consent Holder: Burgess Crowley Partnership  
P O Box 150  
INGLEWOOD 4347

Decision Date: 10 September 2012

Commencement  
Date: 10 September 2012

**Conditions of Consent**

Consent Granted: To discharge stormwater from a quarry site into the 'Toko Wetland' in the Patea River catchment at or about (NZTM) 1717192E-5643348N

Expiry Date: 1 June 2028

Review Date(s): June 2014, June 2016, June 2019, June 2022

Site Location: 526 East Road, Stratford (Property Lessee: C Johnstone)

Legal Description: Pt Lot 14 DP 141 (Discharge source and site)

Catchment: Patea

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

### General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

### Special conditions

1. Any discharge from the quarry shall be treated in a settlement pond of no less than 6000 m<sup>3</sup>.
2. The consent holder shall ensure that the quarrying operations are implemented in progressive stages, with only one active area of the quarry being open at any one time. This shall be undertaken in accordance with the details provided in the map and table attached as Appendix 2.
3. Within 3 months of the commencement of work on any new stage of the quarrying operations, the consent holder shall ensure that the previous stage of quarrying operations is reinstated to the satisfaction of the Chief Executive, Taranaki Regional Council.
4. This consent does not authorise discharge from any aggregate washing.
5. The active quarry site shall be contoured and bunded so that all water in this area is directed to the settlement pond for treatment prior to discharge, and the flow of uncontaminated stormwater into this area is prevented, as far as is practicable.
6. The concentration of Suspended Solids shall not exceed 50 gm<sup>-3</sup> in any discharge. This condition shall apply prior to the entry of any discharge into the receiving waters of the unnamed tributary of the Patea River, at the Taranaki Regional Council's designated sampling point **STW002029**.
7. After allowing for reasonable mixing within a mixing zone extending 10 metres downstream of the discharge point, the discharge shall not give rise to any of the following effects in the receiving waters of the unnamed tributary of the Patea River:
  - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
  - 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.
8. This consent shall lapse on 30 September 2017, 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.

Consent 7963-1

9. 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 2016 and/or June 2019 and/or June 2022, 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 September 2012

For and on behalf of  
Taranaki Regional Council

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**Director-Resource Management**

**Appendix 2 – Map and table showing the staged development of the Toko quarry**



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

Name of  
Consent Holder: Burgess Crowley Partnership  
P O Box 150  
INGLEWOOD 4347

Decision Date: 10 September 2012

Commencement  
Date: 10 September 2012

**Conditions of Consent**

Consent Granted: To take and divert groundwater in the vicinity of the Patea River and the 'Toko Wetland' incidental to quarrying activities at or about (NZTM) 1717171E-5643429N

Expiry Date: 1 June 2028

Review Date(s): June 2014, June 2016, June 2019, June 2022

Site Location: 526 East Road, Stratford (Property Lessee: C Johnstone)

Legal Description: Pt Lot 14 DP 141 (Site of take)

Catchment: Patea

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

**General condition**

- a. The consent holder shall pay to the Taranaki Regional Council [the Council] all the administration, monitoring and supervision costs of this consent, fixed in accordance to section 36 of the Resource Management Act.

**Special conditions**

1. Within 3 months of the commencement of this consent, the consent holder shall, after consultation with the Chief Executive, Taranaki Regional Council, install, and thereafter maintain, a minimum of three piezometers. The piezometers shall be at locations that enable regular monitoring to determine the effect that any change in groundwater level, resulting from the exercise of this consent, may have on the Patea River and Toko Wetland. The cost of installing and maintaining the piezometers shall be borne by the consent holder.
2. The consent holder shall maintain a record of the water levels in the piezometers (to an accuracy of  $\pm 10$  mm) by recording the water levels and the date and time of the reading at monthly intervals. This record shall be provided to the Chief Executive, Taranaki Regional Council, no later than 31 July of each year, or earlier upon request.
3. The piezometers shall be accessible to Taranaki Regional Council officer's at all reasonable times for inspection.
4. This consent shall lapse on 30 September 2017, 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.
5. 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 2016 and/or June 2019 and/or June 2022, 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 September 2012

For and on behalf of  
Taranaki Regional Council

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**Director-Resource Management**

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

Name of  
Consent Holder: OW Burgess & TH Crowley Partnership  
[Owen Wayne Burgess & Thomas Harold Crowley]  
P O Box 150  
INGLEWOOD 4347

Decision Date: 30 July 2010

Review Completed Date: 30 July 2010 [Granted: 15 December 2004]

**Conditions of Consent**

Consent Granted: To discharge cleanfill onto and into land for quarry  
reinstatement purposes at or about (NZTM)  
1717122E-5643560N

Expiry Date: 1 June 2022

Review Date(s): June 2010, June 2016

Site Location: East Road, Toko, Stratford

Legal Description: Pt Lots 9 & 14 DP 141 Blk III Ngaere SD

Catchment: Patea

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

### **General conditions**

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

### **Special conditions**

1. The exercise of this consent shall be undertaken in accordance with the documentation submitted in support of application 3439, but subject to the conditions of this consent. In the case of any contradiction between the documentation submitted in support of application 3439 and the conditions of this consent, the conditions of this consent shall prevail.
2. The contaminants to be discharged shall be limited to cleanfill and/or inert materials. For the purposes of this condition, "clean fill and inert materials" are defined as materials consisting of any concrete, cement or cement wastes, bricks, mortar, tiles [clay, ceramic or concrete], non-tanalised timber, porcelain, glass, gravels, boulders, shingles, fibreglass, plastics, sand, soils and clays, and/or tree stumps and roots, whether singly or in combination or mixture, or any other material [subject to conditions 3 & 5] 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 discharge to land shall not result in any contaminant entering surface water or groundwater.

## Consent 6505-1

6. Silt retention structures shall be installed and maintained to the satisfaction of the Chief Executive, Taranaki Regional Council.
7. The consent holder shall install and maintain stormwater diversion drains to minimise stormwater movement across, or ponding on the site, to the satisfaction of the Chief Executive, Taranaki Regional Council.
8. Within three months of granting of this consent the consent holder shall prepare and maintain a cleanfill management plan to the satisfaction of the Chief Executive, Taranaki Regional Council, and shall adhere to such plan in so far as it concerns the exercise of this consent at all times.
9. Notwithstanding any conditions within this consent, 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.
10. Upon completion of the works associated with the exercise of this consent, the discharge site covered by this consent shall be stabilised and revegetated to the satisfaction of the Chief Executive, Taranaki Regional Council.
11. 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 30 July 2010

For and on behalf of  
Taranaki Regional Council

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**Director-Resource Management**