Waitaha Catchment
Joint Monitoring Programme
Annual Report
2014- 2015

Technical Report 2015-52

ISSN: 1178-1467 (Online)
Document: 1546598 (Word)
Document: 1583016 (Pdf)

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March 2016

Executive summary

The 2014-2015 annual compliance monitoring report is the 21st report by the Taranaki Regional Council (the Council) to be prepared for the joint monitoring programme in the Waitaha Stream catchment. The monitoring programme was established in 1994 to integrate the monitoring associated with the air and water monitoring of the formaldehyde resin manufacturing plant now owned by AICA (NZ) Limited (formerly owned by Dynea NZ Limited) and Taranaki Sawmills Limited with other discharges in the catchment. Twelve industrial premises were monitored under this programme during the year under review. The monitoring reflects an on-going process of identifying and improving discharges into the catchment in a similar manner to the management of those in the neighbouring Mangati Stream catchment.

A total of sixteen consents were included in the joint monitoring programme during the 2014-2015 monitoring period. Of these, 10 licenced discharges to water, one licenced a discharge to land, and five licenced discharges to air. The consents include a total of 176 special conditions.

Overall, a good level of environmental performance and a high level of administrative performance was achieved by the consent holders in the industrial area of the Waitaha Stream catchment.

The Council's monitoring included 33 inspections, 22 stormwater samples, 18 receiving water samples collected for physicochemical analysis, a review of consent holder monitoring data, odour surveys, ambient air quality analyses, ambient PM_{10} monitoring, and deposition gauging.

During the year under review, inspection found that the sites were generally well managed, with only minor issues found at some sites, most of which were addressed promptly by the consent holders. Although there were a small number of minor issues that took some time to resolve at the sites of Symons Property Developments Limited, Taranaki Sawmills Limited and Weatherford New Zealand Limited, there were no resultant significant adverse effects found.

Chemical monitoring of the stream found that although there were measurable changes in some parameters, most of these would have resulted in only minor transient effects at most. In terms of aquatic guidelines, the only exceedances of acute exposure criteria found were for dissolved zinc, and were not considered attributable to the consented discharges monitored under this programme. Higher than expected levels of dissolved zinc, dissolved copper, ammoniacal nitrogen and dissolved reactive phosphorus were found in receiving waters during the period under review, however subsequent sampling has shown that these parameters had returned to levels similar to historical medians.

Overall the consented discharges in the Waitaha catchment achieve a high level of environmental compliance and Council is continuously working with consent holders to apply best practice. The Council, in cooperation with NPDC as the consented reticulation owners, is also educating and engaging with non-consented dischargers who may be unaware of their environmental and regulatory obligations. Tightening up on potentially unauthorised discharges, with time, should improve water quality in the upper catchment of the Waitaha.

There were a total of eleven Unauthorised Incidents (UI's) recorded in this catchment during the period under review, seven of which were substantiated at the time of investigation by Council Officers. Five of the substantiated incidents related to consent holders monitored under this programme (Symons Property Developments Limited – 2, Taranaki Sawmills Limited – 2, Weatherford New Zealand Limited - 1).

During the year, AICA (NZ) Limited demonstrated a high level of environmental and a high level of administrative performance with resource consents as defined in Section 1.1.5 of this report. However, an improvement is desirable in the communication between the Company and Council regarding the inter-laboratory testing and notification of discharges to allow the programmed monitoring to be undertaken.

During the year, C&O Concrete Products Limited demonstrated a high level of environmental and a good level administrative performance. There was one slight exceedance of the consent upper pH limit in the discharge, however subsequent sampling showed that site had become compliant.

During the year, Greymouth Facilities Limited demonstrated a good level of environmental and high level of administrative performance with the resource consent conditions. There was one non-compliant sample in regard to suspended solids and this was rectified by the Company and this was verified by subsequent sampling.

During the year, Intergroup Limited demonstrated a high level of environmental performance and compliance with consent conditions. The consent conditions contained no administrative requirements.

During the year, Meredith Metals Ltd demonstrated a high level of environmental performance, however an improvement is required in Meredith Metals Ltd's administrative performance as the stormwater management plan and contingency plan required by consent conditions were not supplied on time and required re-drafting.

During the year, the NPDC demonstrated a high level of environmental performance with the resource consents. Although the suspended solids limit on one consent was exceeded, there were no significant increases of stream turbidity recorded. It is noted that it is not currently the Council's practice to include discharge quality limits on the discharges from the combined NPDC reticulated stormwater outlets.

During the year, Symons Property Development Limited generally demonstrated a good level of environmental performance and high level of administrative performance with resource consent conditions. However, an improvement is required in the Company's overall environmental performance, as defined in Section 1.1.5, due to breaches of the *Resource Management Act 1991* (RMA) and Regional Air Quality Plan in relation to dust discharges from the site. There was an infringement notice issued as a result of one of the complaints received about the site.

During the year, TBS Coatings Limited demonstrated a good level of environmental performance and a high level of administrative performance with the resource consent. An exceedance of the dust deposition rate was observed in two of the six gauges deployed, which may have been the result of re-suspended yard dust. The Company undertook a site clean up as a result of this non-compliance. No complaints were received during the period under review.

During the year, Weatherford New Zealand Limited demonstrated a good level of environmental performance, and a high level of administrative performance. There was one non-compliant result in regard to suspended solids and the Company is working to improve silt control.

During the year, Woodwards 2008 Limited demonstrated a high level of environmental and high level of administrative performance with their resource consents.

During the year, Zelam Limited demonstrated a high level of environmental and high level of administrative performance with their resource consents.

For reference, 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 recommendation for the 2015-2016 year.

Table of contents

List of tables

List of figures

List of photos

1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is the Annual Report for the period July 2014-June 2015 by the Taranaki Regional Council (the Council) on the monitoring programme associated with 17 resource consents held by 12 consent holders in the Waitaha catchment.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of these consents, which relate to discharges to water and emissions to air within the Waitaha catchment.

One of the intents of *the Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of water and air discharges by companies within the Waitaha catchment, and is the 21st combined annual report by the Council for this catchment.

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 RMA and the Council's obligations and general approach to monitoring sites though annual programmes, a summary of the resource consents held by companies in the Waitaha catchment, and the nature of the monitoring programme in place for the period under review.

Each company's activity is then discussed in detail in a separate section (sections 2 to 13).

In each subsection 1 (e.g. section 2.1) there is a general description of the industrial activity and its discharges, a photograph or map showing the location of the activity, and an outline of the matters covered by the company's permit/s.

Subsection 2 presents the results of monitoring of the company's activities during the period under review, including scientific and technical data, and any information on the Council's Register of Incidents.

Subsection 3 discusses the results, their interpretation, and their significance for the environment in the immediate vicinity of the sites under discussion.

Subsection 4 presents recommendations to be implemented in the 2015-2016 monitoring year.

Section 14 presents a summary of the information on file about any unauthorised incidents logged on the Council's database that occurred within the Waitaha catchment.

Section 15 discusses the results of the monitoring of the Waitaha Stream, their interpretation and their significance.

Section 16 presents a summary of all the recommendations made in relation to the monitoring of each company's activities.

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

(a) the neighbourhood or the wider community around an activity, and may include cultural and 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 (eg, recreational, cultural, or aesthetic);
(e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the 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 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the consent holder. During the year matters may arise which require additional activity by the Council, 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).

1.1.5 Evaluation of environmental and administrative 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 a rating as to each 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 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 Resource consents

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.

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.

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.

The resource consents covered by the Waitaha Catchment Joint Monitoring programme are shown in Table 1 and their locations are shown in **Error! Reference source not found.**. The programme covered 16 consents during the 2014-2015 year. Nine consents license discharges to water, one for discharges to land, and five are for discharges to air. There are a small number of other consented discharges in the catchment, such as agricultural discharges, which are not covered directly by this monitoring programme.

Outlines of the companies' activities and the special conditions on their consents are presented in later sections, and copies of the full consents are given in alphabetical order in Appendix I.

Table 1 Resource consents in the Waitaha catchment covered by this report

Resource consent	Consent holder	Purpose	Review dates	Expiry date	No. of conditions
2367-2	AICA (NZ) Limited	Discharge up to 150 Ls^{-1} of stormwater from a chemical manufacturing into a wetland at the headwaters of an unnamed tributary of the Waitaha Stream.	-	1 June 2014	6
4021-2		Discharge to air from the manufacture of formaldehyde solution and urea formaldehyde resin and associated activities.	-	1 June 2014	14
4021-3		To discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises.	June 2020 and 2026	1 June 2032	12
4777-2	C&O Concrete Products Limited	Discharge up to 40 Ls^{-1} of stormwater from a concrete products manufacturing site to the Waitaha Stream.	June 2020 and 2026	1 June 2014	9
0608-3	New Plymouth District Council	Discharge stormwater from the Connett Road industrial subdivision into the Waitaha Stream.	-	1 Jun 2026	5
0609-2		Discharge up to 1,200 Ls^{-1} of stormwater from an industrial subdivision to an unnamed tributary of the Waitaha Stream.	-	1 June 2014	3
9868-1	Greymouth Facilities Limited	To discharge treated stormwater from a yard used for storage and maintenance of hydrocarbon exploration drilling equipment into the Waitaha Stream via the New Plymouth District Council reticulated stormwater system, and onto and into land from the skimmer pit (Granted 8 May 2014).	June 2017, 2020, 2023, 2026 and 2029	1 June 2032	15
9911-1	Meredith Scrap Metals Limited	To discharge contaminants onto and into land associated with scrap metal storage and processing.	June 2020 and 2026	1 June 2032	9
9912-1		To discharge stormwater from scrap metal storage and processing into the Waitaha Stream and into an unnamed tributary of the Mangaoraka Stream via the New Plymouth District Council reticulated stormwater system.	June 2020 and 2026	1 June 2032	9
7805-1	Symons Property Development Limited	To discharge stormwater from a truck depot and pipe cleaning facility into the Waitaha Stream.	June2020	June 2026	13
2333-3	Taranaki Sawmills Limited	To discharge stormwater from a sawmill operating site onto and into land and into the Waitaha Stream.	-	1 June 2014	9
4096-2		To discharge emissions into the air from sawmilling and untreated timber processing and associated activities including the combustion of wood and/or coal within boilers and wastes in an open fire-pit.	June 2020 and 2026	1 June 2032	21
4056-2	TBS Coatings Limited	Discharge emissions into the air from abrasive blasting operations and associated processes at a permanent site at Corbett Road, Bell Block, and from mobile operations at various locations throughout the Taranaki region.	-	1 June 2020	21
4776-1	Intergroup Limited Formerly held by Transpacific International Limited	Discharge up to 65 Ls^{-1} of stormwater from a truck depot site to the Waitaha Stream.	-	1 June 2014	4
4775-1	Weatherford New Zealand Ltd	To discharge up to 130 Ls^{-1} of treated stormwater and minor treated wash-down water from an oilfield engineering services premises onto land and into an unnamed tributary of the Waitaha Stream.	-	1 June 2014	5
7881-1	Woodwards 2008 Limited	To discharge emissions into air from the combustion of untreated timber wastes.	June 2020	1 June 2026	9
4059-5	Zelam Limited	To discharge emissions into the air from industrial agrichemical formulation processes and associated processes.	June 2020	1 June 2026	12

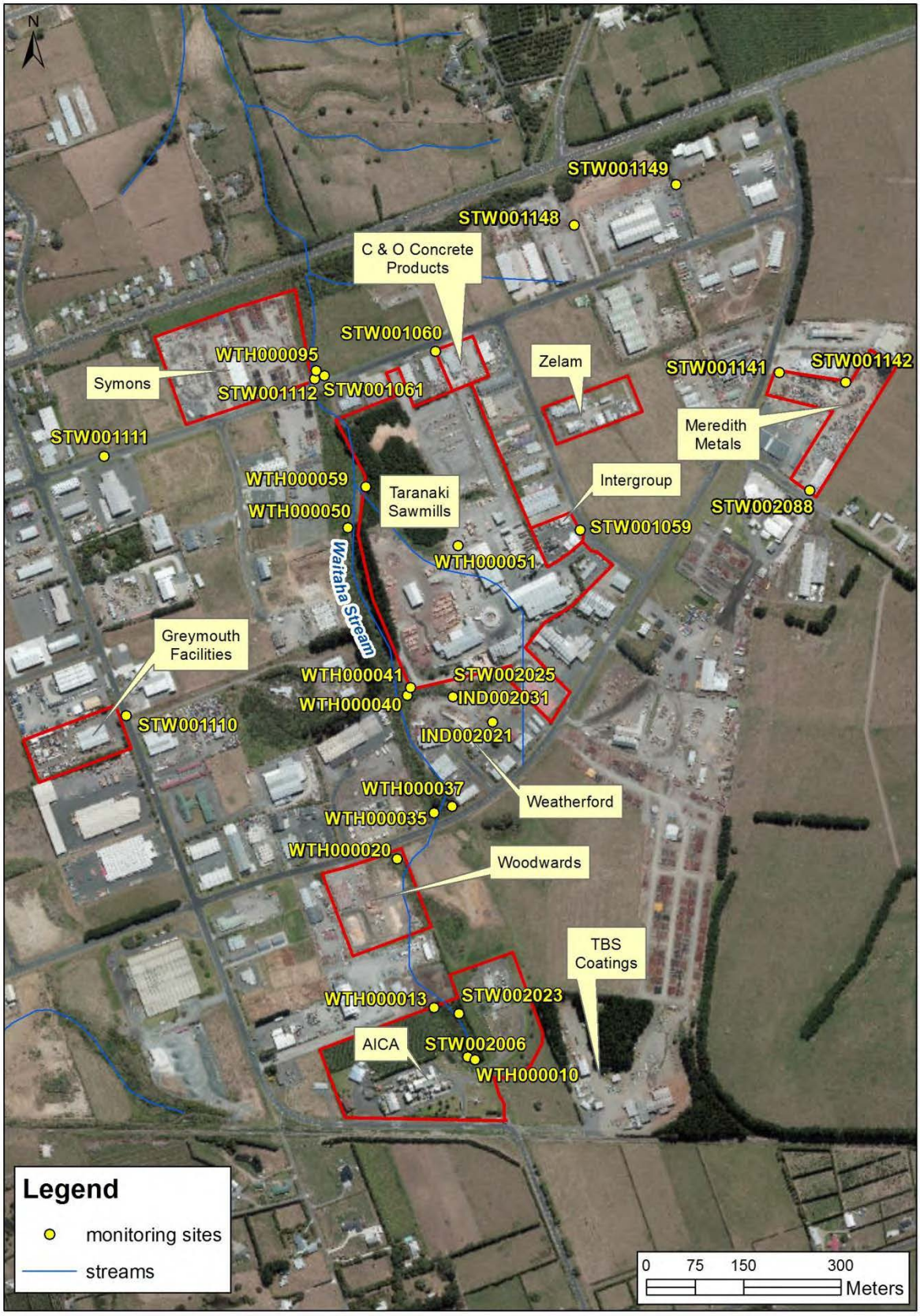

Figure 1 Location of consent holders and surface water monitoring sites

1.3 Monitoring programme

1.3.1 Introduction

Section 35 of the RMA sets out obligation/s 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 industries in the Waitaha catchment consisted of six primary components.

1.3.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in on going 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.

1.3.3 Site inspections

The sites were visited up to seven times during the monitoring period. With regard to consents for discharges to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. During inspections at sites with air discharge consents, ambient monitoring of suspended particulate and other emissions (as appropriate) were undertaken.

1.3.4 Discharge sampling

The Council took 22 discharge samples either via integrated wet weather runs or individually during wet weather inspections. Each sample was analysed for the expected contaminants and other physical characteristics of the discharges from each site.

1.3.5 Receiving water samples

The Council took 18 receiving water samples during two integrated wet weather surveys. Each sampling site is located to serve as either an upstream control or downstream impact assessment site for any given discharge.

1.3.6 Air montoring

Council undertook one 48 hour suspended particulate survey (at AICA) and two 20-day dust deposition surveys (at TBS Coatings).

1.3.7 Provision of company data

The consents held by AICA require the collection of data in regards to stormwater quality and volumes and also require the provision of stack testing reports. A report on new air emissions treatment technology is required annually.

The air discharge consent held by Zelam requires the consent holder to measure the pH and amine content of the air scrubber liquor and provide the results to Council.

2. AICA (NZ) Limited

2.1 Introduction

2.1.1 Process description

AICA (NZ) Limited (AICA) manufactures synthetic resins for the production of wood products at their plant situated above a wetland area at the headwaters of the Waitaha Stream.

Photo 1 AICA (NZ) Ltd site

There have been a number of changes at the site over the years in order to meet market demands. There are two processing areas on site, Plant 1 predominantly for formaldehyde based products, and Plant 2 which was primarily for phenol based products.

In 1999 a two tonne mixing vessel was installed at Plant 1 to take advantage of an increase in wood glue sales. This was piped up to the existing utilities and scrubbers.

2.1.1.1 Water

The site has an enclosed stormwater system that directs all road drains to the holding ponds, which are lined with butyl rubber. Areas likely to be contaminated, such as bunds around storage tanks and loading facilities, are directed to the NPDC sewer system.

The car park, where the storage of chemicals is prohibited, drains directly to the receiving waters of the Waitaha Stream. Roof water from the phenolic resins plant (Plant 2) drains to the stormpond.

The access roads around the site should be uncontaminated by raw materials and product, although it is often noted that urea prills are observed on the roadways. The potential for this to enter the receiving waters is minimised by the requirement for truck drivers to air blow all urea residue from their trucks before leaving the urea store. A drain has also been installed in the roadway leading into the urea store so any residue spilled in this area are captured and pumped to the trade waste system. The stormwater from roadways outside this drain flows into the stormpond. The stormponds also provide containment of spills.

Pond 1 is capable of containing 300 m^3 of stormwater and Pond 2 can hold 100 m^3.

AICA are currently storing some materials in the Plant 2 area, either inside the chemical storage shed, or outside the shed in an area that drains to Pond 2, whilst disposal options are evaluated.

Analysis of the stormwater is carried out by the Company prior to discharge occurring. Should the stormwater be outside the limits given in the consent, it is discharged to the NPDC sewer system as trade waste, or is re-circulated through the on-site system for further mixing, aeration and biological attenuation. At times, the stormwater is also used to dilute the trade wastes from the plant.

The results of the analyses are kept in the Company Operational Log, along with the operators' comments as to where the discharge is being pumped.

During the 2010-2011 year Council was advised that subject to production demands the Company was going to be closing the production site over weekends. During the 2011-2012 year the site was de-manned over the weekends. There were monitoring systems in place that allowed on-call staff to remotely supervise the New Plymouth site. The on-call operators would deal with any issues that arose. If the on-call operator does not respond to this call, a series of management staff will be contacted until someone can be found. The move to this situation was staged. Initially the site was shut down, but the staff providing the weekend cover were present at the site to ensure a smooth transition to the remote monitoring system. And this style of operation has continued under AICA 's ownership. Whilst the site is unmanned AICA do not run the formaldehyde or resin batch processes. All unnecessary utilities are also shutdown. The package boiler has been upgraded to allow it to run unattended, and this and other supporting ancillary equipment continue to run during the de-manning periods to keep critical equipment at the correct temperatures.

Council was informed that all bunds, wastewater and stormwater ponds were to be pumped dry by Friday evening. All gates would be padlocked shut and the security system will be activated. High and "HiHi" level alarms are fitted in the storm pond sump, with the "HiHi" level being at the top of the pond liner. On the High alarm, an operator would come to site, test the water in the stormpond, and if found to be in specification, it would be pumped to the tributary. If out of specification it would be pumped to the trade waste storage for further testing and possible discharge to the NPDC system.

The high level switch is set at approximately 250 m^3; the "Hi-Hi" has been set at 300 m^3. The Company estimated that the bunded area over and above the pond liner will hold

a further 600 m^3 before it spilled over into the stream. This allows plenty of time for the site stormwater to be managed appropriately.

A new chemical storage shed was built on the Plant 1 site to store raw materials used in the production of wood specialised adhesives (WSA). A section of this shed has been bunded to allow for the storage of some finished products, generally intermediate bulk containers (IBCs) or drums.

The Company is required to maintain a contingency plan for the site, which identifies the measures to be undertaken to prevent spillages and avoid, remedy or mitigate the effects of accidental spillages. An update of this plan, including the necessary provisions to cover the weekend de-manning, was received in September 2011. The contingency plan, which considers both discharges to water and emissions to air, was reviewed in April 2013.

2.1.1.2 Air

Emissions to air of formaldehyde, phenol, resorcinol and resin are reduced by the use of water scrubbers in the formaldehyde absorber tower and on the vents from the resin plant and formalin, resin, phenol and resorcinol tanks. All phenol and resorcinol vapours that leave the process kettles are condensed under vacuum.

Formaldehyde Plant - Plant 1

Formaldehyde solution is produced at the plant by the catalytic oxidation and dehydrogenation of methanol in a continuous process. This is then used in the production of urea-formaldehyde and melamine-urea-formaldehyde resins.

The urea formaldehyde resin manufacturing plant was commissioned in April 1989. At that time, the facility was owned by A C Hatrick Ltd. Part of this plant was designed to produce formaldehyde solution by the catalytic oxidation and dehydrogenation of methanol, at a capacity of 60 tonnes per day. Air, methanol, and water are fed into a vaporiser and mixed so that gas leaving the unit has the approximate composition of methanol vapour in air. Vaporisation is controlled by a steam heating coil and heat from the absorber cooling system. The gases leaving the vaporiser pass through a demister before entering the reactor. The reactor has a silver catalyst operating at 610-690°C. The reaction is exothermic (heat releasing), and the heat is recovered in a boiler. The major products are formaldehyde, hydrogen, carbon dioxide, carbon monoxide, and condensation, and absorption takes place in a 4 section system. The three main absorption loops are circulated through heat exchangers with the bottom loop providing heat to the vaporiser. Formaldehyde solution at a concentration of 37-50% by weight is drawn off the bottom absorption loop and pumped to storage. Insoluble gases exit the absorber from a top vent at 10-15°C. These emissions consist roughly of 20% hydrogen, 70% nitrogen, 2-3% water, 4-6% carbon dioxide and around 1% carbon monoxide. There are also traces of formaldehyde, methanol, and various reaction by-products.

Much of the formaldehyde produced is reacted in a second part of the plant with urea to produce urea formaldehyde resin. This plant has a capacity of 80 tonnes per day when operating continuously. There are two steps in the reaction; an addition reaction between urea and formaldehyde and a condensation reaction with methylene and ether.

Ammonium sulphate is used as an initial catalyst, and vacuum distillation is used to increase the non-volatile components by removing water and methanol which are returned to the formaldehyde process.

The primary source of emissions to the atmosphere is therefore the vent on the formaldehyde absorption tower, 22 metres above ground level. There are exhaust gases (including water vapour) from a gas-fired boiler flue, and some steam from the plant's cooling tower, together with minor emissions from storage tanks and the laboratory fume cupboard.

Formaldehyde occurs naturally in meat and some kinds of fruit and vegetables, and is released in cigarette smoke, and from furnishing fabrics, glues, and wood grain panelling. Motor vehicles and domestic solid-fuel combustion are major sources of formaldehyde in the urban environment. Concentrations in most buildings using wood grain resin-bonded panels would typically average 0.10-1.00 mg/m^3. Formaldehyde has been found to cause cancer in some animal species when administered at extremely high doses. It has not been classified as a known human carcinogen by the WHO International Agency for Reacher on Cancer. The major route for exposure to formaldehyde in humans is inhalation. The main toxic effects for acute exposure are eye, nose and throat irritation and effects on the nasal cavity. Other effects include coughing, wheezing, chest pains and bronchitis. Chronic exposure has also been associated with respiratory symptoms and eye, nose and throat irritation. The limit of detection for formaldehyde odour is about 0.08 mg/m^3.

The World Health Organisation notes that there is variability in human formaldehyde responses, with significant increases in signs of irritation occurring at levels above 0.1 mg/m^3 and a progression of symptoms occurring above 1.2 mg/m^3. No lung function alterations were noted in healthy non-smokers and asthmatics exposed to formaldehyde levels up to 3.7 mg/m^3.

In the national Ambient Air Quality Guidelines (Ministry for the Environment, 2002) a formaldehyde limit of 100 $\mu g/m^3$ (0.1 mg/m^3) was given. It should be noted that the primary consideration by the Ministry for the Environment in setting this guideline, has been to ensure that ambient (outdoor) air can be used to dilute indoor concentrations of formaldehyde. This limit protects against tissue irritation of the eyes, nose and throat.

The World Health Organisation (2005) also proposed a limit of 0.1 mg/m^3 as adequate to protect against sensory, toxic and carcinogenic risk.

In the Good Practice Guide for Air Quality Monitoring and Data Management 2009, the Ministry for the Environment states that:

- ambient air quality guidelines are concentration limits recommended to protect human health and the environment under the RMA,
- they may be incorporated into regional plans as objectives or targets, and
- that the Guidelines should be followed as closely as possible for the sake of good practice and national consistency.

Melamine expansion

In late 1991 the Company expanded its activities, by adding a melamine-formaldehyde resin manufacturing process capable of producing 40 tonnes per day. The changes included the introduction of melamine on to the site. Additional storage tanks for formaldehyde were manifolded to the existing tank scrubber system, and a dust control system installed on the melamine powder handling facilities. The new reaction vessel was also vented to the existing tank scrubber system.

Phenol Plant – Plant 2

The phenol plant (Plant 2), for which consent 4421 was granted by the Council in December 1993, was constructed during 1994. The first reactor kettle was commissioned in April 1995. A second kettle was installed during the latter part of the 1994-1995 monitoring year, and was subsequently commissioned in mid-August 1995.

The two kettles were multi-purpose facilities, enabling the manufacture of the same formaldehyde and melamine resins described above. In addition, they allowed the preparation of phenol-based and resorcinol-based resins. The plant could be operated in a manner that was fully independent of the primary plant. Emissions from the site were condensed for recovery, and residual emissions were scrubbed by water solution, which was subsequently recycled as process make-up water.

In 1998 a two tonne capacity trial reactor was added to allow the production of trial white and red formaldehyde based resins. This reactor was piped up to the existing utilities and scrubber. This facility has now been relocated to Plant 1.

In early 2009, due to the economic downturn it was decided that Plant 2 would be decommissioned.

Phenol manufacturing has been transferred to the AICA site in Nelson and the two tonne trial reactor was relocated into a new building at Plant 1. This is used to trial resin batches prior to them going in to full production. A second six tonne mixing vessel has also been installed that is used to produce wood specialised adhesives (WSA) and hardeners. This vessel has a dust collector installed to reduce emissions to the atmosphere.

A new scrubber has also been installed in the resin plant to take advantage of new technology and further reduce emissions.

2.1.2 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. The stormwater discharge from the site has been consented since 11 November 1987.

AICA currently holds water discharge permit 2367-2 to cover the discharge of up to 150 L/s of stormwater from a chemical manufacturing complex into a swamp at the headwaters of an unnamed tributary of the Waitaha Stream. This permit was issued to Dynochem (NZ) Limited by the Council on 20 March 1996 under Section 87(e) of the RMA.

The consent was transferred to Dynea NZ Limited on 21 June 2001, and to AICA (on 2 April 2013. A variation to the conditions allowing an increased concentration of ammonia and formaldehyde in the discharge was granted on 7 May 2002. It expired on 1 June 2014 and continues to be exercised under section 124 protection.

An application to renew this consent was initially received by Council on 29 November 2013. The application was considered to be incomplete and was therefore returned to the applicant with guidance on the information that would need to be included for the application to be accepted. An application to renew the consent was received and accepted on 26 February 2014. Although the application was still lacking some information, it was considered that this could be addressed through a request for further information under Section 92 of the RMA.

The application to renew consent 2367 was lodged more than 3 months before expiry, therefore as per Section 124 of the RMA, the Council has exercised its discretion, allowing the activity to continue to under the conditions of the expired consent until a decision is made on the renewal.

Special conditions 1 and 2 limit the contaminant concentrations in the discharge and the effects that the discharge may have on the receiving waters of the Waitaha Stream.

Special condition 3 requires the consent holder to maintain a contingency plan.

Special condition 4 specifies the records that must be kept in relation to the stormwater discharges from the site.

Special condition 5 prohibits the storage of chemicals in the car park and special condition 6 sets out provisions for review of the conditions of the consent.

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

2.1.3 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.

AICA held air discharge permit **4021-2** to cover the discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises. The consent was formerly held by Dynochem NZ Limited, and then Dynea NZ Limited.

In 1993 the production capability was increased by building a multi-purpose plant at the site to manufacture urea, melamine, phenol and resorcinol resins. The new plant (Plant 2) used a batch process, producing whichever type of resin was required at the time, with discharges to air from this new site covered by consent 4421.

The existing plant (Plant 1) already manufactured all of these except for phenol and resorcinol resins, under air discharge permit 4021, which was formerly a clean air licence HD/10/0034/91. This permit expired on 1 April 1996, and Dynochem applied to renew consent 4021 as a generic air discharge permit for the whole site. Consent

4021-2 was issued to Dynochem (NZ) Limited by the Council on 12 June 1996 under Section 87(e) of the RMA. Consent 4421 became superfluous and was surrendered. Consent 4021 was transferred to Dynea NZ Limited on 21 June 2001, and was varied to increase the permitted formaldehyde emission rates and ambient formaldehyde concentration beyond the site boundary on 6 October 2009. The consent was transferred to AICA on 2 April 2013. It expired on 1 June 2014 and was exercised under section 124 protection until it was superseded by consent 4021-3 on 26 May 2015.

At the time of the variation, no changes to plant processes were proposed. The changes reflected changes in analytical methodology in relation to the formaldehyde emissions monitoring, together with measurements of ambient formaldehyde which showed that vehicular traffic in the vicinity of the site impacted on the ambient formaldehyde concentration to a greater degree than emissions from the plant. The new ambient concentration limit requested by the Company was the concentration given as the minimum requirement of the health-based Ambient Air Quality Guidelines (Ministry for the Environment, 2002).

A summary of the conditions of consent 4021-2 are given below.

Special condition 1 limited the total emission rate of formaldehyde from all processes and special condition 2 limited the discharge rate of formaldehyde from main stack and scrubber tower vent of Plant 2.

Special condition 3, required satisfactory monitoring of the exercise of the consent and its effects.

Special condition 5 and 6 required formaldehyde emissions monitoring to be conducted by an independent party on an annual basis to confirm that the consent holder is complying with special condition 2. These conditions also specified the standard to which the testing must be performed, the reporting requirements, and the timing of the testing and reporting.

Special condition 6 required that processes are operated and managed to minimise emissions.

Special conditions 7, 8 and 9 limit the permitted ambient ground level concentration of formaldehyde, phenol, and resorcinol respectively. The formaldehyde limit was increased as part of the consent variation.

Special conditions 10 and 14 contained provisions for reviewing the conditions of the consent.

Special condition 11 required consultation with the Council prior to significant changes at the plant that may affect the quantity or nature of the discharge.

Special condition 12) required the consent holder to provide a report to Council every 6 years detailing the discharges to air from the site and reviewing technological advances or other issues relevant to the minimisation or mitigation of discharges from the site.

Special condition defines, and required the consent holder to adopt, the best practicable option to prevent or minimise adverse effects.

An application to renew this consent was received by Council on 29 November 2013.

This expired on 1 June 2014 and was exercised under section 124 protection until it was superseded by consent 4021-3 on 26 May 2015.

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

4021-3 was issued to AICA by the Council on 26 May 2015 under Section 87(e) of the RMA to discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises. It is due to expire on 1 June 2032.

It has 12 special conditions;

Special condition one requires the consent holder to adopt the best practical option.

Special condition two requires that the discharge must not give rise certain effects beyond the boundary.

Special condition three requires that formaldehyde emissions from the stacks not exceed 1.0 kg/hour.

Special conditions four and five requires the consent holder to undertake stack testing to certain standards.

Special conditions six, seven, and eight limits the ambient concentration of formaldehyde, phenol and resorcinol at the boundary.

Special condition nine places limits on carbon monoxide, nitrogen dioxide, PM10 and sulphur dioxide.

Special condition 10 requires the consent holder to notify Council prior to undertaking any changes at the site.

Special condition 11 requires that consent holder provide an annual report on technological advances in emission control.

Special condition 12 is review condition.

2.2 Results

2.2.1 Inspections

16 July 2014
A site inspection was carried out as part of routine compliance monitoring. Inspection found that resin manufacturing and Stack testing was being undertaken by AICA on the site.

The inspection was carried out during sunny weather with a moderate north-easterly breeze. Phenol and formaldehyde testing was undertaken using the gas-tech model 801. Upwind and downwind testing was carried out and no phenol or formaldehyde was detected.

The inspection also found that both stormwater ponds were near empty. The area around the de-commissioned plant was in reasonable order, however it was noted that a number of steel drums with the tops and bottoms removed were being stored on a grassy area on site. They were to be removed from the site or placed within a bunded area.

The upgrade on the bunds about the site was continuing and in general the operational portion of the site was in a clean and tidy state.

10 February 2015
During the inspection it was found that the plant was operational with trucks loading out resin as well as bringing melamine onto site.

The bunds were all in working order with all valves closed to ensure the control of any liquid captured within the bunded areas. IBC's were being stored within the bunds, and although the bunds are too small to capture the spill from any significantly ruptured tank, they would be able to contain any drips and spills of a minor nature.

The area around the urea shed was generally clean and tidy, however a small amount of urea had been tracked out of the shed onto the hard seal in which all run off is directed to the stormpond rather than directly to trade waste.

The area around the unused plant (and around pond two) was found to be cleaner than observed in previous inspections. Dry waste product was stored within sheds on site and there are plans to remove the waste product from site. The squashed steel drums that were previously stored on site had been removed. IBC's remain on site, however they are stored within the area which drains to the controlled stormpond.

The receiving environment was visually inspected and no adverse effects were noted.

Samples were taken from both stormponds for an interlab comparison.

Ambient phenol and formaldehyde air testing was undertaken around the site during the inspection. No phenol or formaldehyde was detected.

30 April 2015
A site inspection was undertaken following recent wet weather. The inspection found that both storm ponds had recently been emptied and a sample could not be collected for inter-lab comparison. Inspection also found that the area around the urea storage shed was clean and tidy with no signs of tracking of urea.

A pump had been installed into storm pond one to allow for the future application of stormwater onto land via spray irrigation.

The receiving environment was visually inspected and no adverse effects were noted within the stream between the headwaters and the down stream piped section.

Phenol and formaldehyde air sampling was carried out. No phenol or formaldehyde was detected at any time during the sampling process.

21 May 2015
An inspection was undertaken as part of routine compliance monitoring. Stack testing was being undertaken at the time of the inspection. It was noted that the storm pond was near empty. The paved stormwater catchment areas of the site were found to be clean. The only area for potential contamination was identified to be the large skip bin stored outside the urea shed. Spills resulting from placing rubbish in the bin and rain washing through the contents when the bin is full had the potential of entraining contaminants within the stormwater system. The site manager undertook to move the skip to a trade waste area.

Phenol and formaldehyde air sampling was carried out. No phenol or formaldehyde was detected at any time during the sampling process.

2.2.2 Results of discharge monitoring

AICA's stormponds were sampled on three occasions during the year under review. The results are presented in Table 2. The AICA stormpond monitoring data provided to Council did not identify their results for the inter-laboratory comparison exercise during the year under review, and therefore where there are AICA results reported that are within 48 hours of the inter-laboratory sampling day/time, these are included in the table.

Table 2 Results of discharge monitoring at AICA (NZ) Ltd (inter-laboratory comparisons)

Site		Lab	Conductivity (mS/m @ 20°C)	Formaldehyde (g/m³)	Ammoniacal nitrogen (g/m³-N)	Oil & grease (g/m³)	pH	Phenol (g/m³)	Suspended solids (g/m³)	Temp (°C)	Urea (g/m³N)	Comments
Consent limit (for discharge to tributary)			-	*2*	*20*	*15*	*6-9*	*1*	*100*	-	-	
Pond 1 STW002006	30 Oct 2014	TRC 10:23	24.5	1.5	17.2	b	7.4	<0.02	13	15.6	19.8	Not discharging
		AICA 10:34	51.4	1	32	-	-	0	-	-	-	Held for rain
	10 Feb 2015	TRC 09:02	16.8	<0.1	8.49	b	7.5	<0.02	26	17.7	1.98	Not discharging
	11 Feb 2015	AICA* 08:09	15.5	0.6	9.5	-	8.63	0	-	-	-	-
	7 May 2015	TRC 10:47	12	<0.1	6.96	b	7.6	<0.02	16	17.5	4.85	Not discharging
		AICA*	-	-	-	-	-	-	-	-	-	Next results 15 May 2015
Pond 2 STW002023	30 Oct 2014	TRC 10:28	10	<0.1	0.034	b	7.8	<0.02	5	16.4	0.2	Not discharging
		AICA* 13:07	15.6	1	1	-	8.15	0	-	-	-	Pumped to trib
	10 Feb 2015 11 Feb 2015	TRC 08:50	8.3	0.1	13.28	b	7.5	<0.02	26	17.7	1.98	Not discharging
		AICA*	8.6	0	-	-	-	0	-	-	-	-
	7 May 2015	TRC 10:42	12	<0.1	6.96	b	7.0	<0.02	18	20.5	5.37	Not discharging
		AICA*	-	-	-	-	-	-	-	-	-	Next results 11 May 2015

KEY:

b parameter not determined, no visible hydrocarbon sheen and no odour

* Inter-laboratory sample results were not identified in self monitoring results provided. The results given above are for the closest available stormwater samples logged by AICA staff.

In the past there have been discrepancies in results between the Council and Dynea (the former consent holder) particularly for ammonia, formaldehyde and phenol. These are largely due to differences in analytical methods and have been discussed in previous annual reports.

Prior to 2008, when the programmed number of inter-laboratory samples were successfully being collected and jointly tested, Dynea was showing a fairly consistent trend of overestimating the amount of ammoniacal nitrogen and formaldehyde present in the discharge, thus giving confidence that there was little chance of the discharges actually containing greater than the permitted concentrations of these contaminants,

even when a discharge was made on a Dynea test result that was at the limit. Between the 2008–2009 and 2012-2013 years, due to on-going communication issues, there have been difficulties getting the programmed number of inter-laboratory samples collected and jointly tested.

There was one sample taken from pond one on 30 October 2014 that was taken within 11 minutes of AICA's self sampling. Although not a true interlab sample, the results from AICA are nearly double those from the Council laboratory in regard to conductivity and ammoniacal nitrogen.

The renewed consent (2367-3) requires email notification be made prior to stormwater discharges ensuring that there is more opportunity for in-stream receiving environment monitoring and comparative lab analysis of the discharge quality.

2.2.2.1 Results of receiving environment monitoring

The programme allowed for monitoring of the Waitaha Stream to be undertaken on two occasions in conjunction with discharge sampling. The programme provided for sampling of the Waitaha Stream at the headwaters (WTH000010), approximately 10 metres upstream of the discharge from Pond 1, and below the mixing zone (WTH000013), approximately 25 metres downstream of the discharge from Pond 2.

During the year under review the programmed site specific receiving water sampling was not undertaken due to communication issues around when the stormwater ponds were being discharged. It is expected that the renewed consent will require notification to Council prior to discharging from the ponds to the stream to enable effective monitoring of the effects, if any, of the stormwater discharges from the site.

2.2.2.2 Provision of company data

The data provided by AICA in relation to their stormwater discharges complied with the majority of the requirements of condition 4 of consent 2367. The volumes recorded are estimates based on the water level in the pond, noting that there is no level gauging device in either of the ponds. Although this has been accepted as satisfactory by Council in the past, it was highlighted in the 2011-2012 Annual Report that Council was reviewing this position. It is likely that the renewed consent will contain more specific requirements around the monitoring and reporting of discharge rates, volumes and times. This is due to the concerns that have come to light over the appropriateness of the ammoniacal nitrogen limit, bearing in mind that the Company had been applying this limit to discharges made during dry weather, rather than only in wet weather conditions, as was indicated during the processing of the variation to the consent in 2002.

Special condition 2 of the Company's consent prohibits significant adverse effects on aquatic life, habitats or ecology beyond a 10 metre mixing zone. Therefore in the 2010-2011 year it was recommended that the consent holder considers adopting the following approach, with a view to avoiding discharges that may result in a breach of special condition 2:

- Monitoring the temperature of the stormwater to be discharged, so that the unionised ammonia concentration can be determined.

- Avoiding the discharge of stormwater containing more than 0.025 g/m^3 of unionised ammonia when it is not going to be raining for the duration of the discharge.
- At all other times, giving consideration to the flow of the stream in relation to the discharge rates, and pH and concentration of unionised ammonia in the stormwater, rather than focussing solely on whether each individual parameter is within the permitted range.
- Working out where any contamination in pond 2 is coming from so it can be eliminated (as this plant is not operational), thereby increasing the dilution capacity.

A review of the 2014-2015 data showed that all stormwater discharges recorded during the year under review complied with the component concentration limits in AICA's consent. A summary of the data is presented in Table 3.

Table 3 Summary of AICA provided stormpond self monitoring relating to pond discharges to the Waitaha Stream, 2014-2015

	Pond 1					Pond 2				
	pH	Condy µS/m @ 25°C	NH4 g/m^3-N	Form g/m^3	Phenol g/m^3	pH	Condy µS/m @ 25°C	NH4 g/m^3	Form g/m^3	Phenol g/m^3
Minimum	6.1	3.2	0	0	0	6.5	0	0	0	0
Maximum	8.9	4.9	20	1.2	0	9	4.8	14	2	0
Median	8.4	24.1	7.5	0.05	0	8.3	7.2	0.56	0	0
Number of discharges	18	18	18	18	18	20	20	20	20	20

All of the discharges were within consented limits, however it is noted that the discharge from stormpond one on 4 October 2014, had the maximum allowable limit of 20 g/m^3 ammoniacal nitrogen. This is of concern as there is no interlab data to confirm the accuracy of the in-house testing.

Although no temperature data was available, an estimated range for the corresponding unionised ammonia concentrations can be calculated based on the pH and ammoniacal nitrogen concentrations provided by the consent holder, for temperatures of 10°C and 20°C.

Unionised ammonia concentrations over 0.025 g/m^3 may result in toxic effects. The concentration range above which acute toxic effects may be seen for New Zealand native fish, e.g. fish kill, is 0.75 to 2.35 g/m^3. During the 2014-2015 year, about 50% of discharges would have contained unionised ammonia concentrations of greater than 0.025 g/m^3.

2.2.3 Air

2.2.3.1 Inspections

Air inspections were carried out in conjunction with general site inspections. During these inspections no issues were noted

2.2.3.2 Results of receiving environment monitoring

Odour surveys

Odour surveys were undertaken in conjunction with site inspections on 16 July 2014, 10 February 2015, 30 April 2015, and 21 May 2015.

There were no odours detected from the plant on any of these monitoring occasions.

Gastec monitoring

Ambient Gastec monitoring for phenol and formaldehyde was carried out in conjunction with the three of the odour survey and site inspections. The sampling was conducted at two downwind sites. There were no detectable levels of either parameter reported as having been found. As the phenol monitoring would also detect the presence of resorcinol, it can be inferred that the resorcinol concentration was also negligible during these surveys.

2.2.3.3 Provision of company data

Emissions testing

Special conditions 1, 2, 4 and 5 of consent 4021-3 relate to the standard to which formaldehyde emissions from the plant site must be treated, and outline the frequency and conditions under which formaldehyde emissions testing must be performed to confirm compliance. The timing of the testing, and reporting of the results to Council are also specified.

Testing must be undertaken by a party independent from the Company and as specified in USEPA[1] Method 0011, which is an isokinetic method ensuring a fully representative sample is collected. Acidified dinitrophenyl hydrazine (DNPH) is used to trap the formaldehyde present in the sample. This testing must be undertaken before 1 June each year, comprise not less than three samples taken under production conditions that give rise to maximum emissions, and the results (including all raw data) are to be reported to Council within 20 working days of the testing.

Aica also undertook stack testing on 21 May 2015 and the stack testing report found the emissions to be compliant with consent conditions. A copy of the report may be obtained from Council.[2]

2.2.4 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions in respect of the site operated by AICA (NZ) Ltd. One incident was recorded and the details of this are set out below.

17 July 2014

An analysis of stormwater discharge records submitted to this Council on 13 June 2014, found that formaldehyde limits had exceeded resource consent limits at the discharge point 30 September 2013. Further investigation found that there was an error in record keeping and the contents of the storm pond was actually directed to trade waste for disposal.

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[1] United States Environmental Protection Agency

[2] Document number 1524783

Further investigation found that there was an error in record keeping and the contents of the storm pond was actually directed to trade waste for disposal. No further action was taken.

2.3 Discussion

2.3.1 Discussion of plant performance

Inspections of the AICA site found that housekeeping and general site management were good. There was no tracking was noted from the urea store during the year under review, however minor spills of solids and un-capped drums were found in the Plant 2 area on one occasion.

There were no instances of consent non-compliance found in relation to component concentrations in the stormwater discharges to the stream during the 2014-2015 year. Difficulties have been experienced since the 2009-2010 year in obtaining inter-laboratory stormwater pond samples, and monitoring the effects of the discharge of the stormwater from the ponds on the Waitaha Stream.

No true sets of inter-laboratory samples were analysed by both Council and AICA during the year under review. Council continues to have concerns, as raised in previous Annual Reports, regarding the limited number of inter-laboratory comparisons available, as there continue to be a small number of occasions when stormwater discharges to the Waitaha Stream occur with component concentrations at the upper limit permitted by consent.

During the year under review the pond levels were generally found to be low at the time of inspections, and although the inspecting officer has asked periodically to be informed when the stormwater ponds were full or to be discharged to the stream in order to provide monitoring opportunities, this did not happen with adequate notice to allow him to attend the discharge. Therefore the programmed receiving water monitoring was not completed.

Air inspections showed compliance with consent conditions on all occasions during the 2014-2015 year. The issues that have been encountered in previous years, in regard to obtaining reliable results, have been resolved and the Company informed Council of the delayed testing. Results of the emissions monitoring confirmed compliance with the absorber tower formaldehyde limit.

The site contingency plan was last reviewed and updated during the 2014-2015 year.

2.3.2 Environmental effects of exercise of consents

Receiving water monitoring in conjunction with discharges from the AICA site could not be carried out as programmed during the year under review due to communication issues between AICA and the Council. It is expected that this will be resolved by the inclusion of a condition on the new consent that will require notification by a specific means, prior to discharge.

Although no discharge specific receiving water monitoring was undertaken, there were no observations during the monitoring in this catchment that indicated there were any significant adverse effects.

However it is noted that approximately 50% of the discharges made had the potential to cause adverse effects due to elevated levels of ammoniacal nitrogen. To address this receiving water samples need to be collected during discharge to ascertain that there is sufficient dilution and mitigation occurring at the site boundary.

These unionised ammonia concentrations in the discharge may not result in adverse environmental effects in the receiving water when suitable dilution capacity is available (as referenced in the officers report for the application to vary the consent to increase the contaminant concentration limits in 2002). Further mitigation may also occur as the discharge makes its way through the wetland at the headwaters of the Waitaha Stream. The renewed consent (granted 24 September 2015) has a 0.025 g/m^3 unionised ammonia limit at the site boundary (approximately 30 metres downstream from the discharges). Consent conditions will also require AICA to notify Council prior to discharging so samples at this compliance point can be obtained during discharge events. This will ensure that there is more opportunity for in-stream receiving environment monitoring and comparative lab analysis of the discharge quality.

AICA has also expressed interest in a land base disposal system that would allow for the discharges with elevated levels of ammoniacal nitrogen be diverted for irrigation, this would also provide for a reduction of ammonia and other contaminants from entering the stream.

Ambient odour surveys found no chemical odours downwind of the plant site, and no complaints were reported during the year under review. Gastec monitoring found no detectable levels of phenol (and therefore resorcinol) or formaldehyde off site.

2.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 4 and Table 5.

Table 4 Summary of performance for Consent 2367-2

Purpose: **To discharge up to 150 litres/second of stormwater from a chemical manufacturing complex into a wetland at the headwaters of an unnamed tributary of the Waitaha Stream**		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limits on chemical composition of discharge	Self monitoring, Council sampling. However, no true inter-laboratory samples due to communication difficulties	Yes
2. Discharge cannot cause specified adverse effects beyond mixing zone	Inspection. Programmed discharge/receiving water sampling not undertaken due to communication difficulties.	Yes
3. Maintenance of a contingency plan for action to be taken to prevent spillage	Review of documentation provided	Yes
4. Records of chemical monitoring and discharge	Records sighted at inspection, copy provided upon request	Yes

Purpose: **To discharge up to 150 litres/second of stormwater from a chemical manufacturing complex into a wetland at the headwaters of an unnamed tributary of the Waitaha Stream**		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. No chemicals to be stored in carpark catchment area	Observation at Inspection	Yes
6. Optional review provision re environmental effects	No further review provisions prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		High Good

Table 5 Summary of performance for Consent 4021-2

Purpose: To discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maximum rate of formaldehyde emission from entire site	Not assessed	N/A
2. Emission of formaldehyde from certain areas	Formaldehyde emissions monitoring delayed.	N/A
3. Monitoring of consent	Inspections, odour surveys and ambient monitoring	Yes
4. Requirements for emissions monitoring (stack testing) of absorber tower	Testing performed. Inspection at time of emissions monitoring, review of reports	Yes
5. Method to which emissions monitoring must be performed	Inspection at time of emissions monitoring, review of reports. Emissions monitoring delayed until early 2014-2015	Yes
6. Minimisation of emissions through control of processes	Discussion and liaison with consent holder	Yes
7. Concentrations of formaldehyde outside site boundary	Ambient Gastec monitoring	Yes
8. Concentrations of phenol outside site boundary	Ambient Gastec monitoring	Yes
9. Concentrations of resorcinol outside site boundary	Ambient Gastec monitoring, inferred from phenol results	Yes
10. Reserved right to review consent at any time	No significant adverse effects. No review required	N/A
11. Consultation before alterations to plant or processes	Discussion and liaison with consent holder.	Yes
12. Formulation of a written report	No further reports required by current (expired) consent	Yes

Purpose: To discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
13. Adoption of best practicable option to minimise adverse effects on the environment	Inspections, reporting and liaison with consent holder	Yes
14. Optional review provision re environmental effects	No further review provisions, consent expired	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		High High

Table 6 Summary of performance for Consent 4021-3

Purpose: To discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practice	Site inspection	Yes
2. No objectionable effects beyond boundary	Inspection	Yes
3. 1.0 kg/hr formaldehyde limit on point source emissions	Stack testing	Yes
4. Conduct emission stack testing	Report received	Yes
5. Use approved method for stack testing	Report received	Yes
6. 0.1 mg/m^3 ambient formaldehyde limit at boundary	Gastec sampling during inspection	Yes
7. 0.63 mg/m^3 ambient phenol limit at boundary	Gastec sampling during inspection	Yes
8. 1.5 mg/m^3 ambient resorcinol limit at boundary	Gastec sampling during inspection	Yes
9. Minimisation of emissions through control of processes	Discussion and liaison with consent holder	Yes
10. Consultation before alterations to plant or processes	Discussion and liaison with consent holder	Yes
11. Formulation of a written report	Report received	Yes
12. Optional review provision re environmental effects	No further review provisions, consent expired	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		High High

During the year, AICA (NZ) Limited demonstrated a high level of environmental and a high level of administrative performance with resource consent conditions as defined in Section 1.1.5. However, an improvement is desirable in the communication between the Company and Council regarding the inter-laboratory testing and notification of discharges to allow the programmed monitoring to be undertaken.

Changes will be made to the renewed consent to support this.

2.3.4 Recommendation from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

THAT monitoring programmed for consented activities of AICA in the 2014-2015 year continues at the level programmed for 2013-2014.

This recommendation was implemented. However, there were no true stormwater inter-laboratory analyses or discharge/receiving water sampling surveys undertaken as a result of communication issues between AICA (NZ) Limited and Council.

2.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for air and 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 and 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 and discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

2.4 Recommendation

THAT monitoring programmed for consented activities of AICA in the 2015-2016 year continues at the level programmed for 2014-2015.

3. C&O Concrete Products Limited

3.1 Introduction

3.1.1 Process description

C&O Concrete Products Limited (C&O Concrete) manufactures concrete products. Their site is located on Connett Road East, Bell Block. The site comprises of 1926 m^2 of industrial land dominated by a central building and includes outdoor construction and storage areas. The stormwater enters the New Plymouth District Council (NPDC) system and is discharged to the nearby Waitaha Stream.

The potential exists for the contamination of stormwater around the site. At the time the consent was issued the discharge was treated as that of contaminated stormwater, and appropriate special conditions were set on the permit.

The discharge from C&O Concrete is expected to potentially contain elevated suspended solids, high pH and alkalinity. The discharge is to the NPDC stormwater system where it mixes with stormwater from roads and other developed sites before discharging to the Waitaha Stream.

Photo 2 C&O Concrete Products Ltd site

3.1.2 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.

C&O Concrete held water discharge permit **4777-1** to cover the discharge of up to 40 litres/second of stormwater from a concrete products manufacturing premises into the Waitaha Stream. This permit was issued by the Council on 5 September 1995 under Section 87(e) of the RMA. A variation to the conditions relating to the pH of the discharge was made on 8 September 1997. It expired on 1 June 2014.

Special conditions 1 and 2 placed a limit on the suspended solids content of the discharge, and limit the effects of the discharge on receiving water quality beyond a 10 metre mixing zone.

Special condition 3 contained review provisions.

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

C&O Concrete Products Limited holds water discharge permit **4777-2** to cover the discharge of stormwater from a concrete products manufacturing premises into the Waitaha Stream. This permit was issued by the Council on 9 December 2014 under Section 87(e) of the RMA. It expires on 1 June 2032.

It has nine special conditions;

Special condition one requires the consent holder to adopt best practice.

Special condition two limits the size of the stormwater catchment.

Special condition three requires all stormwater to be directed through a treatment system.

Special condition four limits the concentration of certain contaminants in the discharge.

Special condition five requires that the discharge not to cause certain effects in the receiving waters.

Special condition six requires that the consent holder maintain a spill contingency plan.

Special condition seven requires that the consent holder maintain and adhere to a management plan.

Special condition eight requires the consent holder to notify Council prior to making any changes to the site or site processes.

Special condition nine is review condition.

A copy of the consent is attached to the Appendix.

3.2 Results

3.2.1 Inspections

18 July 2014
An inspection was carried out as part of routine compliance monitoring in dry weather conditions. It was found that normal operational practices were being undertaken at the time of the inspection. The upper yard (storage yard) was tidy and clean and was only being used for the storage of concrete products at the time of the inspection.

A discussion was held with the site manager about options to improve the treatment of stormwater from the upper part of the site. The lower site was clean with the drains around the site free of cement washings and other material that can contribute to suspended solids the discharge.

An additional weir has been placed within the drains to hold back solid material and thus create a better quality discharge. Gravel filter baskets were in place on the exit of the drains and appeared to be working well.

An old open top steel drum on the site appeared have been used as an incinerator, it was advised that open air burning is prohibited in an industrial area without a resource consent.

26 September 2014
Inspection found that work has been undertaken on the upper yard / storage area to enable better control and treatment of the stormwater at the site.

A riser and grate had been installed to capture all stormwater and direct it into the drains on the lower yard for treatment by the gravel filter baskets prior to discharge.

The lower yard inspected and found to be in a clean and tidy order. The staff were observed cleaning up spills of concrete immediately during their routine work.

Old drums at the rear of the yard had been removed from the site and this area had been subjected to a general clean up.

Sediment pits and associated drains were found to be clean and clear with only small amounts of sediment collected in the base. Staff onsite had been made aware of the requirement to ensure that the drains are cleaned out on a regular basis and that spills were to be prevented from entering the site drainage system where possible.

28 January 2015
The inspection found that all stormwater catchment areas were clean and tidy. The stone filter baskets were in place within the drains to treat all stormwater prior to discharge from the site. The sediment pits within the drains and the drains themselves had been cleaned out recently of solids, allowing for good treatment of stormwater during periods of wet weather.

Cleaning the sediment traps was now part of a daily checklist for staff on site.

The contouring of the upper yard was still in progress to ensure that all stormwater is directed to the recently installed riser directs all stormwater from the upper yard to the lower yard.

Two sprinklers were in operation at the time of inspection to control dust on site.

23 April 2015
The inspection found that the bottom yard area was clean and tidy with normal site operations in progress. The concreted areas were found to be free of gravel and cement residues and were in clean and tidy state.

All drains were collecting the sites stormwater and directing it for treatment via the stone filter baskets.

Work had been undertaken on the upper yard to ensure that the contour provided for the stormwater be captured and directed for treatment prior to final discharge from site.

The discharge was inspected at the nearby stormwater manhole, where a low flow discharge of reasonable quality was observed.

3.2.2 Results of discharge monitoring

The requirements for the discharge are that the suspended solids concentration must not exceed 200 g/m^3 and the oil and grease concentration must not exceed 15 g/m^3.

The discharge from the C&O Concrete site on Connett Road was sampled on two occasions during the 2013-2014 period. The results of this monitoring are shown in Table 7, along with a summary of the historical results for this site.

Table 7 Results of C&O Concrete Products Ltd discharge monitoring (STW001060)

Date	Conductivity (mS/m @ 20^{o}C)	Oil & Grease (g/m^3)	pH	Suspended solids (g/m^3)	Temperature (^{o}C)
Consent Limits	-	*15*	*6-9*	*100*	-
Number	17	10	17	15	15
Min	2.6	<0.5	7.2	4	10.7
Max	118	4.0	11.6	160	20.5
Median	16.3	1.1	10.1	52	14.5
6/03/2015	16.9	a	9.5	39	19.5

Key: Results in bold within a table indicate that a consent limit for a particular parameter has been exceeded
a= hydrocarbons not visible or detected by odour

During the monitoring period consent 4777-2 was granted. This consent placed stricter limits of pH and suspended solids. The pH is now required to be between 6.0 and 9.0 and in this monitoring period it was noted that the pH was 9.5. This was first time the pH of this discharge has being in excess of 9.0 since 2009. No action was taken on this occasion as the flow of the discharge was low and high flows were noted in the receiving waters.

3.2.3 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of the site operated by C&O Concrete. There was one non-compliant result in regard to pH, however subsequent sampling indicated that the discharge was compliant.

3.3 Discussion

3.3.1 Discussion of plant performance

Inspection found that general housekeeping was good throughout the year.

The improved management of the sediment control devices continues to result in a good quality stormwater discharge. This is evidenced by the sampling results for the year under review. There was one non-compliant pH reading in the discharge however no effects that could be attributable to the Company were noted.

The site however was operating without consent from 1 June 2014 to 8 December 2014. Consent 4777-1 expired and due to the Company being late lodging an application to renew the consent, did not qualify for protection of Section 124 of the RMA (to operate on an expired consent whilst the renewal application is being processed).

During the unconsented period C&O Concrete agreed to continue to be monitored under the existing programme as if consent was still in place. A renewed consent was granted in December 2014.

3.3.2 Environmental effects of exercise of consents

Inspections and discharge monitoring showed no adverse effects upon the receiving waters as a result of the activities of C&O Concrete.

3.3.3 Evaluation of performance

A tabular summary of the C&O Concrete's compliance record for the year under review is set out in **Table 8**.

Table 8 Summary of performance for Consent 4777-2 (from 9 December 2015)

Purpose: **To discharge stormwater from a concrete products manufacturing premises into the Waitaha Stream**		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practice	Observation at inspection	Yes
2. Limits stormwater catchment to 0.415 Ha	Observation at inspection	Yes
3. Stormwater to be directed to treatment system	Observation at inspection	Yes
4. Contaminants in discharge not to exceed certain limits	Sampling	No – One pH exceedance

Purpose: **To discharge stormwater from a concrete products manufacturing premises into the Waitaha Stream**		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Discharge cannot cause specified adverse effects beyond mixing zone	Observation at inspection and sampling	Yes
6. Maintenance of a contingency plan	Contingency plan received	Yes
7. Maintenance of a management plan	Management plan received	Yes
8. Notification of changes at site	No notification received or changes notes	Yes
9. Optional review provision re environmental effects	Options for review; June 2020 and 2026	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

During the year, C&O Concrete Products Limited demonstrated a good level of environmental performance and a high level administrative performance. There was one slight exceedance of pH limits in the discharge; however subsequent sampling showed that site had become compliant.

3.3.4 Recommendation from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

THAT monitoring programmed for consented activities of C&O Concrete Products Limited in the 2014-2015 year continues at the level programmed for 2013-2014.

This recommendation was implemented.

3.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for water discharges in the region, the Taranaki Regional Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA, the obligations of the Act in terms of monitoring 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 discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

3.4 Recommendation

THAT monitoring programmed for consented activities of C&O Concrete Products Limited in the 2015-2016 year continues at the level programmed for 2014-2015.

4. Greymouth Facilites Limited

4.1 Introduction

4.1.1 Process description

Parker Drilling International of New Zealand Limited (Parker Drilling) established a storage and maintenance yard on Corbett Road, Bell Block in 1996. Stormwater generated at the 0.47 ha site is discharged into the NPDC stormwater system, which flows north along Corbett Road then east along Connett Road before discharging to the Waitaha Stream. Small quantities of wash down water were also generated in the cleaning bay, as provided for in the purpose of the consent. This water was treated in an oil separator, and then was also discharged via the stormwater system into the unnamed tributary of the Waitaha Stream, which is now piped (along with the stormwater). The flow from the pipe enters the Waitaha Stream immediately downstream of the Connett Road bridge on the true left bank. It is noted that this wash bay had not been utilised for a number of years.

The site was taken over by Greymouth Facilities Limited (Greymouth Facilities) , with the consent transferred on 17 January 2014.

4.1.2 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.

Parker Drilling and then Greymouth Facilities held water discharge permit **4988-1** to cover the discharge of up to 110 L/s of stormwater and 0.2 cubic metres/day of treated wash down water from a storage yard for hydrocarbon exploration drilling equipment into an unnamed tributary of the Waitaha Stream. This permit was issued by Council to Parker Drilling on 24 July 1996 under Section 87(e) of the RMA, and was transferred to Greymouth Facilities on 17 January 2014. It expired on 1 June 2014.

Special conditions 1 and 2 placed a limit on the quality of the discharge, and limited the effects of the discharge on receiving water quality, in the Waitaha Stream, beyond a 10m mix zone.

Special condition 3 contained review provisions.

The permit is attached to this report in Appendix I.

As Greymouth Facilities were not going to be undertaking washing at the site, the Company chose to apply for a new consent, which was subsequently varied.

Greymouth Facilities currently holds water discharge permit **9868-1** to cover the discharge of treated stormwater from a yard used for storage and maintenance of hydrocarbon exploration drilling equipment into the Waitaha Stream via the NPDC reticulated stormwater system, and onto and into land from an interceptor. This permit was issued by the Council on 8 May 2014 under Section 87(e) of the RMA. It is due to expire on 1 June 2032.

Special conditions 1 and 2 clarify the circumstances under which discharges to land can occur.

Special condition 3 requires the consent holder to adopt the best practicable option to prevent or minimise adverse effects on the environment.

Special conditions 4 and 5 limit the stormwater catchment area and require that all stormwater be treated as per the conditions of the consent.

Special conditions 6 and 7 place limits on specific constituents within the discharge, and require that a sampling point be installed and maintained for monitoring of the discharge.

Special condition 8 limits the effects the discharge may have on receiving water quality beyond a 10 metre mixing zone.

Special conditions 9 and 10 require that the consent holder maintains a contingency plan covering management and mitigation measures in the event of a spill, and provides and maintains a stormwater management plan outlining how routine operations are managed to prevent or minimise the amount of contaminants that may become entrained in the stormwater during day to day activities.

Special condition 11 prohibits discharges of contaminants beyond the site boundary.

Special condition 12 limits component concentrations in the soil on site.

Special condition 13 requires written notification of changes to activities at the site that might result in changes in potential adverse effects from the discharge.

Special conditions 14 and 15 contain standard provisions for the lapsing of the consent and review of the consent conditions.

The permit is also attached to this report in Appendix I.

4.2 Results

4.2.1 Inspections

16 July 2014

The inspection found that the general site clean-up and re-commissioning of the Parker Rig was continuing. Any oil and grease used during the clean-up and re-commissioning process was being captured and contained.

Trees along the site boundary were being removed to allow for the establishment of the ring drains around the perimeter of the site.

Removal of equipment had exposed a stormwater grate near the northern boundary of the site. Staff on site were advised to have the sump cleaned out and to consider silt controls around the grate.
The full stormwater management and treatment system is yet to be installed on site, as space is required to be made to install the system.

26 September 2014
The inspection found that general tidying, cleaning and upgrading of facilities was still underway.

The area about the boundary of the site had been cleared of rubbish, debris and vegetation thus allowing work to begin to create the correct contour for the instillation of the ring drain stormwater collection system.

The original stormwater catchment crates were in use on the site and the areas around the collection points were being kept clean and clear. The planned interceptor is currently being manufactured and was scheduled to be installed by the end of October 2014.

The operations manager was spoken to on site and a discussion was held regarding the most appropriate place to install a sampling port on the discharge pipe.

In general the site was found to be in a reasonable order..

29 January 2015
Inspection found that minimal works were taking place on site and no chemicals, open drums or other sources of significant contamination were located outside of the large storage shed/workshop.

The ring drains had been established on both the eastern and western boundaries of the site. A well-defined ring drain had been installed on the eastern boundary, however the drain running along the perimeter of the western boundary was quite small. It was raised with staff that this drain will need to be monitored closely for vehicle damage and/or silt accumulation.

The separator had been installed to treat all stormwater from the storage yard area prior to discharge into the NPDC stormwater network. A sample point had been installed after the separator.

5 May 2015
The discharge point from the interceptor was inspected as well as a secondary inspection port at the road side manhole. No staining or sheens were observed in the discharge locations. Silt controls had been placed at the entry to the interceptor and at the culvert which directed stormwater to the interceptor from the southern boundary of the site.

The shut off valve for the interceptor was inspected and found that the key to the valve was not present on the shut-off valve. The consent holder was advised that the shut-off valve needed to be accessed and closed quickly during an emergency. This requires staff to be able to easily remove the manhole cover and have the required tool available to close the valve.

4.2.2 Results of discharge monitoring

Stormwater from this storage facility exits the site at the north east corner of the property, flows along Corbett Road and then down Connett Road where it discharges into the Waitaha Stream. The discharge is sampled from within the New Plymouth reticulated network on Corbett Road before it mixes with stormwater from roadside drains or other properties.

The requirements for the discharge are that the suspended solids concentration must not exceed 100 g/m^3, oil and grease concentration must not exceed 15 g/m^3, and pH must lie in the range 6-9.

The discharge from this Corbett Road site was sampled on two occasions during the 2013-2014 period, with the results provided and a summary of all data to date in Table 9.

Table 9 Sampling results – Greymouth Facilities (TRC site code STW001110, consent 4988).

Parameter	Conductivity @ 20'C	Oil and Grease	pH	Suspended solids	Temperature
Unit	mS/m@20C	g/m^3	pH	g/m^3	Deg.C
Minimum	1.4	0.5	6.5	2	10.1
Maximum	22.4	4.9	7.1	210	18.5
Median	5.2	0.2	6.9	19	14.3
Number	8	7	8	8	8
06 Mar 2015	5.5	4.9	6.5	210	18.5
07 May 2015	5.3	<0.5	7.1	28	17.2

Key: Results in bold within a table indicate that a consent limit for a particular parameter has been exceeded

The discharge sample taken on 7 May 2015 had concentration of suspended solids that exceeded the consented limit of 100 g/m^3. The consent holder was contacted and they undertook to install further silt controls and the follow up sample taken on 7 May 2015 was found to be compliant.

4.2.3 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of the Greymouth Facilities site.

4.3 Discussion

4.3.1 Discussion of plant performance

General housekeeping of the site was found to have been good during the year under review, and the site was well managed.

The interceptor system and ring drains were installed on time and these were in operation by 31 October 2014 as per consent conditions. There was one non-compliant result for suspended solids in the discharge; however this was rectified by Greymouth Facilities.

The level of activity at the site was low, and consisted mainly of tidying up the site, and clearing access to the areas required for the installation of the proposed new drainage and treatment systems, including ring drains.

4.3.2 Environmental effects of exercise of consents

Inspections and catchment monitoring showed no adverse effects upon the receiving waters as a result of the activities of Greymouth Facilities.

4.3.3 Evaluation of performance

A tabular summary of Greymouth Facilities compliance record for the year under review is set out in Table 10.

Table 10 Summary of performance for Consent 9868-1

Purpose: To discharge untreated stormwater from a yard used for storage and maintenance of hydrocarbon exploration drilling equipment directly onto and into land, and to discharge treated stormwater into the Waitaha Stream via the NPDC reticulated stormwater system, from an interceptor		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Clarification of circumstances under which discharges to land can occur.	Inspection	Yes
2. Records to be kept of discharges to land	No such discharges have occurred	N/A
3. Adoption of best practicable option to minimise adverse effects on the environment	Inspection and liaison with consent holder. Best practicable option re-evaluated during the year under review, with revised treatment system proposed	Yes
4. Catchment area limited to 1.065 ha	Inspection	Yes
5. Treatment of all stormwater by 31 October 2015	Inspection and liaison with consent holder	Yes
6. Limits on component concentrations in the discharge	Sampling	No - one non compliance
7. Installation and maintenance of discharge sampling point	Inspection and liaison with consent holder	Yes
8. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and chemical sampling of the stream	Yes
9. Maintenance of contingency plan	Review of Council records and documents submitted	Yes
10. Provision and maintenance of stormwater management plan due 8 August 2014	Review of Council records and documents submitted	N/A
11. No contaminants beyond the boundary from skimmer pit spillway discharges	Inspection	Yes

Purpose: To discharge untreated stormwater from a yard used for storage and maintenance of hydrocarbon exploration drilling equipment directly onto and into land, and to discharge treated stormwater into the Waitaha Stream via the NPDC reticulated stormwater system, from an interceptor		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
12. Soil component concentrations	Visual assessment at inspection	Yes
13. Notification of changes	Review of Council records and liaison with consent holder. Notification of proposed changes to treatment system	Yes
14. Provision for lapse of consent	Consent has been exercised	N/A
15. Optional review provision re environmental effects and/or notification of changes	Next opportunity for review June 2017	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

N/A: Not applicable or not assessed

During the year, Greymouth Facilities Limited demonstrated a good level of environmental and high level of administrative performance with the resource consent conditions as defined in Section 1.1.5. There was one non-compliant sample in regard to suspended solids and this was rectified by the consent holder.

4.3.4 Recommendation from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

THAT monitoring programmed for consented activities of Greymouth Facilities Limited in the 2014-2015 year continues at the same level as programmed in 2013-2014.

This recommendation was implemented.

4.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for 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 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 discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

4.4 Recommendation

THAT monitoring programmed for consented activities of Greymouth Facilities Limited in the 2015-2016 year continues at the same level as programmed in 2014-2015.

5. Intergroup Limited

5.1 Introduction

5.1.1 Process description

Intergroup Limited operates a waste disposal company from their site on Hudson Road, Bell Block. The site comprises some 3903 m² of industrial land including buildings and mainly sealed areas. The site is used as a transit depot and temporary storage facility for waste materials collected from throughout the Taranaki region prior to transportation on to an appropriate disposal site.

The majority of the waste collected is waste oil, which is stored in tanks located in a bunded area.

Photo 3 Intergroup Limited waste oil storage

There are two open concrete pits in the yard. One contains a series of separators and is used for the separation of sludge and water from the waste oil. The waste water from this process is directed to trade waste and the oily sludge is taken to an off-site location for weathering/bioremediation prior to final disposal. The other open pit is a drive-in facility for the transfer of domestic septic tank effluent from the trucks to the trade waste system.

Photo 4 Intergroup Limited oil treatment facility

The waste oil is transported up to a sister company in Auckland, who undertake the disposal.

Intergroup gives consideration to the risks associated with the other materials for disposal at off-site licensed facilities, and stores them appropriately on-site prior to transportation.

The stormwater enters the NPDC system and is then discharged to the Waitaha Stream. Potential therefore exists for minor amounts of sewage effluent, petroleum products or other contaminants to enter the stormwater system via drains on site.

5.1.2 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.

Intergroup holds water discharge permit **4776-1** to cover the discharge of up to 65 l/s of stormwater from a truck depot premises into the Waitaha Stream. This permit was originally issued to Burroughs A & G Limited by the Council on 5 September 1995 under Section 87(e) of the RMA. The permit was transferred to Onyx Group Limited on 16 January 2003, to Transpacific Industrial Solutions on 10 January 2007, and then to Intergroup on 30 January 2014. It was reviewed in August 2008 to ensure that the special conditions were adequate to deal with potential adverse effects of the discharge on the receiving environment.

Consent 4776-1 expired on 1 June 2014, however the application to renew the consent was received on 25 October 2013, more than 6 months before expiry, therefore as per

Section 124 of the RMA, the activity may continue under the conditions of the expired consent until a decision is made on the renewal.

Special conditions 1 and 2 place limits on the quality of the discharge, and limit the effects of the discharge on receiving water quality beyond a 10 metre mixing zone.

Special condition 3 contains review provisions.

Special condition 4 requires the provision of a stormwater management plan to ensure that the consent holder is operating activities at the site in a manner that is consistent with the best practicable option to minimise contamination of the stormwater discharged from the site.

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

5.2 Results

5.2.1 Inspections

16 July 2014
The inspection found that the site was generally clean and tidy. The spill control kits were located on site and found to be easily accessible by staff should a spill occur.

Visual inspection of the stormwater grate found the water entering the stormwater system to be free of any foams, scums or sheens.

All drums stored on site were found to be upright with lids in place. Separation and labelling was used to identify the rinsed drums from the un-rinsed drums. All waste material was found to be stored on the concrete pad ensuring that any spills would be directed to the interceptor and directed to trade waste. Drum rinsing was also being undertaken in manner that ensured no spills would enter the stormwater system.

The site appeared well managed with staff being aware of the importance of keeping the area above the separator clean to ensure that the trucks did not track contaminants into the stormwater catchment.

14 October 2014
The inspection found that usual business activities were being undertaken on the site.

The yard was found to be clean and tidy with minimal amounts of waste being stored on site at the time of inspection. The majority of the plastic drums previously stored at the site had been removed. The buckets containing waste product were now also being cleaned and disposed of in a timely manner.

All site surfaces in which stormwater is collected and directed to the Waitaha Stream were found to be clean and tidy.

A small quantity of mud / product was found to have been spilt onto the yard surface above the trade waste collection pit. This was identified to staff on site who arranged to clean it up immediately.

Spill kits and stormwater shut off valve were inspected and found to be compliant with the stormwater management plan.

It was noted that had been an improvement in the management of the site during this monitoring period.

23 April 2015
The inspection found that usual operating practices were being undertaken at the time of inspection. All drums awaiting disposal were empty and stored upright with the lids on. Containers containing product for disposal were found to be stored on the concrete pad next to the industrial trade waste interceptor with lids on.

The yard area appeared to be clean and tidy with no signs of contaminants being tracked onto surfaces where stormwater is captured and directed to the Waitaha Stream. Practices undertaken by staff to prevent and / or minimise the tracking was discussed. Although a hydrocarbon odour was noted immediately beside the trade waste interceptor this quickly dissipated, and no odour could be detected about the boundary of the site.

The point of discharge into the receiving environment and the manhole into the stormwater system were visually inspected and no adverse environmental effects were noted. No discharge into the stormwater system was observed at the time of the inspection and no stains, odours, deposits were observed within the stormwater system as a consequence of previous discharges.

5.2.2 Results of discharge monitoring

The main stormwater discharge point at Intergroup was sampled on three occasions during the 2014-2015 year, with the results presented in Table 11, along with a summary of historical monitoring results (up to and including 2014-2015).

Table 11 Results of stormwater sampling at Intergroup Limited, TRC site code STW001059

Parameter	Conductivity @ 20'C	Oil and Grease	pH	Suspended solids	Temperature
Unit	mS/m@20C	g/m³	pH	g/m³	Deg.C
Minimum	0.7	0.5	6.2	2	9.1
Maximum	47.8	180	8.7	740	22.7
Median	5.6	5.6	7.3	58	14.9
Number	63	61	64	34	61
30 Oct 2014	16.9	2.8	7.4	22	14.1
11 Nov 2014	10.1	b	6.8	5	15.4
06 Mar 2015	12.4	4.1	7.3	110	20.7
07 May 2015	4.3	2.3	7.3	30	17.4

KEY: Bold results do not comply with consent conditions

With the exception of one minor breach of consent conditions in regard to suspended solids all other samples were within consent limits. The suspended solids exceedance was within the margin of error of the analytical method and was not pursued as a non-compliance. The Company was informed of the results and undertook further mitigation steps. Subsequent sampling early in the next monitoring period showed that the site was in compliance.

5.2.3 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of Intergroup Limited.

5.3 Discussion

5.3.1 Discussion of plant performance

Inspection found that activities at the site were generally well managed and it was noted that management of the site had improved during this monitoring period. It was also noted that there were improvements in the handling and storage of waste drums and handling of waste materials.

It was also found that the stormwater interceptor was inspected and maintained on a regular basis throughout the year under review.

5.3.2 Environmental effects of exercise of consent

Monitoring and inspections undertaken during the year indicate that the activities at the site were having little, if any, effects on the receiving environment.

5.3.3 Evaluation of performance

A tabular summary of Intergroup's compliance record for the year under review is set out in Table 12.

Table 12 Summary of performance for Consent 4776-1

Purpose: To discharge up to 65 litres/second of stormwater from a truck depot premises into the Waitaha Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limits on chemical composition of discharge	Sampling and visual assessment at inspection	Yes
2. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling	Yes
3. Optional review provision re environmental effects	Consent reviewed in June 2008. No further review provisions prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		High N/A

N/A = not applicable

During the year, Intergroup Limited demonstrated a high level of environmental performance and compliance with consent conditions as defined in Section 1.1.5. The consent conditions contained no administrative requirements.

5.3.4 Recommendation from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

That monitoring of the stormwater discharge from the Intergroup Limited site in the 2014-2015 year continues at the same level as programmed for 2013-2014.

This recommendation was implemented.

5.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for 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 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 discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

5.4 Recommendation

THAT monitoring of the stormwater discharge from the Intergroup Limited site in the 2015-2016 year continues at the same level as programmed for 2014-2015.

6. Meredith Metals Limited

6.1 Introduction

6.1.1 Process description

Meredith Metals Limited (Meredith Metals) operates a scrap metal and car recycling yard on Catalina Place, Bell Block. Fluids are drained from the cars on a concrete pad prior to being crushed and sold for scrap.

Stormwater from the site discharges at three points, two of which flow into the Waitaha catchment via the NPDC reticulation and the third to the Waiongana catchment.

6.1.2 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.

Meredith Metals holds water discharge permit **9912-1** to cover the discharge stormwater from scrap metal storage and processing into the Waitaha Stream and into an unnamed tributary of the Mangaoraka Stream via the NPDC reticulated stormwater system. This permit was issued by the Council on 10 July 2014 under Section 87(e) of the RMA.

Special condition one requires the consent holder to adopt the best practical option.

Special condition two limits the size of the stormwater catchment.

Special conditions three and four deal with discharge quality and effects on receiving waters.

Special conditions five and six deal with contingency plans and management plans.

Special condition seven requires notification of changes in site processes.

Special conditions eight and nine are lapse and review conditions.

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

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

Meredith Metals holds water discharge permit **9911-1** to cover the discharge of contaminants onto and into land associated with scrap metal storage and processing. This permit was issued by the Council on 4 June 2014 under Section 87(e) of the RMA.

Special condition one requires the consent holder to adopt the best practical option. Special condition two requires that the discharges do not result in the contaminants reaching adjacent property.

Special condition three limits effects on groundwater.

Special conditions four and five limits metals and hydrocarbons in soil.

Special condition six deals with notification of changes in site processes.

Special condition seven and eight deal with allowable limits of contaminants in soil prior to surrender of the consent.

Special condition nine is a review condition.

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

6.2 Results

6.2.1 Inspections

24 April 2015
A site inspection was undertaken as part of routine compliance monitoring. At the time of the inspection the yard was full with assorted scrap metal stock piled for recycling. The concrete pad area at the entry to the property had numerous whole cars stored on it that were yet to be processed and drained of fluids before being crushed.

Three stormwater discharge points from the site were inspected and although there was no flow at the time of the inspection there were no obvious sheens or staining around the stormwater grates. The interceptor was not inspected as product was placed over the point of access however the stormwater system below the interceptor was inspected and found to be clean.

21 May 2015
An inspection was undertaken as part of routine compliance monitoring in overcast conditions, however no rain was falling.

Inspection found that scrap metal was being moved about on site with heavy machinery. Vehicles were piled on the concrete pad at the front of the premises waiting to be processed. The concrete pad appeared clean and free of contaminants.

Staff members on site were advised that the recent sampling results taken at the interceptor discharge were compliant in terms of suspended solids and oil and grease, however the metal test results were not yet back. A discussion was held in regard to having areas around the un-sampled stormwater grates to be cleared of scrap metal and the grates removed and cleaned out before being replaced so that they are accessible to Council officers in the future.

6.2.2 Results of discharge monitoring

The discharge to the Mangaoraka Stream was sampled on one occasion during the period under review, with the results presented in Table 13 along with a summary of all results for the site. The other two discharge points were not sampled due to access issues. The consent holder is in the process of clearing away scrap metal to allow easier access.

Table 13 Results of stormwater sampling at Meredith Metals Ltd (site STW002088)

Parameter	Unit	Minimum	Maximum	Median	N	07 May 2015	Consent limit
Conductivity @ 20'C	mS/m@20 C	5.4	6.6	6	2	5.4	-
Copper Acid Soluble	g/m³	0.05	0.08	0.06	2	0.05	-
Copper Dissolved	g/m³	0.01	0.01	0.01	2	0.01	
Lead Acid Soluble	g/m³	0.05	0.07	0.05	2	<0.05	-
Oil and Grease	g/m³	3.3	4.7	4	2	3.3	15
pH	pH	7.4	7.5	7.4	2	7.5	6.0-9.0
Suspended solids	g/m³	29	45	37	2	29	100
Temperature	Deg.C	11.7	17.1	14.4	2	17.1	-
Turbidity	NTU	45	70	58	2	45	-
Zinc Acid Soluble	g/m³	0.294	0.373	0.334	2	0.294	-
Zinc Dissolved	g/m³	0.05	0.084	0.067	2	0.050	-

The sample was in compliance with consent conditions in regard to suspended solids, oil and grease and pH. Elevated levels of acid soluble zinc and copper were noted in the discharge and this may be the result of entrained solids from the site. This is likely to be the case as the levels of dissolved copper and zinc were found to be much lower. No receiving environment samples were programmed for this site as it discharges into the Mangaoraka catchment, however expanding the programme may be considered if elevated levels of dissolved copper or zinc are again detected at this site.

6.2.3 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of Meredith Metals.

6.3 Discussion

6.3.1 Discussion of plant performance

Inspection found that activities at the site were generally well managed. However it is noted that a satisfactory stormwater management plan and contingency plan have yet to be provided. Also noted is that access to two of the designated sampling sites has yet to be established. This had been rectified early in the next monitoring period.

6.3.2 Environmental effects of exercise of consent

Monitoring and inspections undertaken during the year indicate that the activities at the site were having little, if any, effects on the receiving environment.

6.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Tables 14 and 15.

Table 14 Summary of performance for Consent 9912-1

Purpose: To discharge stormwater from scrap metal storage and processing into the Waitaha Stream and into an unnamed tributary of the Mangaoraka Stream via the NPDC reticulated stormwater system		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practice	Inspection	Yes
2. Stormwater catchment not to exceed 1.7 Ha	Inspection	Yes
3. Discharge quality standards	Sampling	Yes
4. Receiving quality standards	Sampling	Yes
5. Contingency Planning	Plan received	No –plan was late and required redrafting
6. Stormwater management planning	Plan received	No –plan was late and required redrafting
7. Notification of changes on site	No changes made	N/A
8. Lapse condition	Consent exercised	N/A
9. Review condition	Review options in June 2020 and June 2026	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		High Improvement required

N/A = not applicable

Table 15 Summary of performance for Consent 9911-1

Purpose: To discharge contaminants onto and into land associated with scrap metal storage and processing		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practice	Inspection	Yes
2. Discharge not effect adjacent properties	Inspection	Yes
3. Groundwater not to be affected	Assessed via periodic soil sampling - not assessed this period	N/A

P**urpose: To discharge contaminants onto and into land associated with scrap metal storage and processing**		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
4. Metal limits in soils	Assessed via periodic soil sampling - not assessed this period	N/A
5. Hydrocarbon limits in soils	Assessed via periodic soil sampling - not assessed this period	N/A
6. Notification of changes on site	No changes made	N/A
7. Pre-surrender contaminant limits in soils	N/A	N/A
8. Surrender of consent not to occur without compliance with condition seven	N/A	N/A
9. Review condition	Review options in June 2020 and June 2026	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		High High

N/A = not applicable

During the year, Meredith Metals Ltd demonstrated a high level of environmental performance, however an improvement is required in Meredith Metals Ltd administrative performance as the stormwater management plan and contingency plan required by consent conditions was not supplied on time and required re-drafting.

6.3.4 Recommendation from the 2013-2014 Annual Report

This is the first annual report on the monitoring of Meredith Metals and therefore there were no recommendations from the previous reports.

6.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for 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 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 discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

6.4 Recommendation

THAT monitoring of the discharges from the Meredith Metals site in the 2015-2016 year continues at the same level as programmed for 2014-2015.

7. New Plymouth District Council

7.1 Introduction

7.1.1 Process description

The New Plymouth District Council (NPDC) stormwater system carries discharges from the roads and industrial subdivisions in the Corbett Road, Connett Road and De Havilland Drive areas to the Waitaha Stream. The consented discharge points were on the eastern side of the stream at the end of Connett Road (consent 0608) and previously into an unnamed tributary/open drain through farm land on the western side of the stream (consent 0609). However, Connett Road has been extended to meet at the Waitaha Stream, and the discharge point for consent 0609 is now just below the culvert where Connett Road crosses the stream.

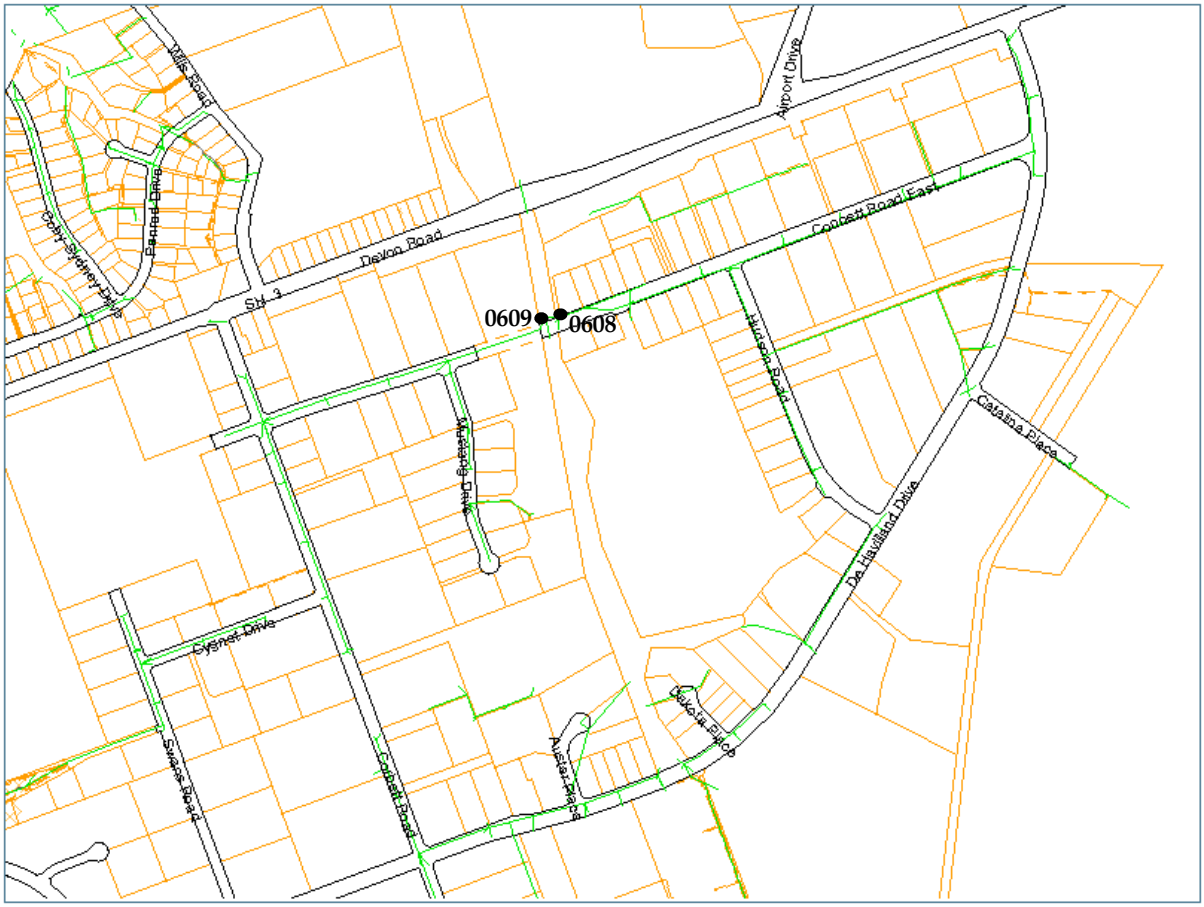

Figure 2 NPDC stormwater drainage plan

7.1.2 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.

NPDC holds water discharge permit **0608-3** to cover the discharge stormwater from the Connett Road industrial subdivision into the Waitaha Stream. This permit was originally issued on 20 November 1979 as a water right pursuant to Section 21(3) of the Soil and Water Conservation Act 1967.

Permit 0608-2 was issued by the Council on 2 December 1992 under Section 87(e) of the RMA. It expired on 1 June 2008. The renewed consent, **0608-3,** was issued to NPDC on 10 June 2008 and is due to expire on 1 June 2026.

There are five special conditions attached to this consent

Special condition 1 requires the adoption of the best practicable option to prevent or minimise effects on the environment.

Special conditions 2 and 3 control erosion and prohibit a number of specific effects on the water quality of the stream beyond a 10 metre mix zone.

Special conditions 4 and 5 contain standard provisions for the lapsing of the consent and review of the consent conditions.

NPDC also holds water discharge permit **0609-2** to cover the discharge of up to 1,200 l/s of stormwater from an industrial subdivision (on Corbett Road) into an unnamed tributary of the Waitaha Stream. This permit was originally issued on 20 November 1979 as a water right pursuant to Section 21(3) of the Soil and Water Conservation Act 1967. The current permit was issued by the Council on 6 December 1995 under Section 87(e) of the RMA. It expired on 1 June 2014.

An application to renew this consent was received by Council on 12 December 2013. The application covers the discharge of stormwater from multiple outlets in the industrial area of the Waitaha catchment, with the intent being that consent 0608 will be surrendered once the renewal of this consent has been granted.

The application to renew 0609 was lodged more than three months before expiry, therefore as per Section 124 of the RMA, the Council has exercised its discretion, allowing the activity to continue under the conditions of the expired consent until a decision is made on the renewal.

Special conditions 1 and 2 place limits on the quality of the discharge, and limit the effects of the discharge on receiving water quality beyond a 10m mix zone.

Special condition 3 contains review provisions.

Copies of the permits are attached to this report in Appendix I.

7.2 Results

7.2.1 Inspections

Specific inspections are undertaken in relation to the NPDC consents, and any issues found whilst the inspecting officer is in the area are also noted on file.

28 January 2015
The inspection found that the Waitaha Stream was running at a very low level. The stream was running clean, clear and free of obstruction.

Both discharge points were found not to be discharging at the time of the inspection.

No staining, foaming or adverse environmental effects were noted about the discharge points. No evidence of any adverse discharges was noted at the time of the inspection.

26 September 2014
Inspection found that the stormwater discharge was of a low volume and of good quality. No sheens, scums, foams, or turbidity were observed being discharged from the pipes into the Waitaha Stream.

No adverse effects on the receiving environment immediately at the point of discharge or downstream of the discharge were noted.

The hydrocarbon sheen that had previously been observed discharging from the stormwater pipe on the true left bank of the Waitaha Stream immediately downstream of Connett Road was not present during this inspection.

18 July 2014
The inspection found that large volume of stormwater was being discharged into the Waitaha Stream. All discharges were clear with no visual sign of scums, foams, sheens or suspended solids.

The receiving environment was visually inspected and no adverse effects were noted. The Waitaha Stream was found to be running clean and clear at the time of inspection.

7.2.2 Results of discharge monitoring

The Connett Road stormwater drains receive stormwater from Connett Road, Corbett Road and from a number of adjacent industries. The flow that discharges from the stormwater outlet on the eastern bank of the Waitaha Stream includes discharges from C&O Concrete and Intergroup. The flow that discharges from the outlet on the western bank of the Waitaha Stream includes the discharge from Greymouth Facilities. The discharges from both the Connett Road eastern and western drains to the Waitaha Stream were sampled on two occasions, with the results presented in Table 16 and Table 17.

There are no numerical contaminant limits given on this consent, however the discharge quality can be compared to the standards given for permitted activities in Rule 23 of the Regional Freshwater Plan (Appendix III), which have also been incorporated as limits on the consents issued for industrial sites in the catchment discharging via this outlet.

The samples were found to comply with these standards with the exception of suspended solids in the samples collected on 6 March 2015 at both sites.

Table 16 Sampling results - Connett Rd stormwater, eastern drain (TRC site code STW001061, consent 0608), together with a summary of all results

Parameter	Conductivity @ 20'C	Oil and Grease	pH	Suspended solids	Temperature
Units	mS/m@20C	g/m³	pH	g/m³	Deg.C
Minimum	3.4	0.5	6.4	2	11.5
Maximum	51.1	230	10.3	680	20.2
Median	8.8	2.5	7	68	15
Number	41	35	41	38	38
11 Nov 2014	18.2	a	6.7	17	15.4
06 Mar 2015	6.1	a	7.7	680	18.8

Key: a = no visible sheen or noticeable odour in sample

Table 17 Sampling results - Connett Rd stormwater, western drain (TRC site code STW001112, consent 0609), together with a summary of all results

Parameter	Conductivity @ 20'C	Oil and Grease	pH	Suspended solids	Temperature
Units	mS/m@20C	g/m³	pH	g/m³	Deg.C
Minimum	2.4	1.2	6.4	2	11.6
Maximum	18.3	102	9.1	890	20.9
Median	10	2.2	6.7	55	15.2
Number	16	12	16	16	15
11 Nov 2014	13.8	Light sheen noted	6.6	18	16.2
06 Mar 2015	10.5	2.9	8.7	360	19.7

Key: Results in bold within a table indicate that a consent limit for a particular parameter has been exceeded

Both discharges were found to have a non-compliant or elevated level of suspended solids on 6 March 2015. It was not possible to identify the sources of the elevated suspended solids at the time of sampling, however it was noted that on this particular sampling occasion the had been very heavy rain prior and flood flows were occurring by the time these discharge points were sampled. Symons was noted to have non-compliance in regards to suspended solids when sampled on the survey of 11 November 2014, however it is unlikely that this discharge would have contributed greatly to the loading in the final discharge when the volume of flow at site STW000112 noted at the time of sampling is considered. No consented discharges that flow via site STW0001061 were found to be non-compliant during the survey of 6 March 2015 and aside from any solids that were collected from the roadways, the source of the elevated suspended solids concentrations at this site is unknown.

Also of note is the elevated pH in the discharge at STW001112 on 6 March 2015 which was above the median and subsequent sampling has also returned results above the current median. Ongoing monitoring and investigations will continue in an attempt to determine the source of the elevated pH results.

7.2.3 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of the activities of NPDC in the Waitaha catchment.

The Council was notified of three sewerage overflows in the Waitaha Stream catchment, as set out below.

30 September 2014
A power cut caused the Connett Road pump station to stop, resulting in a short discharge to the Waitaha Stream. Sewage was discharged for a three minute period before the pump station restarted when power was restored.

6 June 2015
Wet weather caused a power cut to the Connett Road pumping station. A generator was brought to site and used to power the pump station. A 24 minute period of discharge occurred.

20 June 2015
High rainfall caused the Connett Road pump station to overflow. The pump was checked and found to be working at capacity. A discharge occurred over a 4 hour period.

NPDC also advised that the medium to long term actions identified included:

- A review of the catchment is to be undertaken to identify likely sources of inflow. The catchment covers 120 ha and contains 83 manholes. There is 5,522 m of pipe of which 3,550 m is 150 mm diameter, 1,085 m is 225 mm and the balance is 250 mm. Pipe materials are predominantly asbestos cement and glazed earthenware. The estimated cost to undertake an inspection of every manhole, and to smoke test and CCTV all sewers in the catchment is in excess of $60,000. The review will aim to narrow down the most likely problem areas and specific testing will be undertaken in localised areas only. This work has been deferred until other catchments that are deemed to have higher priority have been investigated.

- The catchment is predominantly industrial. It is possible that individual properties have been directed to or have installed first flush diverters to capture the initial run off from paved areas. Such installations would generate significant short duration peaks at the onset of rain as observed in these events. Further investigation on this matter will be undertaken.

- In the long term, NPDC proposed that the Connett Road pumping station be abandoned, with the sewage flow redirected to a new pumping station to be constructed to service future residential Area Q subject to the planning process being completed. The new pumping station would be intended to have greater capacity and include emergency storage.

7.3 Discussion

7.3.1 Discussion of plant performance

It is recognised that NPDC has limited control over the actions of third parties making inappropriate discharges into the stormwater network. During the year under review there were unsourced unauthorised discharges via the NPDC reticulated stormwater network from each of the discharge points on one of the monitoring occasions. One of

the unsourced unauthorised discharges resulted in exceedances of the suspended solids consent limit at the discharge point covered by consent 0609.

In regards to the general maintenance and operation of the stormwater network, NPDC performed satisfactorily.

There were three sewage overflows to the stream during the year under review. Two were the result of power failure and one was the result of high rainfall. Each incident was responded to in an appropriate manner.

7.3.2 Environmental effects of exercise of consents

Inspections and sampling of the Waitaha Stream below the mixing zone found that there was little, if any, adverse effects as a result discharges from the stormwater system, or from any maintenance undertaken by NPDC of the outlets themselves.

7.3.3 Evaluation of performance

A tabular summary of NPDC's compliance record for the year under review is set out in

and Table 19.

Table 18 Summary of performance for Consent 0608-3

To: Discharge stormwater from the Connett Road industrial subdivision into the Waitaha Stream (true right bank - east)		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise effects	Inspection	Yes
2. Mitigation of erosion where possible	Inspection. No erosion issues found	Yes
3. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection, and receiving water sampling	Yes
4. Provision for consent to lapse if not exercised	Consent exercised	N/A
5. Provision for review of consent conditions	N/A	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		High N/A

Table 19 Summary of performance for Consent 0609-2 NPDC's discharge of stormwater into the Waitaha Stream (true left bank - west)

To: Discharge stormwater from the Connett Road industrial subdivision into the Waitaha Stream (true left bank - west)		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limits on chemical composition of discharge	Sampling	one suspended solid exceedance due to unsourced unauthorised discharges and very high flows.
2. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling	Yes
3. Optional review provision re environmental effects	Option for review in June 2008 not exercised. No further review provisions prior to expiry	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		N/A

N/A = not applicable

During the year, NPDC demonstrated a high level of environmental performance with the resource consents. Although the suspended solids limit on the consent was exceeded, there were no significant increases of stream turbidity recorded. It is noted that it is not currently the Council's practice to include discharge quality limits on the discharges from the combined NPDC reticulated stormwater outlets.
Improvement is desirable in relation to the reticulated waste water systems and pump station in the Waitaha catchment. A number of sewage overflows to the stream occurred during the year under review, which will be contributing to the nutrient enrichment found downstream of Connett Road during the fish survey. NPDC has provided an outline of the medium to long term plans to improve their control over the reticulated waste water in this catchment.

There are no administrative requirements on the NPDC consents.

7.3.4 Recommendations from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

THAT monitoring programmed for consented activities of NPDC in this catchment in the 2014-2015 year continues at the same level programmed for 2013-2014.

These recommendations were implemented.

7.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for 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 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 discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

7.4 Recommendation

THAT monitoring programmed for consented activities of NPDC in this catchment in the 2015-2016 year continues at the same level programmed for 2014-2015.

8. Symons Property Development Ltd

8.1 Introduction

8.1.1 Process description

Symons Property Developments Limited (Symons Property) holds a consent to discharge stormwater from their truck depot and pipe washing facility on Connett Road East, Bell Block. The site was recently developed, and formal drainage was being established. The companies operating from the site are: Symons Transport Limited, who operate road tankers that are used to transport bulk liquids between processing plants; and Symons Energy Limited, who provide support services to the oil and gas industry including transportation and cleaning of drilling pipes, and storage and distribution of products such as those used in drilling mud. Collectively, these companies are known as the Symons Group.

The land on which the site is located, although in an area zoned for industrial use, was in agricultural use until it was developed by Symons Property recently. It originally sloped from west to east towards the Waitaha Stream. Re-grading has occurred and there are now three levels, with ramps providing access between each level. (Figure 5)

Each of the sections/levels are utilised for different aspects of the Symons Group's activities. The western, upper level (141 Connett Road East) is occupied by Symons Transport Limited, and the central and eastern sections (143 and 145 Connett Road East) are occupied by Symons Energy Limited.

Western, upper level (141 Connett Road East)

This section is occupied by Symons Transport Limited, which operates a fleet of 30 road tankers that are maintained to food grade standard. This level is metalled with no formal stormwater drainage. It contains the site office, truck wash facility, and a double skinned 40,000 litre diesel storage tank. The road tankers from both companies are also parked on this area of the site when not in use. The truck wash waste water is currently collected in an open pit, outside the western side of the building that houses the truck wash. This then discharges into the NPDC trade waste system. The Company advised Council that it was going to install bunded areas that drain to trade waste at both the diesel delivery and dispensing areas. The truck wash roof water is directed to two 30,000 litre storage tanks which are used as the water supply for the truck wash. The overflow from the storage tank is onto ground.

Stormwater from this level currently either drains to the lower (central) level of the site, or discharges to the road reserve from the site entrance. Some soakage to ground will also occur. Stormwater exiting this entranceway will flow to the Waitaha Stream, either along the road kerbing, or via the reticulated stormwater system through road side sumps if they are installed. Symons Property plans to seal this upper level of the site, and put in formal drainage, connecting into the NPDC reticulated stormwater system, which discharges into the Waitaha Stream immediately to the north of the Connett Road East culvert.

There are no stormwater detention/treatment devices proposed for this sub catchment and the applicant has indicated that this site improvement work would not be started for at least a year.

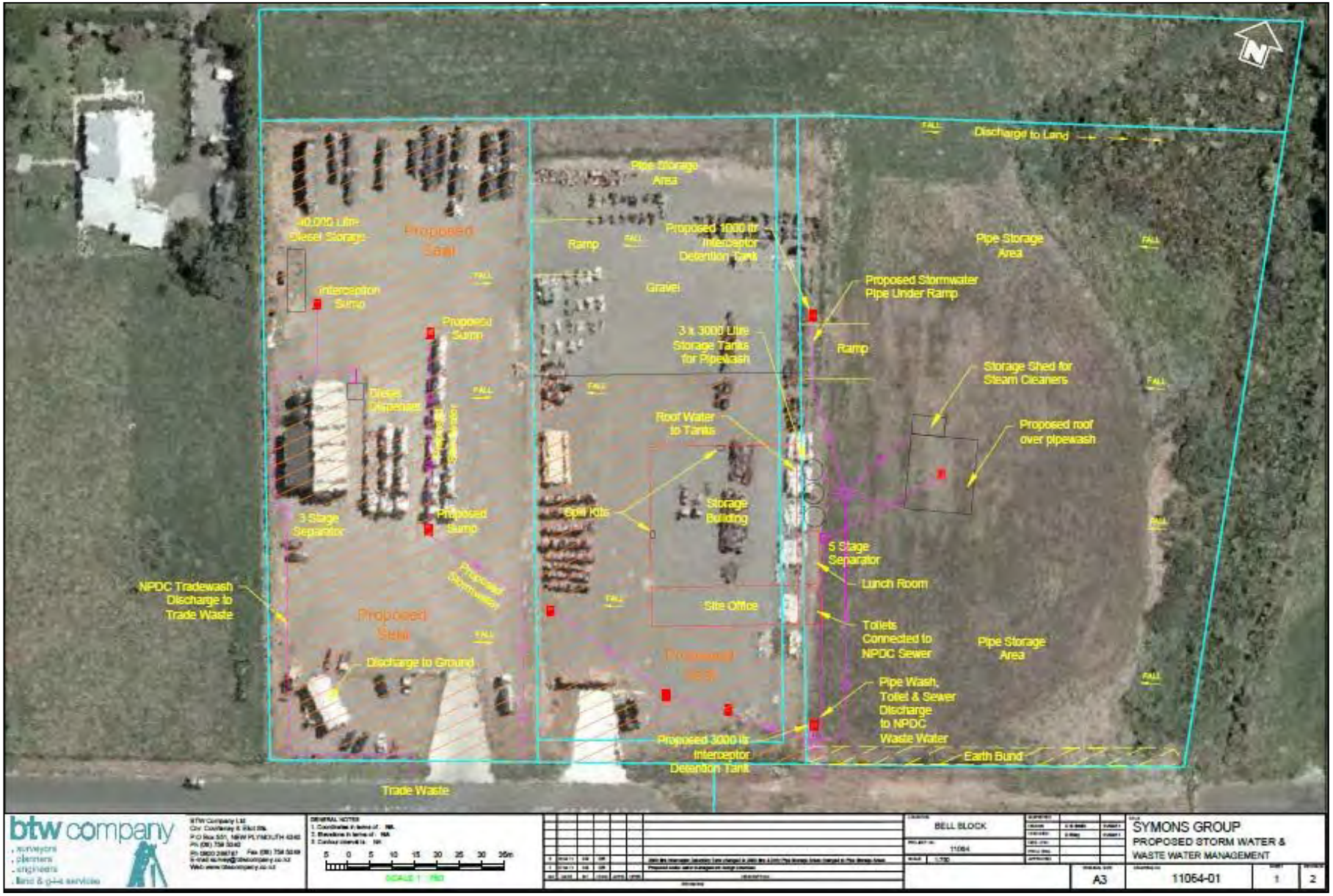

Figure 3 Symons Group Limited site layout

Central, middle level (143 Connett Road East)
The central section contains the site office, lunch room, toilets and a large storage shed, where the products supplied to the oil and gas industry are housed. The northern end of this section is used to store drilling pipes that have been washed and prepared for use at the drilling sites. The surface of this section is currently metal, with the exception of a 20 m concrete apron around the storage shed.

Stormwater from the shed roof is directed to three 40,000 litre storage tanks, which are used to supply the pipe wash facility. The storage tanks are located on the lowest level (eastern section) and currently overflow onto ground.

Stormwater from the southern end of the central section flows to the formal drainage installed on this level, which currently drains into a pit at the south west corner of the lower eastern section. The remaining stormwater flows to the east and enters the drain on the lower eastern section.

The Company has sealed the front two thirds of the central section. There are no stormwater detention or treatment devices proposed for this sub catchment.

Eastern, lower level (145 Connett Road East)
The majority of the section is metalled and is graded with a fall to the west, away from the stream. There is an earthen bund along the southern boundary of this section of the site.

This level of the site is used for storage of new pipe casings prior to them being prepared for use, and also unused casings returned from the off-site drilling activities. There is no reconditioning of used pipes carried out at the site.

The pipe wash facility is also located on this section.

The pipes are cleaned on a concrete wash pad using high pressure hot water blasters. When the activity commenced, wash water and stormwater from the wash pad drained to an underground five stage (5,000 L) water detention tank, which was pumped out into 1000 litre intermediate bulk containers (IBC's). These IBC's were transported by forklift and emptied into the pit that services the truck wash on the uppermost level.

During the 2011-2012 year, the Company installed the necessary pipe work to connect this detention tank into NPDC's trade waste system, and constructed a roof over the wash pad.

The majority of the stormwater from this section accumulates in the south western corner, where a pit has been dug. Under light rainfall conditions the stormwater will currently soak to ground. Under heavier rainfall, this pit will discharge to the Waitaha Stream via a small galvanised pipe with filter cloth over the end that has been pushed through the wall of the pit, and a temporary line of fire hose running along the road reserve. The remainder of the stormwater either ponds on the northern side of the ramp connecting the lower and central levels or discharges overland to the Waitaha Stream from the north eastern corner of the site.

Symons Property has installed formal drainage on the western side of this level, which includes a detention/treatment device, and is connected into the NPDC reticulated stormwater system that flows to the Waitaha Stream.

8.1.1.1 Potential contaminants and mitigation measures

There is the potential for contaminants from the activities on site to become entrained in the stormwater on site.

The truck washing activities are carried out in a drive though building with the wash water directed to trade waste, with little, if any, potential for stormwater contamination.

The diesel tank is double skinned, and the bunded delivery and dispensing area in which this is sited drains to the trade waste line that services the truck wash, thus minimising the potential for stormwater contamination.

Other potential contaminants identified relate to:

- the dry and liquid goods stored on site,
- oil/fuel,
- hydrocarbons from the pipes,
- grease from the pipes,
- rust from the pipes, and
- suspended solids from the metalled site surfaces and heavy traffic movements.

Neither of the two pipe greases used to protect and lubricate the pipe threads contain metals.

Some of the dry products are alkaline and glycol exhibits a significant biochemical oxygen demand.

A comprehensive stormwater management plan was provided to the Council. There are procedures in place for the handling of the stored goods, which states that all loading/unloading is carried out inside the storage shed. A contingency plan is in place for the site, and spill containment kits are available, thus minimising the potential for contaminants to become entrained in the discharge as a result of accidental spillage.

The new pipes are stored on a metalled area of the site prior to cleaning and this area is serviced by stormwater detention tanks. The pipes are all fitted with end caps to protect the threads, which will also minimise the potential for the thread protectants to become entrained in the stormwater.

It was considered that the progressive sealing of the site and the stormwater detention devices described in the application for the consent would reduce the suspended solids concentration of the discharge to the stream. The Company was however, unable to obtain adequate information from the supplier regarding the treatment capacity of the proposed installation, as the particular tanks in question were a relatively new product. The initial proposal was that one 1,000 litre detention device be installed to treat stormwater from the northern third of the lowest (eastern) level, and that a modular

3000 litre modular detention tank be installed to treat stormwater from the remaining two thirds of the lowest (eastern) level.

There is a contingency plan in place for the site, which was approved by Council in December 2012.

8.1.2 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.

Symons Property Development Ltd holds water discharge permit **7805-1** to discharge stormwater from a truck depot and pipe cleaning facility into the Waitaha Stream. This permit was issued by the Council on 9 May 2011 under Section 87(e) of the RMA. It is due to expire on 1 June 2026.

It has 13 special conditions;

Special condition 1 requires that the consent holder adopt best practice.

Special condition 2 stipulates the size of the catchment area.

Special condition 3 requires stormwater for one section of the site be treated to certain specifications.

Special condition 4 sets out requirements for hazardous substances storage.

Special condition 5 sets out discharge quality parameters that must be met.

Special condition 6 requires that the discharge shall not give rise to certain effects in the receiving water.

Special condition 7 requires that the consent holder prepares and maintains a contingency plan.

Special condition 8 requires that the consent holder prepares and maintains a stormwater management plan.

Special condition 9 requires that the consent holder notify Council of any intended significant changes in processes or infrastructure at the site.

Special condition 10 requires the consent holder to review and update the management and contingency plans prior to making any significant changes at the site.

Special condition 11 requires that the consent holder make any data gathered on stormwater detention tanks at site available to Council.

Special condition 12 is a lapse condition

Special condition 13 is a review condition.

The permit is attached to this report in Appendix I.

8.2 Results

8.2.1 Inspections

14 August 2014
The inspection found that both areas of the yard were generally in a clean and tidy order. The concrete pad of the pipe wash bay had been extended to prevent spills and contaminants being tracked off the concreted area and into the stormwater collection area of the yard.

Earth had been placed on the bank adjacent to the Waitaha Stream. A bund had been placed along the top of the earth to prevent stormwater running down the exposed soil; however no silt and sediment controls had been placed at the base of the dump area. Due to the proximity of this area to the Waitaha Stream silt and sediment controls were required and the area needed to be stabilised as soon as possible.

The transport yard was clean and tidy and no containers containing chemical residues from tank washings were stored outside.

New drainage pipe work was being placed along the fence line between the transport yard and main office.

26 September 2014
The pipe yard was found to be in a clean and tidy manner. No pipe washing activities were taking place at the time of the inspection, and the area about the wash bay appeared to be clean, tidy and well managed. All washings were found to have been kept away from the edge of the wash pad, ensuring that they drain to trade waste.

The bund along the edge of the site adjacent to the Waitaha Stream appeared to be in good condition providing a raised bund to ensure that all stormwater was being directed through adequate treatment prior to discharge. The bund appeared to be slightly unstable and although some grass is beginning to grow, further growth and/or stabilisation work may be required over the summer months to ensure that no soil enters the wetland portion of the Waitaha Stream.

The interceptors and the sampling point were inspected and found to have reasonable quality stormwater within them. The receiving environment was also inspected and no adverse effects were noted within the vicinity of the Waitaha Stream.

A large shed on the intermediate level of the yard was being constructed with a concrete pad being laid out the front. New subsurface drainage had been laid between the transport yard and middle yard.

The transport yard was also found to be clean and tidy and the area about the truck wash bay was found to be in a well managed order. Lids and covers were securely in place over any drums to prevent spillage. No tracking of wash water onto the clean water collection surfaces was noted.

A water tanker was in operation on the site dampening all exposed gravel surfaces to prevent dust being discharged from site. It was advised by the site owner that further consideration was being given by the company in regard to improved dust suppression for the coming summer.

28 January 2015
The inspection found that the pipe yard was clean and tidy and no chemicals were being stored outside at the time. Pipe cleaning operations were being undertaken in the cleaning bay. All pipes were stored on the racks above the concrete catchment area in which all washings are collected and directed for disposal via the sewage system.

No signs of tracking of wash water outside of the wash bay were noted. The stormwater at the sampling point the site was visually inspected and found to be clear (but not flowing).

A product had been applied to the gravel surface in the transport yard in an attempt to control ongoing dust issues at the site. Wet weather was required to fully activate the product; however at this stage it was possible to see that a hard surface has been generated across the site as a result of its application.

The area about the truck wash bay was found to be clean and tidy and no waste product was observed to be stored in open drums about this area as has been observed in previous inspections. Overall both sites appear to be well managed and in good order.

12 May 2015
A site inspection was carried out following heavy rain overnight. Inspection found that no pipe washing was being undertaken at the energy services yard at the time of inspection. The pipe washing area appeared to be clean with no signs of the tracking of contaminants onto the clean areas of the yard.

The bund that runs the length of the site adjacent to the Waitaha Stream was well compacted ensuring that all stormwater was being directed away from the stream.

The transport yard was also found to be clean and tidy. No tracking was observed about the truck wash bay and no open topped drums were found to be exposed to the environment.

Overall the yards appeared to be in a good working order with no potential issues identified at the time of the inspection.

26 May 2015
An inspection was undertaken to follow up sampling results which showed a non-compliance in regard to suspended solids in the stormwater discharge from site.

Inspection found that some silt controls have been placed over one of the receiving drains, however controls were not in place over a second catchment point. A discussion was held with staff on site about the silt controls and advised that the new controls would need to be monitored and maintained. Staff on site were also advised that if the current silt controls were not found to be effective further controls may be required.

8.2.2 Results of discharge monitoring

The stormwater from the central section of the site combines with the stormwater from the eastern section of the site, after the eastern stormwater has passed through the detention tanks. This combined flow is sampled at site STW002083 (Figure 4).

Figure 4 Symons Property Developments Limited property and monitoring site locations

One discharge sample was obtained during the year under review. The results of this sampling are presented in Table 20 , along with the limits imposed on the consent and a summary of all data.

Table 20 Results of Symons Property discharge monitoring (STW002083)

Parameter:	Conductivity (mS/m @ 20ºC)	Oil & Grease (g/m³)	pH	Suspended solids (g/m³)	Temperature (ºC)	Turbidity NTU
Minimum	7.5	0.5	5.8	2	10.5	0.66
Maximum	17.1	0.5	7.7	260	18.8	740
Median	10.1	0.2	7.1	27	15.7	83.5
Number	7	6	7	7	6	6
06 Mar 2015	7.5	<0.5	7.3	260	17.9	740
07 May 2015	9.1	<0.5	7.7	220	17.1	300

Key: Results in bold within a table indicate that a consent limit for a particular parameter has been exceeded

On both occasions the samples were non-compliant in regard to suspended solids.

When the sample of 6 March 2015 was taken it was noted that the downstream receiving waters were in very high turbid flow from cumulative reticulated discharges and no effect from the Symons property discharge could be determined.

A follow up sample was taken and also found to be non-compliant in regard to suspended solids and in this instance an incident was raised and staff on site were directed to take remedial action. Details of the incident and outcomes are given in the section below.

In subsequent sampling undertaken early in the next monitoring period, the site was found to be compliant with consent conditions.

8.2.3 Investigations, interventions, and incidents

In the 2014-2015 year there were two complaints received by Council in relation to dust emissions from the site, one of which was substantiated at the time of inspection. As a result of the substantiated unauthorised dust discharge, an infringement notice was issued. An incident was also raised in response to an exceedance in suspended solid in the stormwater from the site.

2 December 2014
A complaint was received regarding dust being discharged off-site from a transport yard on Connett Road, Bell Block. Investigation found that only noticeable dust was discharging beyond the site. No breaches of the Regional Air Quality Plan (RAQP) were found.

10 February 2015
A complaint was received regarding dust being discharged from a transport yard in Bell Block. Investigation found that objectionable dust was discharging beyond the boundary of the Symons property. A letter requesting an explanation was issued to the consent holder and a response was received. An infringement notice was issued as a result of the non-compliance.

7 May 2015
During routine monitoring it was found that suspended solids were in breach of resource consent conditions. The exceedance was considered to be minor. Symons Property put in further silt and sediment control. Further monitoring will be undertaken during the monitoring programme.

8.3 Discussion

8.3.1 Discussion of plant performance

On the whole, general housekeeping of the site was found to have been good during the year under review, and the site was generally well managed.

Earth had been placed along the bank to the Waitaha Stream, and on two inspections the Company was instructed to stabilise or install silt control measures. This was found to have been done early in the 2014-2015 year. The deposited earth is being used as a bund to ensure that there is no stormwater discharged to the Waitaha Stream without adequate treatment.

Despite silt controls being in place, there were two discharge samples that had non-compliant levels of suspended solids. The consent holder was required to undertake

further silt control works. One incident was logged as result of the non-compliant samples.

There were two incidents logged in relation to the site, arising from complaints about dust emissions. One of these complaints was substantiated which resulted in an infringement notice being issued. The consent holder has undertaken dust stabilisation measures at the site to address the dust emissions.

8.3.2 Environmental effects of exercise of consent

In relation to the exercise of Symons Property's stormwater consent and general management of activities in the stormwater catchment, no significant adverse effects were noted during the inspections of the site, or sampling of the stream.

It was, however, found that and objectionable level of dust was being discharged beyond the property boundary from the metalled yard on one occasion.

8.3.3 Evaluation of performance

A tabular summary of Symons Property's compliance record for the year under review is set out in Table 21.

Table 21 Summary of performance for Consent 7805-1

Purpose: To discharge of stormwater into the Waitaha Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option	Inspection and programme supervision	No- improved silt and dust control required
2. Catchment not to exceed 3.14 ha	Inspection	Yes
3. Stormwater from Lot 24 DP376382 to be treated	Inspection	Yes
4. Hazardous substance to be stored correctly	Inspection	Yes
5. Discharge parameters not to exceed certain limits	Sampling	No-two non-compliant samples
6. Discharge not to give rise to certain effects in receiving waters	Observations at inspection and during sampling	Yes
7. Prepare and maintain a contingency plan	Review of Council records	Yes
8. Prepare and maintain a stormwater monitoring plan	Review of Council records	Yes
9. Notify Council of changes at the site	Observations at inspection and review of Council records. No changes made	N/A
10. Review and update plans to suit any changes at the site	Observations at inspection and review of Council records. No changes made	N/A

Purpose: To discharge of stormwater into the Waitaha Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
11. Provide Council data on stormwater tank investigations	Investigation is optional and not yet undertaken	N/A
12. Lapse conditions	N/A	N/A
13. Review condition	N/A	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		Good High

N/A = not applicable or not assessed

During the year, Symons Property Development Limited generally demonstrated a good level of environmental performance and high level of administrative performance with resource consent conditions.

However, an improvement is required in the Symons Property's overall environmental performance, as defined in Section 1.1.5, due to breaches of the RMA and Regional Air Quality Plan in relation to dust discharges from the site. There was an infringement notice issued as a result of one of the complaints received about the site.

8.3.4 Recommendations from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

THAT monitoring programmed for the consented activities of Symons Property Development Limited in the 2014-2015 year continues at the same level as programmed for 2013-2014.

These recommendations were implemented.

8.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for 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 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 discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

8.4 Recommendation

THAT monitoring programmed for the consented activities of Symons Property Development Limited in the 2015-2016 year continues at the same level as programmed for 2014-2015.

9. Taranaki Sawmills Limited

9.1 Introduction

9.1.1 Process description

Photo 5 Taranaki Sawmills site

9.1.1.1 Stormwater

Taranaki Sawmills Limited's (Taranaki Sawmills) sawmilling and timber processing site is situated on the banks of the Waitaha Stream. The majority of the site is gravelled or undeveloped. Stormwater generally soaks to ground; however, overland flow occurs during heavy rain. The site has a stormwater drainage system where stormwater is channelled and contoured into underground stormwater pipes and open stormwater drains (Figure 5).

Stormwater near the southern boundary of the site flows into and over land and into an unnamed tributary of the Waitaha Stream. Stormwater from neighbouring sites also flows into this tributary; specifically stormwater from Weatherford New Zealand Limited. Weatherford's wash pad is directed though an interceptor system prior to discharge into the unnamed tributary. Taranaki Sawmills has planted the unnamed tributary, which is approximately 100 metres long, with wetland plant species.

The area between the administration building and sorting table is contoured so that stormwater flows into an underground stormwater pipe system. The underground system has an outlet into the top of a second open stormwater wetland drain in the headwaters of another unnamed tributary of the Waitaha Stream.

Figure 5 Taranaki Sawmills site drainage systems

The tributary is approximately 100 metres long and drains from approximately the middle of the site in a north-westerly direction. Stormwater from the northern area of the site flows over and into land and into a third unnamed tributary planted with wetland plant species. The third tributary is approximately 100 metres long and drains

in a westerly direction. The second and third stormwater drains flow through the same outlet into the Waitaha Stream.

Taranaki Sawmills have undertaken riparian planting and improvement of the "wetland" areas along the three stormwater drains. The wetlands effectively act as silt traps and reduce the amount of sediment in the overland stormwater flow. The Council provided advice regarding appropriate riparian planting to reduce the amount of sediment entering the stormwater drain and discharging into the Waitaha Stream. Monitoring undertaken by the Council has shown that the wetland was having a positive effect on the downstream water quality.

Photo 6 Taranaki Sawmills, riparian planting along tributaries

It is considered that there is little potential for contamination of stormwater due to on-site control measures. No treatment of wood is undertaken on the site. Most of the waste wood material is used to fuel the boilers on site or is removed from the site and recycled. For example bark is processed into garden mulch, and wood chips are transported to a pulp and paper mill.

Car parks and vehicle working areas are mostly unsealed, so that any fuel leaks or spillages will soak into the ground rather than run into the stormwater system. To reduce yard dust problems, the site is routinely sprayed with water, and historically, oil was placed on the access tracks.

The active area of the site has recently been expanded to accommodate the storage of timber for domestic dispatch, an activity that has been relocated from Katere Road. An additional area of approximately 1.3 ha in the north eastern corner of the site has been cleared of vegetation and gravelled for this purpose.

As required by Taranaki Sawmill's consent, a contingency plan is in place in case of spillage at the site. The latest version of the contingency plan was approved by Council in January 2013.

9.1.1.2 Air discharges

Sawmilling activities at the site generate wood waste. The sawdust, wood shaving, and wood chip components of this waste are reused on site for generating energy for the timber drying kilns. No timber tanalising occurs on site, so no tanalised timber wastes are incinerated. Incineration occurs in either an open fire-pit, or in boilers.

The open fire-pit is approximately 10m wide x 10m long x 2m deep. The material incinerated in the open pit is dried untreated timber off-cuts, and occasionally other non-toxic materials such as paper, cardboard, and timber strapping.

There are boilers operated on the site, which run 24 hours a day, seven days a week, with emissions discharged via stacks. Emissions from the original 2 megawatt (MW) Entec Boiler discharge through a 12 metre tall stack, which achieves dust/smoke emissions containing less than 500 mg/m^3 of particulate. The second and third boilers are 4 MW Vekos Boilers, and the single stack for these boilers is 24 metres high.

There are a number of potential contaminants which could be discharged into the air from the combustion of wood products. Modelling of the stack emissions undertaken by Taranaki Sawmill's has shown that contaminant concentrations at ground level are well below guideline levels.

There are also aesthetic effects to be considered.

Particulates

The combustion of wood and coal from Taranaki Sawmills releases particulate. It is the fine particles of less than 10µm in diameter (PM_{10}) that can adversely affect health. Mitigation measures employed by Taranaki Sawmills include:

- Achieving maximum combustion by ensuring the boilers burn at an optimal level.
- The Vekos boilers are fitted with a two stage cyclone grit arrester to reduce particulate emissions.
- The stacks are of a suitable height to ensure that emissions are well dispersed before reaching ground level (as per Appendix I of the RAQP).
- Taranaki Sawmills have installed an 'oxygen trim' on the 24 metre high Vekos stack. The oxygen trim monitors oxygen levels in the stack, sending a signal to the furnace to stop fuel being fed into the furnace until optimum oxygen levels are reached again. This also assists in achieving maximum efficiency of combustion.
- Staff observe the nature of smoke emissions to determine whether to reduce the amount of fuel fed into the other furnace.
- Various management practices are used to ensure the fire-pit is used efficiently, such as: supervision, using only dry waste-wood for incineration, loading only small quantities into the fire-pit.

- Other operative procedures such as regular maintenance of equipment, visual monitoring of smoke emissions, and staff training and awareness of environmental obligations.

Carbon monoxide (CO)

CO is produced from the incomplete combustion of fossil fuels such as wood and coal, and it can adversely affect human health by reducing the amount of oxygen transported to body tissue, resulting in dizziness, weakness and nausea. Effects are avoided by maintaining optimal combustion conditions in the boilers and fire-pit as outlined above, thereby minimising CO emissions.

Sulphur dioxide

Sulphur dioxide is a consideration when coal is used as an alternative fuel source. It can potentially cause respiratory problems, acid rain, and can affect vegetation in industrial areas. However, the likelihood of pure coal being used is very low, due to the amount of waste-wood generated on the site.

Odour

The primary odour would be the smell of smoke from the burning of waste-wood. However, odours are not anticipated to affect people beyond the Taranaki Sawmills site boundary, due to the dispersion achieved by the stacks.

Dust

Dust can arise from many sawmilling activities on the site. To minimise these effects the stacks on boilers are fitted with grit arresters, and dust control occurs on the site with wet suppression of gravel areas. A new dust control product has been trialled recently. The Council has been advised that Taranaki Sawmills are also considering sealing the site in the future.

Nitrogen oxides

Emission of nitrogen oxides may occur as a result of combustion in the boiler units. Nitrogen is also used to raise the boiling point of water; however, closed loop heat exchangers are used, which means the discharge of nitrogen to the environment from this process is anticipated to be very small.

Visibility and visual/aesthetic impacts

Air pollutants, as discussed above, can all contribute to a haze that lowers visibility, and smoke plumes that can raise public concern. Previously, incidents have occurred from inefficient combustion. Taranaki Sawmills have addressed these problems through management procedures as outlined above. Therefore, discharges from the Taranaki Sawmills sites are not expected to impact significantly on visibility, and emissions from the Taranaki Sawmills site should improve with the oxygen trim mechanisms installed on the main stack.

The Taranaki Sawmills site is located in an industrial area, with no residential dwellings in the immediate vicinity. Neighbouring activities are generally light industrial activities.

9.1.2 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.

Taranaki Sawmills holds water discharge permit **2333-3** to cover the discharge of stormwater from a sawmill operating site onto and into land and into the Waitaha Stream. This permit was issued by the Council on 11 November 1987 as a water right pursuant to section 21(3) of the Water and Soil Conservation Act 1967. A renewed permit was issued by the Council on 7 February 1996 under Section 87(e) of the RMA, which was renewed again on 8 December 2000. The consent expired on 1 June 2014.

An application to renew this consent was received by Council on 10 February 2014, more than three months before expiry. Therefore, as per Section 124 of the RMA, the Council has exercised its discretion, allowing the activity to continue to under the conditions of the expired consent until a decision is made on the renewal.

Special condition 1 requires the consent holder to adopt the best practicable option to prevent or minimise the effects of the discharge.

Special condition 2 requires the consent holder to maintain a contingency plan.

Special conditions 3 and 4 limit the rate at which stormwater can be discharged from the site and limits particular contaminants that may be present in the discharge.

Special condition 5 limits the effects that the discharge may have on the receiving waters of the Waitaha Stream.

Special condition 6 contains provisions for the review of the conditions of the consent.

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

9.1.3 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.

Taranaki Sawmills holds air discharge permit **4096-2** to cover discharge of emissions into the air from sawmilling and untreated timber processing and associated activities including the combustion of wood and/or coal within boilers and wastes in an open fire-pit. The Council originally issued this permit on 29 July 1992 as a resource consent under Section 87(e) of the RMA. The consent was varied on 14 September 1993 to allow for a second boiler, and was renewed removing the limit on the number of boilers on 27 January 2004. It is due to expire on 1 June 2032.

Special conditions 1 and 2 require the consent holder to adopt the best practicable option to prevent or minimise effects and to minimise emissions and their effects by selection, operation and management of the best practicable equipment and processes.

Special conditions 3 and 4 require that the activity is undertaken in accordance with documentation provided in support of the two renewals of this consent.

Special condition 5 requires consultation with the Council prior to significant changes to the emissions from the site.

Special conditions 6 and 7 contain notification and record keeping requirements that relate to the use of coal as a fuel for the boilers.

Special conditions 8 and 9 relate to the provision and adherence to a management plan for the combustion of materials in the fire-pit.

Special condition 10 requires the consent holder to keep an incident log.

Special condition 11 prohibits significant adverse ecological effects.

Special conditions 12 to 14 deal with odour and dust considerations.

Special conditions 15 and 16 impose limits on the ground level concentration of sulphur dioxide and particulate matter of less than 10 microns diameter in line with the National Environmental Standard.

Special condition 17 prohibits noxious or toxic levels of contaminants at or beyond the site boundary.

Special condition 18 imposes limits on the emission of dark smoke from the boiler stacks.

Special condition 19 specifies a minimum height for stack discharges.

Special condition 20 gives the circumstances under which the consent may lapse, and special condition 21 contains provision for review of the conditions on the consent.

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

9.2 Results

9.2.1 Inspections

1 August 2014
A site inspection was undertaken to check on compliance with an abatement notice issued for a non-compliance that occurred just prior to the end of the previous monitoring year. A routine compliance monitoring inspection was also undertaken.

The site inspection was undertaken in the presence of the Taranaki Sawmills staff who identified some locations about the site to have most likely contributed to the increased silt and sediment readings in the recent sampling results.

Silt fencing, bunding/drains, and settling ponds were discussed on site as suitable treatment options for the high risk areas. Until such time as adequate controls could be

put in place, the site remains very high risk for silt and sediment to enter the receiving waters.

Dust levels were measured at the site boundary to ensure compliance with resource consent 4096-2. The dust levels were found to be in compliance with the resource consent special conditions.

Works in relation to installation of silt and sediment controls were to be undertaken in the coming week depending on weather conditions. An extension of the abatement notice until 8 August 2014 was granted to allow for the appropriate works to be undertaken.

16 October 2014
An inspection was undertaken during a period of still overcast weather.
Inspection found that works had been undertaken at various locations about the property in order to better capture, direct and subsequently treat stormwater prior to discharge into the receiving environment. Silt and sediment levels in the discharge had previously been elevated and works had been undertaken to reduce the silt and sediment concentration in the discharge.

The drains had been better defined and the silt ponds had increased in volume. Silt fencing had also been installed in various locations about the site.

The log yard had been relocated onto the flatter portion of the site and further away from the treatment systems which was anticipated to result in less vehicle movements and minimise the generation of silt.

Discussions were held regarding improvements to the fire pit on site and works were to commence shortly to block off the lower end of the fire pit in an effort to contain all silt and ash within the pit and prevent the possibility of it being entrained in the stormwater.

The fire pit was in operation at the time of the inspection. Smoke was observed to be travelling directly upwards and no off-site effects were noted as a result of the burning.

Dust measurement was carried out at three locations about the boundary of the site. Due to the still weather conditions at the time of the inspection no definite upwind/downwind sampling locations could be identified, however all dust sampling results were found to be well within resource consent limits.

20 February 2015
An inspection was undertaken during a period of light rain and low cloud. The drizzle was sufficient to dampen down the surface but insufficient to cause any stormwater runoff from the site.

The stormwater system was inspected and the silt and sediment controls were in place around the site. Some works had been undertaken to reinforce the silt fences in the swampy area downstream of where the kiln water discharges.

The fire pit had been redesigned. The new pit design would ensure that all silt, ash and fine material associated with the burning activities will remain within the pit during

periods of wet weather. The fire pit was in operation and the burning material was being well combusted with a very light smoke being emitted as a result. This smoke was travelling upwards and then in a slight north-westerly direction before visually dissipating above the pine trees on the boundary.

The silt and sediment ponds around the site were empty. All cut off and diversion drains appeared to be in good working order ensuring that all stormwater is treated prior to being discharged from site.

It was observed that the large diesel tank at the rear of the site is contained within a large steel bund to capture and contain any spills from the tank. The drainage tap from this bund was found to be open allowing rainwater and any spills to drain from within the bund freely. It was relayed to the site manager that the tap be kept closed and be opened only after an inspection of the water within the bund is carried out.

The drain leading from the kiln area was dry prior to the riser that leads to the stormwater system. A small quantity of water was being discharged into this drain from the pipe near the kilns. A sample of the water was taken to be analysed for biochemical oxygen demand.

Air quality monitoring was undertaken about the boundary of the site. At the time of the air quality monitoring the rain had stopped and a slight breeze from the south-east was blowing. All readings were found to be within resource consent conditions.

7 May 2015
A sample of the stormwater leaving the Taranaki Sawmills site on Hudson Road, Bell Block was taken. The sample was collected where the stormwater enters the Waitaha Stream following its treatment in the wetland area.

Analysis of the sample provided a suspended solid reading of 230 gm/m3. This was in breach of special condition 4 of resource consent 2333-3. A follow up site visit was to be undertaken.

12 May 2015
An inspection was carried out during intermittent showers. Heavy rain had fallen in the New Plymouth area overnight.

Inspection found that the site was operating as per normal procedures. The recent wet weather had resulted in large amounts of mud being generated about the site especially about the log yard area.

Stormwater was being collected on site and directed to silt and sediment treatment systems however unfortunately these treatment systems have failed some time previously and at the time of the inspection much of the stormwater was by-passing the treatment systems either partially or altogether resulting in minimal treatment of the stormwater prior to entry into the receiving environment.

Urgent attention to the silt and sediment controls was required. Due to the accumulation of mud there was a high likelihood of silt and sediment entering the receiving environment following a rainfall event.

A light westerly wind was blowing across the site at the time of the inspection. The fire pit was in operation and the light wind resulted in smoke being blown across the site before dissipating prior to the site boundary. The fire pit was inspected and no unauthorized material was observed within the fire pit.

Due to the wet weather conditions at the time of the inspection no dust monitoring was undertaken.

An infringement fine was issued for the non-compliance with the previously issued abatement notice.

9.2.2 Results of stormwater discharge monitoring

The stormwater discharge from Taranaki Sawmills is sampled from an unnamed tributary of the Waitaha Stream (WTH000059). The headwaters sampling site (WTH000051) is situated in the middle of the sawmill site and emanates from a stormwater drain adjacent to the dry store. This stormwater system drains the sawmill site from between the administration building and the sorting table. However, other inflows to the system have been identified. The monitoring locations are shown in Figure 6.

Discharge sampling was undertaken at two sites (WTH000051 and WTH00059) on up to three occasions, the results of which are presented in Table 22 and Table 23.

Observations and results of the sampling in the Waitaha Stream upstream and downstream of the confluence of the tributary that are relevant to the monitoring of the Taranaki Sawmills site are summarised and discussed in section 9.4.2, with the full receiving water monitoring results presented and discussed in section 15.

The special conditions of resource consent 2333 require that the oil and grease and suspended solids concentrations in the discharge must not exceed 15 g/m^3 and 100 g/m^3 respectively, and that the pH shall lie in the range 6.0-9.0. For the purpose of assessing compliance against these limits, Council has previously designated the tributary, just upstream of the confluence with the Waitaha Stream, as the discharge point (WTH000059).

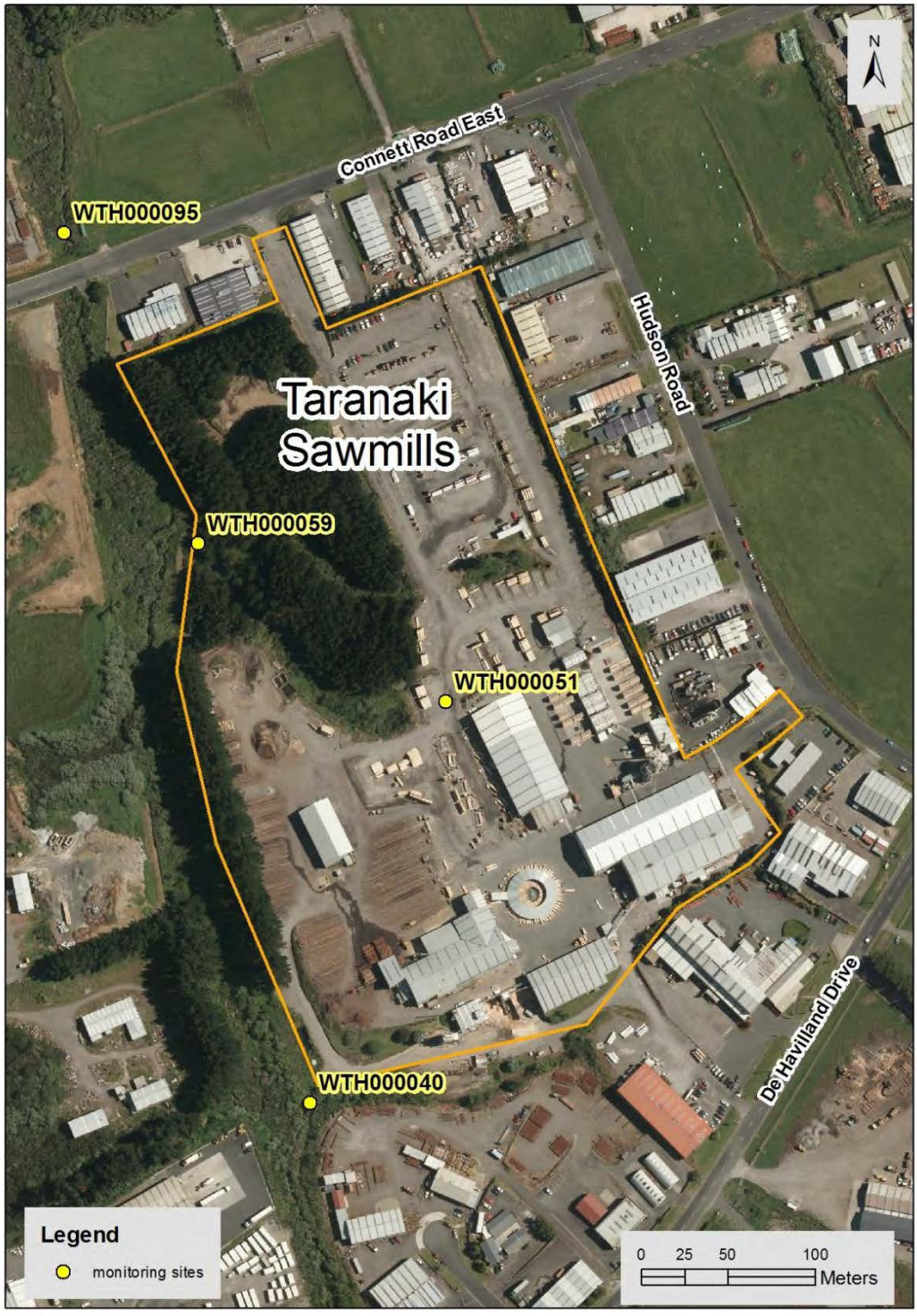

Figure 6 Taranaki Sawmills Limited stormwater and receiving water monitoring sites

Table 22 Results of stormwater sampling at Taranaki Sawmills – tributary headwaters (WTH000051)

Parameter	Boron	Conductivity @ 20'C	pH	Suspended solids	Temperature	Turbidity
Unit	g/m³	mS/m@20C	pH	g/m³	Deg.C	NTU
Minimum	0.03	2.9	6.3	8	11	13
Maximum	0.8	25.4	7.7	3600	22.5	1400
Median	0.16	12.2	6.8	160	15.1	180
Number	34	33	34	19	31	19
11 Nov 2014	0.20	19.7	6.5	53	15.9	78
06 Mar 2015	0.16	14.1	7.2	74	19.2	120

Table 23 Results of stormwater sampling at Taranaki Sawmills – tributary upstream of confluence with Waitaha Stream (WTH000059)

Parameter	Biochemical oxygen demand 5day	Boron	Conductivity @ 20'C	pH	Suspended solids	Temperature	Turbidity
Unit	g/m³	g/m³	mS/m@20C	pH	g/m³	Deg.C	NTU
Minimum	1.8	0.04	3.8	5.8	16	12.1	26
Maximum	21	1.1	25.8	7.2	1600	21.5	1300
Median	8.9	0.24	15.9	6.6	160	15.4	170
Number	8	40	42	43	27	42	24
30 Oct 2014	7.0	-	18.9	6.7	86	13.3	130
11 Nov 2014	1.8	0.22	19.6	6.6	16	15.2	30
06 Mar 2015	15	0.04	9.4	7.2	210	20.1	170
07 May 2015	9.7	0.07	10.1	7.0	230	17.3	360

Key: Results in bold within a table indicate that a consent limit for a particular parameter has been exceeded

During the monitoring period there were two samples at site WTH000059 that did not comply with the consented limit of 100 g/m³. Late in the previous monitoring year an abatement notice was issued directing Taranaki Sawmills to comply with resource consent conditions is regard to the allowable level of suspended solids in stormwater discharges. Works were undertaken by Taranaki Sawmills and the site became compliant, however on 6 March 2015, sampling showed that suspended solids had exceeded the suspended solids limit and a follow up sample showed that this had occurred again on 7 May 2015. Inspection found that the sediment control structures put in place during the year had not been maintained and an infringement notice was issued for non-compliance with the existing abatement notice.

9.2.3 Air discharge montoring

9.2.3.1 Inspections

Air inspections were carried out in conjunction with general site inspections. During each inspection a Dust-Trak dust monitor was used to measure dust both up and downwind of the site. During the monitoring year no non-compliant dust readings were recorded.

Each site inspection also included an inspection of the fire pit and during the year it was found that improvements had been made to the pit and that no issues in regard to smoke discharges were noted.

9.2.3.2 Results of receiving environment monitoring

Particulates can derive from many sources, including motor vehicles (especially diesels), solid and oil-burning processes for industry and power generation, incineration and waste burning, photochemical processes, and natural sources such as pollen, abrasion and sea spray.

PM_{10} particles are linked to adverse health effects that arise primarily from the ability of particles of this size to penetrate the defences of the human body and enter deep into the lungs. Health effects from inhaling PM_{10} include increased mortality and the aggravation of existing respiratory and cardiovascular conditions such as asthma and chronic pulmonary diseases.

Taranaki Sawmill's air discharge consent limits the maximum ground level concentration of particulate of effective diameter of less than 10 micrometres (PM_{10}) so that it does not exceed 50 $\mu g/m^3$ (one hour average exposure), on more than five occasions per year cumulative across any and all monitoring sites, and does not exceed 120 $\mu g/m^3$ (one hour average exposure) at any time, at or beyond the boundary of the site.

In addition to this, in September 2004 the Ministry for the Environment introduced National Environmental Standards (NES) relating to certain air pollutants.
The NES for PM_{10} is 50 $\mu g/m^3$ (24-hour average). This standard must also be met irrespective of any conditions on the consent holders.

Continuous ambient PM_{10} monitoring was conducted in the vicinity of the Taranaki Sawmills site from 15 April 2014 at 12:45 to 17 April 2014 at 07:45, seven days after any significant rainfall. The PM_{10} monitor was located off site to the east (Figure 7). A wind rose, illustrating the wind direction and strength, is presented in Figure 8. The PM_{10} data expressed in terms of a one hour average, as per Taranaki Sawmill's consent condition, is shown in Figure 9, and the 24 hour average PM_{10} and wind direction data for the period of monitoring is shown in Figure 10.

The PM_{10} monitor was downwind of the activities occurring on the Taranaki Sawmills site for between approximately 65 to 83 % of the time it was deployed. The results show that neither the consent limit of 120 $\mu g/m^3$ (1 hour average), nor the NES standard of 50 $\mu g/m^3$ (24 hour average) were exceeded during the monitoring period.

Figure 7 Location of the Taranaki Sawmills PM_{10} monitoring site during the year under review

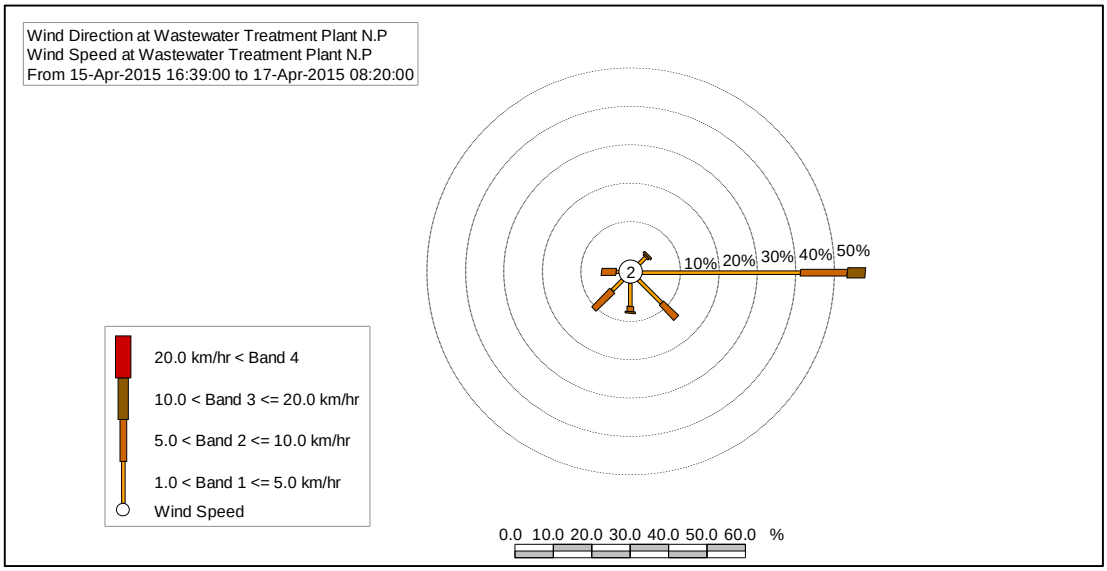

Figure 8 Wind rose illustrating the wind direction and strength over the Taranaki Sawmills PM_{10} monitoring period as measured at the Council's weather site at NPDC's New Plymouth wastewater treatment plant (NPWWTP).

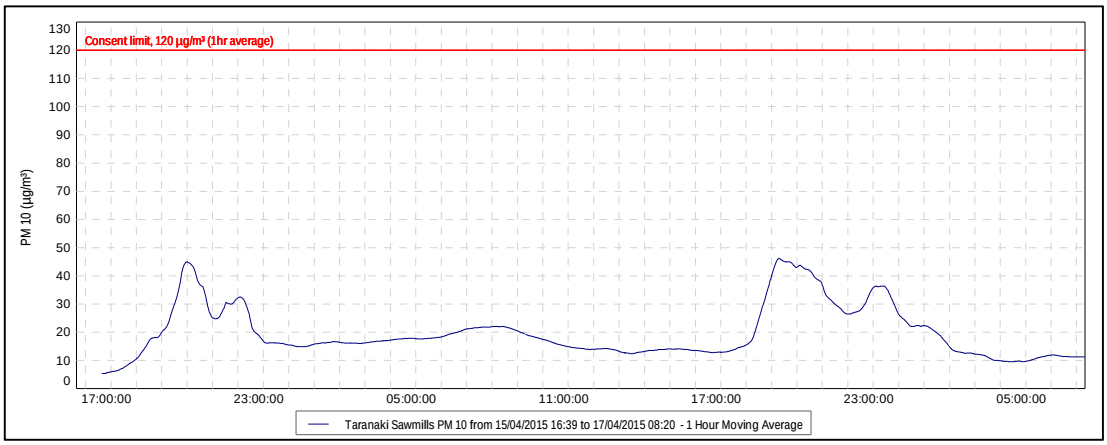

Figure 9 PM_{10} results in the vicinity of Taranaki Sawmills site expressed as a moving 1 hour average

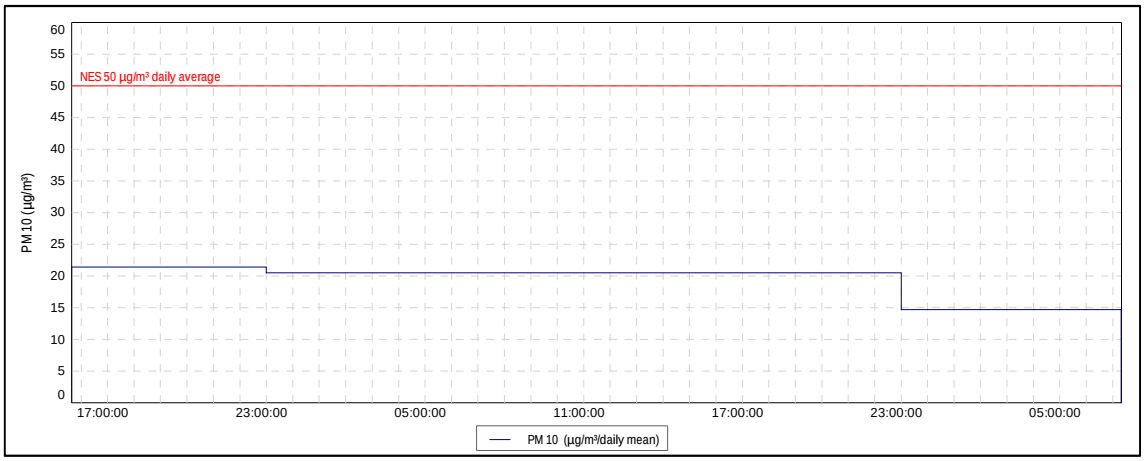

Figure 10 PM_{10} (24 hour average) ambient monitoring in the vicinity of Taranaki Sawmills site

9.2.4 Investigations, interventions, and incidents

In the 2014-2015 year, it was necessary for the Council to undertake additional investigations, interventions, and record incidents in respect of Taranaki Sawmill's site in the Waitaha catchment. Two incidents were raised in relation breaches in consent conditions.

16 July 2014
Analysis of samples taken during routine compliance monitoring, on 25 June 2014, from Taranaki Sawmills Limited into the Waitaha Stream showed suspended solid levels to be 460 g/m^3 . The consented limit on the discharge was 100 g/m^3.

An abatement notice was issued requiring works to be undertaken to ensure compliance with resource consent conditions. Re-inspection found that the abatement notice was being complied with at the time of inspection.

7 May 2015
During analysis of stormwater samples, taken on 7 May 2015, it was found that suspended solids were 230 g/m^3 in breach of resource consent conditions at Hudson Road, Bell Block. A letter of explanation was received an accepted.

9.4 Discussion

9.4.1 Discussion of plant performance

The site was well managed during the first half of the monitoring period, however the silt controls on the site were not maintained and this resulted in non-compliances in regard to suspended solids in the discharge. An infringement notice was issued as a result and an improvement is required in management of silt at the site.

It was noted that the consent holder improved the fire pit so that stormwater was diverted away from it.

9.4.2 Environmental effects of exercise of consents

There were two breaches of the suspended solids concentration given in the conditions of the Taranaki Sawmill's stormwater discharge consent during the monitoring period, however no adverse effects were noted in Waitaha Stream at the time of sampling due to turbidity of the receiving water upstream of this discharge.

It is noted that no hydrocarbons were found in the discharges or observed in the receiving waters immediately downstream of Taranaki Sawmills discharge point.

Although the discharge exhibited an elevated biochemical oxygen demand on three of the four monitoring occasions, no sewage fungus was reported to have been present in the stream at the time the sample was collected.

The PM_{10} monitoring indicated the emissions from the site are continuing to comply with consent conditions and national environmental guidelines for particulates, and no smoke, dust or odour complaints were received by Council.

During the year under review there were no adverse environmental effects found as a result of air or water discharges from the Taranaki Sawmills site.

9.4.3 Evaluation of performance

A tabular summary of Taranaki Sawmill's compliance record for the year under review is set out in Table 24 and Table 25.

Table 24 Summary of performance for Consent 2333-3 Taranaki Sawmill's

Purpose: To discharge of stormwater onto land and into the Waitaha Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise adverse effects on the environment	Inspection and discussion with consent holder	No: Silt controls not maintained
2. Implementation of a contingency plan for action to be taken to prevent spillage	Revised plan reviewed and accepted January 2013	Yes
3. Maximum stormwater discharge rate	Visual assessment during inspection and at sampling	Yes

Purpose: To discharge of stormwater onto land and into the Waitaha Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
4. Limits on chemical composition of discharge	Chemical sampling of discharges	No- Suspended solids limit exceeded in 2 samples
5. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling	Yes
6. Optional review provision re environmental effects	No further review provisions prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		Improvement required High

Table 25 Summary of performance for Consent 4096-2

Purpose: Discharge of emissions into the air		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise adverse effects on the environment	Inspection and discussion with consent holder	Yes
2. Minimisation of emissions due to control of plant and processes	Inspection and discussion with consent holder	Yes
3. Exercised in accordance with application	Inspection and discussion with consent holder	Yes
4. Boiler and stack operated in accordance with application	Inspection and discussion with consent holder	Yes
5. Consultation prior to alterations to plant and processes	Inspection and discussion with consent holder	Yes
6. Notification in the event of coal usage for more than 72 hours in 14 days	No notifications received	N/A
7. Records of coal usage	No notifications received	N/A
8. Preparation and adherence to management plan	Observation at inspection	Yes
9. Level of environmental performance for fire-pit to be commensurate with management plan	Observation at inspection	Yes
10. Notification in the event of an incident having offsite effects	Observation of the surrounding area on inspection or when in the area on other business; any complaints received by Council	Yes
11. Adverse ecological effects in Taranaki from discharge not permitted	Observation of the surrounding area on inspection or when in the area on other business; any complaints received by Council	Yes

Purpose: Discharge of emissions into the air		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
12. Objectionable odour at boundary not permitted	Observation of the surrounding area on inspection or when in the area on other business; any complaints received by Council	Yes
13. Definition of factors constituting an objectionable odour	N/A	N/A
14. Limits on objectionable suspended or deposited dust	Observation and/or ambient suspended particulate monitoring at inspection	Yes
15. Limit for ground level ambient concentration of sulphur dioxide	Not measured during the year under review. Only applicable when coal is used in the boilers	N/A
16. Limit for ground level ambient concentration of suspended particulate matter <10 microns	Two day deployment of 'Dust Trak' PM_{10} monitor	Yes
17. Noxious or toxic discharges not permitted at boundary	Observation of the surrounding area on inspection or when in the area on other business; any complaints received by Council	Yes
18. Limit on duration of emission of dark smoke	Observation of the surrounding area on inspection or when in the area on other business; review of any complaints received by Council	Yes
19. Minimum height of discharge	Observation during inspection. No decrease in stack height	Yes
20. Lapsing of consent	Consent exercised	N/A
21. Optional review provision re environmental effects	Provision for review in June 2014	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

During the year, Taranaki Sawmills demonstrated a high level of administrative performance; however an improvement was required in their level of environmental performance as defined in Section 1.1.5. During the year under review Taranaki Sawmills failed to maintain the silt controls installed in the previous monitoring period and this resulted in non-compliant levels of suspended solids in stormwater discharges. An infringement fine was issued as a result.

9.4.4 Recommendations from the 2014-2015 Annual Report

In the 2013-2014 Annual Report, it was recommended:

THAT monitoring programmed for consented activities of Taranaki Sawmills Limited in the 2014-2015 year continues at the same level as programmed for 2013-2014.

These recommendations were implemented.

9.4.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for air and 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 and discharges and their 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 and discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

9.5 Recommendation

THAT monitoring programmed for consented activities of Taranaki Sawmills Limited in the 2015-2016 year continues at the same level as programmed for 2014-2015.

10. TBS Coatings Limited

10.1 Introduction

10.1.1 Process description

Abrasive blasting is used to clean and prepare surfaces for painting. The process involves blasting an abrasive substance on to the surface of the object in question. Material from the blasting process becomes airborne due to the release of high pressure air used to accelerate the abrasive media to the required cleaning velocities. Spray painting is also carried out on the site.

Emissions from abrasive blasting operations have the potential to cause nuisance and possible health risks, especially when conducted within populated areas. TBS Coatings Limited (TBS) permanent site is located within an industrial area. The environmental effects of dusts can include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces.

TBS operates an abrasive blasting and spray painting facility at Corbett Road, Bell Block. This facility was established in 1974 on a 4.5 ha property situated off Corbett Road in the south-eastern corner of the industrial area of Bell Block, New Plymouth (**Error! Reference source not found.** and Figure 11). It is bounded on two sides by farmland. The nearest domestic dwelling is about 250 metres to the south. The predominant winds are westerly and south-easterly.

Various items, mainly steel, are brought to the site for cleaning by dry abrasive blasting and for the application of protective coatings. Blasting occurs mostly in purpose-built enclosures, within sheds situated on the southern part of the site. The dimensions of the larger enclosure are 19.2 m x 6 m x 6 m. Items too large to fit in the booths are sometimes blasted in a paint-shed on the western part of the site, the shed itself acting as the enclosure. Occasionally, larger items are treated in the open in the yard outside the sheds, following notification to the Council.

Abrasive blasting in enclosed areas is usually performed in the 'blasting booth', where garnet, is now the blast medium, or the 'grit chamber', where angular steel grit is used and recycled, however the garnet, a hard recyclable blast medium, may be used in either area.

Protective coating in enclosed areas is carried out mostly in paint rooms adjacent to the blasting sheds. Both ordinary spray painting and hot metal painting is done. The rooms are ventilated with air extraction systems, for the protection of paint workers. Coatings may also be applied in a shed on the western part of the site.

There are emissions into the air from the operations associated with blasting and coating. The blasting medium is usually dust-free, however after being propelled against surfaces to be treated, clouds of detritus are typically created. Paint fragments, rust particles, and shattered blast media may be carried several hundred metres if air pollution suppression equipment is not used. The paint may contain zinc, lead, chromate, or other chemical species of environmental concern.

The enclosed blasting facilities at this site are designed for control of emissions and recovery of blasting material. The blasting booth is a side draught booth connected to

two dust collectors (both 20,000 cubic feet/minute capacity wet scrubbers) in parallel. The grit chamber is a down draught booth connected to a grit recycling system from which blast debris is extracted to a wet scrubber. The paint shed that is occasionally used for blasting also has an air extraction system and wet scrubber.

When open blasting is performed, the item being treated in the yard is screened as completely as practicable, to contain dust emissions.

The boundaries of the site are screened on all four sides with shelter belts of trees and a filter fabric fence, to reduce passage of wind blown dust onto neighbouring properties. The trees also add aesthetic value. There is a gap, along one third of the northern boundary that is not screened which enables items that are too large to fit through the Corbett Road entrance to be brought to and from the site.

Since December 2007, TBS has predominantly used chilled iron grit, and occasionally garnet, as the blast media. This is cleaned out, screened and recycled daily. Because this generates significantly less waste material than a non-recyclable media, blast debris is no longer disposed of by burial on the site.

Sources of possible air pollution include dust from blasting inside the blasting sheds and in the large metalled yard, and from re-suspension of blast debris and scrubber sludge that has been disposed of on site in the past.

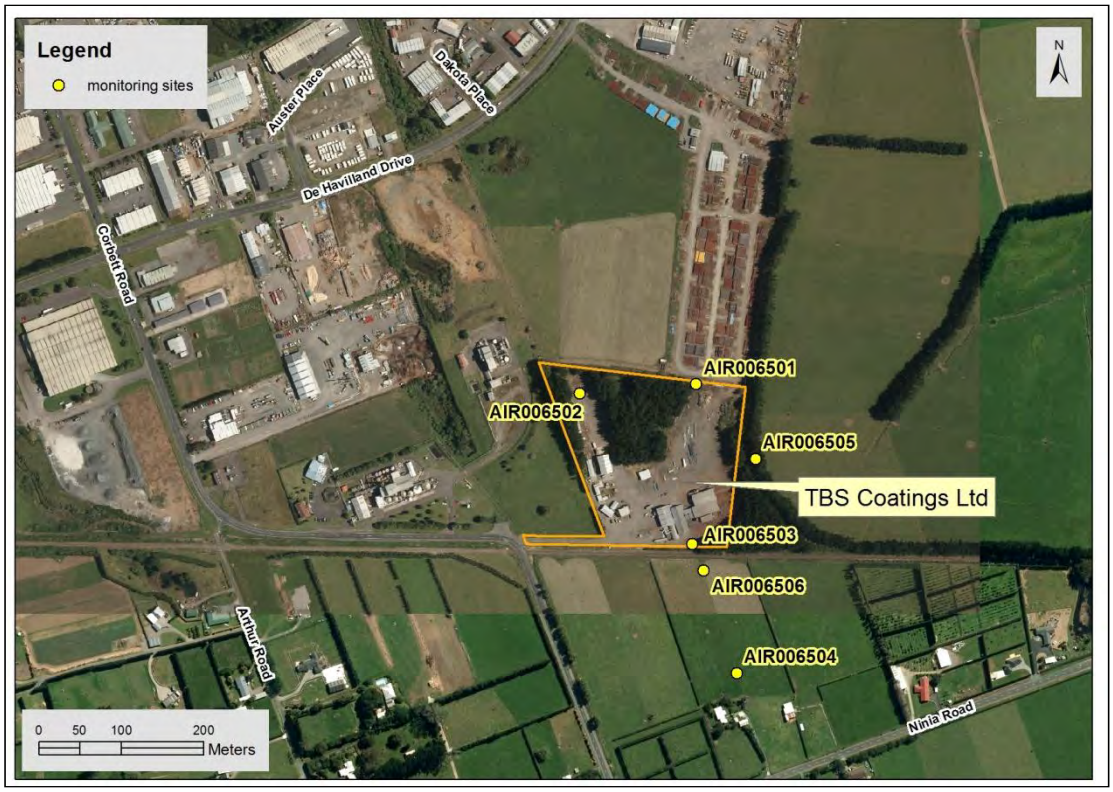

Figure 11 Property of TBS Coatings Limited, and related monitoring sites

TBS also undertakes mobile blasting operations throughout Taranaki. Portable equipment is used for the blasting and coating of fixed structures such as bridges, water tanks, pipelines, buildings and steel structures. Temporary screens are constructed around the items being worked on to contain dust emissions and

depositions, and to restrict the spread of blasting debris. In 1999, TBS started using an 'Enviroblast' lead rated portable dust collector, approved by the New South Wales Environmental Protection Agency, for the treatment of dust emissions where lead paint is being removed. Blast material collected at mobile blasting sites is disposed of by burial at landfills.

Where mobile blasting is to be done in residential or urban areas, NPDC is given prior notification. In cases where the material to be removed or applied is likely to contain toxic substances such as lead, arsenic, chromium or zinc, Taranaki Health is informed.

10.1.2 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.

TBS holds air discharge permit **4056-2** to cover discharge of emissions into the air from abrasive blasting operations and associated activities at their permanent site and from mobile abrasive blasting operations at various locations. The Council originally issued this permit to TBS on 6 May 1992 as a resource consent under Section 87(e) of the RMA for mobile blasting only. The consent was renewed on 9 August 2002 and is due to expire on 1 June 2020.

Special condition 1 states that the consent holder shall at all times adopt the best practicable option, as defined in Section 2 of the RMA, to prevent or minimise any adverse effect on the environment.

The remaining special conditions on the consent are intended to reduce the quantity, control the quality, and minimise the potential for adverse effects from the emissions from the blasting activities and associated processes. This is achieved by:

- Limiting the locations at which blasting may be undertaken and ensuring that consideration is given to weather conditions (special conditions 2, 4, and 12). In general the blasting must be undertaken within the permanent facilities where the discharge must be contained and treated to meet specific discharge limits (special conditions 9 and 11).
- Ensuring that adequate screening is in place (special conditions 9, 14, and 15).
- Controlling the blasting media used (special conditions 3 and 7).
- Requiring that certain notifications are made and/or permissions sought prior to undertaking blasting when certain "higher risk" blasting activities are undertaken (special conditions 13, 16, 17 and 18). In the case of the Council, this allows for additional requirements to be placed on the consent holder in certain circumstances, and ensures the opportunity for Council to undertake monitoring specific to those activities.
- Limiting the effects at or beyond the boundary of the property in relation to dust and odour issues (special conditions 6, 10 and 19), and surface water quality issues (special condition 20).
- Addressing housekeeping issues (special condition 5).
- Requiring that the consent holder ensures that all operators understand and comply with the conditions of the consent (special condition 8).

10.2 Results

10.2.1 Inspections

10.2.1.1 Site inspections

14 August 2014
Only one blasting booth was in operation at the time of the inspection. A PM_{10} meter was used to measure the emissions in the discharge. Average total particulate matter was found to be 0.748 mg/m^3 and this complied with consent conditions.

The site was found to be generally clean and tidy. The recent period of damp weather had resulted in all dust being well supressed on the yard and not being disturbed by vehicle movements.

The diesel store on site was inspected and whilst stormwater was present in the bund there was plenty of free board remaining to contain any spills.

No odour was noted about the yard as a result of the painting process.

It was outlined that plans were in progress to upgrade the dust scrubber and associated blasting booth near the train tracks.

16 October 2014
An inspection was undertaken as part of routine compliance monitoring. Due to a malfunction of the PM_{10} meter only a visual inspection was carried out.

The inspection was carried out during a period of fine but overcast weather. Little to no wind was present at the time of the inspection.

No visible dust was being emitted from either of the dust scrubbers or from the site in general.

The blasting booth was in operation at the time of the inspection and the dust scrubber appeared to be working well ensuring that dust was minimised. The spray booth was not in use.

A fine particulate was observed on the gravel surface about the site. This appears to be a collection of fine aggregate and may cause dust issues during the warm dry summer months. Discussion with staff onsite indicated that water would be applied to the surface as the primary suppressant as required.

A capital expenditure project was scheduled to begin on site by the end of 2014. This was to involve the replacement of the less efficient dust scrubber with a new modern unit that will use modern technology to treat the discharge and capture the associated dust. The site was also to be re-contoured and new aggregate brought to site. This was expected to assist in reducing the potential for dust generation as a result of general site traffic.

The diesel tank was inspected and the steel bund was found to be relatively empty with plenty of free board to contain any spill that may occur.

19 February 2015
An inspection was undertaken as part of routine compliance monitoring.

Weather conditions at the time of the inspection were dry with no detectable breeze. A dust survey was undertaken using a PM10 meter. The discharge from the dust scrubber nearest the train tracks on site was found to have a maximum particulate concentration of 4.53 mg/m^3 which complied with consent conditions

Particulate levels from the dust scrubber near the garnet recycling plant was found to have a maximum of 0.786 mg/m^3 which complied with consent conditions

Site improvements had recently been implemented with a new dust scrubber being placed in the shed nearest the train track to replace the one currently in use. The base of this shed had also been concreted.

A large volume of fine reddish sediment/dust was observed about the entrance to the sand blasting sheds. This material was easily mobilised by wind or traffic during dry conditions. Although no dust was observed being discharged off site at the time of this inspection it is highly likely that this material was the main contributor in the recent sample results at the boundary in relation to dust deposition. These results found the dust deposition rate beyond the boundary of the property to be in breach of special condition 10 of resource consent 4056-2. A separate inspection notice was issued in relation to these results.

5 May 2015
The inspection found that a general site clean up was underway with rubbish and waste material being removed from site. The dust scrubber from the large sand blasting shed was not in operation at the time of the inspection. Sandblasting was being carried out in the smaller shed and dust monitoring was undertaken about the extractor vent from the associated dust scrubber. Particulate levels in the discharges were found to have a maximum concentration of 3.39 mg/m^3 which complied with consent conditions

No off site effects were observed at the time of inspection. Some site works had been undertaken on site to address previous dust issues associated with the mobilisation of fine dust material that had collected on the metal surface of the site near the blasting booths. This work involves removing the fine material and placing new metal on a portion of the site. Further work may be required in this area prior to next summer in order to fully control the discharges.

10.2.1.2 Mobile blasting inspections

No notifications were received that mobile blasting was taking place during the year under review.

10.2.2 Results of receiving environment monitoring

Many industries emit dust from various sources during operational periods. In order to assess the effects of the emitted dust, industries have been monitored using deposition gauges.

Deposition gauges are basically buckets elevated on a stand to about 1.6 metres. The buckets have a solution in them to ensure that any dust that settles out of the air is not re-suspended by wind.

Gauges are placed around the site and within the surrounding community. The gauges were deployed in the vicinity of the TBS site on two occasions during the year under review, with the samples processed from the second run only. The contents of the gauges from the first deployment of gauges (in November 2013) had to be discarded, as they were heavily contaminated with brown beetles.

The rate of dustfall is calculated by dividing the weight of insoluble material (grams) collected by the cross-sectional area of the gauge (m^2) and the number of days over which the sample was taken. The units of measurement are grams/m^2/day (g/m^2/day).

Guideline values used by the Council for dust deposition are 4 g/m^2/30 days or 0.13 g/m^2/day deposited matter. Consideration is given to the location of the industry and the sensitivity of the surrounding community, when assessing results against these values. However, TBS have a condition on their consent that limits the dust deposition rate beyond the boundary of their property to 4 g/m^2/30 days.

Material from the gauges was sifted to remove any incidental organic debris and insects, and then analysed for solid particulates.

The number and position of deposition gauges is governed by the location of potential dust emission sources, the direction of predominant winds, and the position of sensitive areas in the surrounding environment. The sites monitored for TBS's facility are shown in Figure 11 and site descriptions are given in Table 26.

Table 26 TBS Coatings Limited - particulate deposition monitoring sites

Site code	NZTM Coordinates	Location
AIR006501*	1701416E – 5678078N	NE boundary, outside white gates - near scrubber sludge disposal area
AIR006502	1701275E – 5678067N	Inside boundary. Yard in NW corner, N of secondary blasting shed
AIR006505	1701488E – 5677988N	E boundary, at gap in shelter belt opposite blasting shed, near spent media disposal area
AIR006503*	1701411E – 5677885N	S boundary, outside fabric screen at railway line
AIR006504	1701465E – 5677729N	Paddock beside house of nearest neighbour, ~ 150m S on Ninia Road

*It is noted that sites AIR006501 and AIR006503 were moved from just inside the boundary to just outside the boundary fence prior to the start of the 2006-2007 year.

Site AIR006502 is positioned inside the property boundary screenings, and so the consent limit and guideline cannot be applied. However, measurements made at this site are useful for determining the potential for offsite effects and for assessing the

source of particulates. The consent limit and guideline is applicable at sites AIR006501, AIR006503, AIR006504, and AIR006505.

Results of the monitoring for the 2014-2015 year are given in Table 27.

Table 27 Deposition gauging results for sampling sites around the TBS Coatings Limited location in 2014-2015

Site	Retrieval Date	Number of days deployed	Deposited particulate $g/m^2/day$	Deposited particulate $g/m^2/30days$
AIR006501	22 Dec 2014	20.8	0.1	2
AIR006502	22 Dec 2014	20.8	*0.17*	*3.4*
AIR006503	22 Dec 2014	20.8	0.07	1.4
AIR006504	22 Dec 2014	20.8	0.02	0.4
AIR006505	22 Dec 2014	20.8	**0.38**	**7.6**

Key: Results in bold indicate exceedance of the guideline values (and consent limit).
Results in italics are indicative only, from site AIR006502 which is well within the Company's boundary.

The monitoring found that the deposited particulate collected at one of the monitoring locations at or beyond the site boundary did not comply with special condition 10 of consent 4056 (0.13 $g/m^2/day$). One sampling site (AIR006502) which is well within the boundary also returned a result exceeding guideline limits, however this result is indicative only as consent conditions apply at or beyond the boundary of the property.

The consent holder was contacted and it was noted that there had been significant vehicle movements and onsite construction works to install the new scrubber which may contributed with to the exceedance. The consent holder requested a second survey to be undertaken at this site early in 2015. This also returned a non-compliant level of dust at AIR006505.

During the retrieval of the gauge it was noted that blasting dust was being emitted from the scrubber and earlier inspections had identified that settled dust on the yard may also be an issue if re-suspended by truck movements. Consent conditions require that all site areas are to be kept clean as far as practical to prevent this. A site clean-up was instigated by TBS to address this as noted in the inspections.

Comments made upon retrieval of the gauges also noted that the surrounding fields contained a significant amount of exposed soil. Historically site AIR006505 has exhibited the potential of capturing dust emission from the surrounding paddocks and this may be contributing factor in this case.

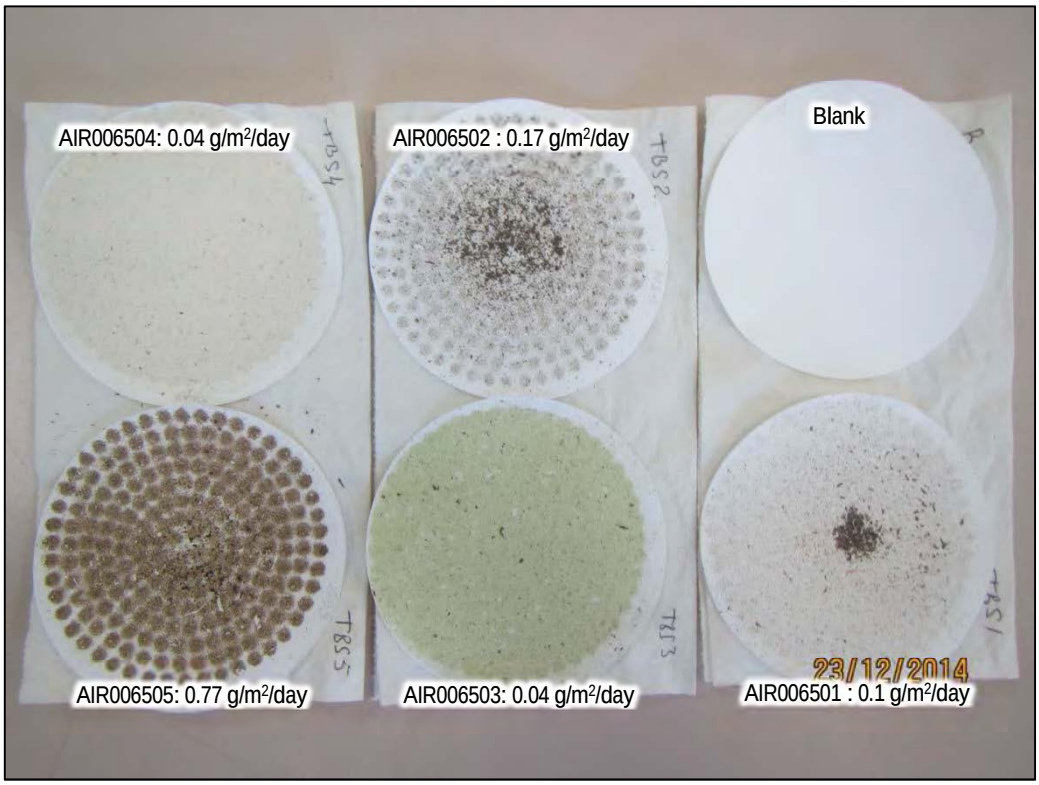

Photo 7 TBS Coatings Limited deposition gauge filters 2014- 2015 survey

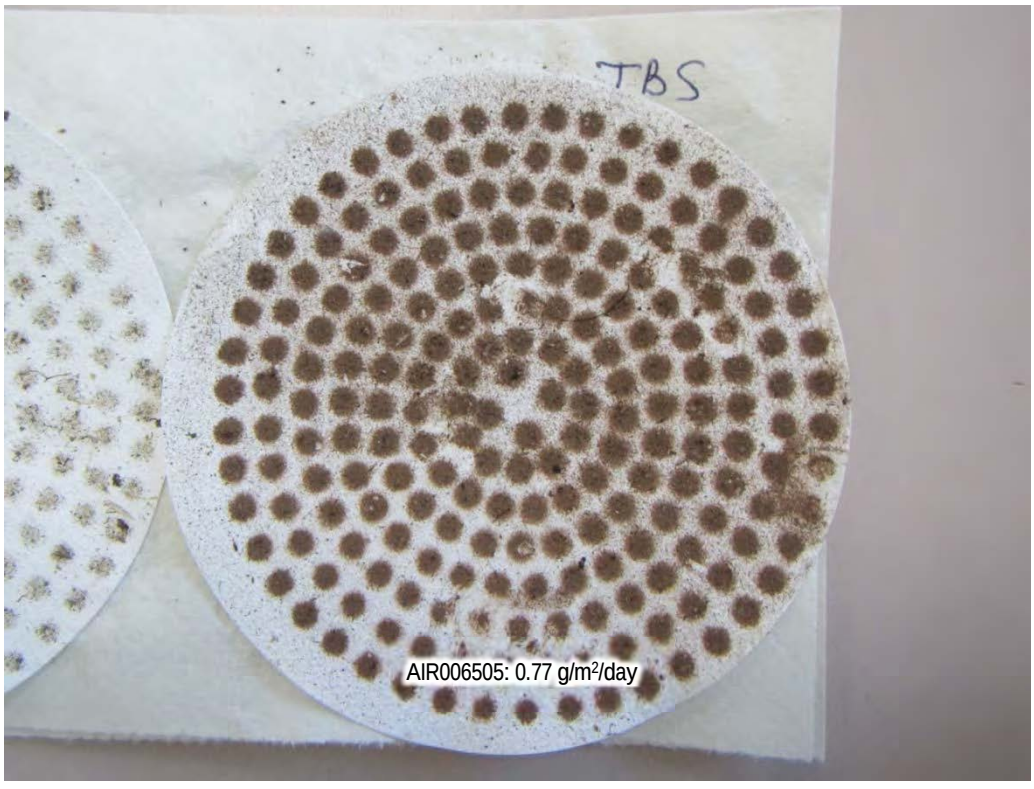

Photo 8 Deposition gauge filter of AIR006505 done at consent holders request in early 2015

10.2.4 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of TBS. There were some issues in regard to dust emissions, however these were dealt with by way of an inspection notice.

10.3 Discussion

10.3.1 Discussion of plant performance

Site inspections found that the permanent blasting facilities were kept in a good state of repair and the treatment systems were found to be well maintained. The site required some maintenance during the year to reduce emissions from settled dust in the yard.

It is noted that TBS is currently undertaking trials to provide for a more permanent solution to dust suppression at the site.

10.3.2 Environmental effects of exercise of consents

Atmospheric particulate matter can arise from a number of sources, both natural and from human activity e.g., vegetation pollen, smoke and ash, sea spray, dust from soils and paved surfaces, and manufacturing processes. While extremely fine particles may remain floating in the atmosphere for weeks or months, coarser dust may settle out within timeframes ranging from a few seconds to minutes.

The amount of dust and detritus generated at any industrial site is influenced by many factors. From past results of deposition gauging it is likely that factors including seasonal weather variations, vehicle traffic about the site and the type of work being conducted will have some effect on the results.

Abrasive blasting operations have the potential to create adverse effects on health and the environment as well as creating nuisance. The impact that sandblasting has is determined by the type of abrasive used (e.g. is it sand that is dust free with low silica content), the procedures followed by staff when blasting outside the blasting room (e.g. temporary screening), and the items blasted (e.g. with coatings such as lead-based paints or larger rusted areas resulting in generation of extra detritus).

The environmental effects of dusts include loss of visibility, loss of the amenity and aesthetic values of a 'clear sky', irritation to breathing, and soiling of surfaces. It has been found that background rates of dust deposition in rural areas of New Zealand are typically 0.1-1.5 g/m^2/30 days, while in urban areas rates are generally higher, in the range of 0.6-3.0 g/m^2/30 days. From experience, rates above 3-4 g/m^2/30 days tend to lead to complaints by neighbours over the objectionable or offensive nature of dust emissions from particular sources.

Deposition gauging was conducted around the TBS site for the 36th time during the 2014-2015 monitoring year.

The gauging period from 1 December to 22 December 2014 was quite wet, with a total of 54 mm of rain and the strongest winds recorded were recorded from the east.

Historical monitoring has shown that particulate deposition rates in the vicinity of TBS have been quite variable and this may be attributable both on-site and off-site sources.

The gauge east of the site (AIR006505) gave the highest particulate deposition rate, and was downwind of the TBS site for approximately 25% of the time. The appearance of the material collected on the filters during the analysis of the samples from this site was not entirely consistent with material from the abrasive blasting site, or yard dust, and was more consistent with soil. It was noted that the paddock to the east of the TBS site, in which this gauge was located, was used for cropping, and there were strong easterly winds from the east on a day without rainfall, the day before the gauges were retrieved. However it was also noted in inspections and during the retrieval of the deposition gauges, that in this period, onsite sources were likely to be contributing to the elevated dust deposition results.

10.3.3 Evaluation of performance

A tabular summary of TBS's compliance record for the year under review is set out in Table 28.

Table 28 Summary of performance for Consent 4056-2 TBS discharge of emissions into the air

Purpose: To discharge emissions into the air		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise effects on the environment	Inspection and discussion with consent holder	No-yard not kept clean
2. Blasting in enclosed facility	Inspection and discussion with consent holder	Yes
3. Sand to have low active silica content and percentage of fine particles	Sand not used during the year under review	N/A
4. Consideration of wind conditions to minimise of off-site emissions	Inspection. No substantiated complaints received	Yes
5. Clearance of blasting material	Inspection	Yes
6. Offensive and objectionable odours and dust beyond boundary not permitted	Inspection and incident investigation	Yes
7. Avoidance of dry sand blasting for yard and mobile blasting	Inspection and liaison with consent holder.	Yes
8. Compliance of operators with conditions	Inspection	Yes
9. Treatment of emissions prior to discharge at permanent facilities	Suspended particulate monitoring at inspection	Yes.
10. Dust deposition rate limit beyond boundary	Deposition gauge monitoring	Exceedance in 2 off-site gauges, yard dust likely to be a contributing factor
11. Maximum concentrations of lead, chromium and zinc	Not measured. Discussions with consent holder about materials blasted	N/A
12. Infrequent allowance of yard operations	No notification of yard blasting received. No yard blasting found at inspections	Yes

Purpose: To discharge emissions into the air		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
13. Notification prior to yard operations	Inspection and observation when inspecting officer is in the vicinity of the site on other business. No yard blasting noted during year under review	N/A
14. Screening to contain emissions	No yard blasting noted during year under review	N/A
15. Screening of items to be blasted	Inspection	Yes
16. Notification to DC prior to blasting in urban areas	No urban mobile blasting noted during the year under review	N/A
17. Notification to TRC prior to blasting in close proximity to water course	No mobile blasting this period	Yes
18. Written TRC approval and notification of affected parties prior to blasting close to boundaries	No mobile blasting close to boundaries during the year under review	N/A
19. Ambient suspended particulate limit for public amenity areas	No mobile blasting at public amenity areas noted during the year under review	N/A
20. Effects on surface water bodies not permitted	Inspection	Yes
21. Optional review provision re environmental effects	Provision for review in June 2014	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

N/A = Not applicable
TRC = Taranaki Regional Council
DC = District Council

During the year, TBS Coatings Limited demonstrated a good level of environmental performance and a high level of administrative performance with the resource consents as defined in Section 1.1.5. An exceedance of the dust deposition rate was observed in two of the six gauges deployed, which may have been the result of re-suspended yard dust. TBS undertook a site clean up as a result of this non-compliance. No complaints were received during the period under review.

10.3.4 Recommendations from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

THAT monitoring programmed for consented activities of TBS Coatings Limited in the 2014-2015 year continues at the same level as in 2013-2014.

These recommendations were implemented.

10.3.6 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for air 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 and their 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.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

10.4 Recommendation

THAT monitoring programmed for consented activities of TBS Coatings Limited in the 2015-2016 year continues at the same level as in 2014-2015.

11. Weatherford New Zealand Limited

11.1 Introduction

11.1.1 Process description

Weatherford New Zealand Limited (Weatherford) has a 1.7 ha yard on Dakota Place for storage and maintenance of drill pipe, down-hole tools and other miscellaneous equipment used in the oil industry. New casing and drill pipe is cleaned to remove protective grease, which until the 1980's contained some copper and zinc, and a high proportion of lead. Kerosene is brushed onto the threads and the oil/kerosene mix is washed off with a water blaster. Kerosene is only used when oil and grease can not be removed by water alone. A phosphate bath is used for the etching of pipes in the lower yard. Minor amounts of waste from this process may be discharged to the stream via the lower wash pad interceptor. During the year under review it was identified that the phosphating chemical used also contains nickel and manganese.

There are two wash pads at the site. The wash pad in the upper catchment drains to a small three stage interceptor which discharges onto land just over 50 metres from the tributary. There is no bunding around either of the wash pads, so a significant volume of stormwater from the upper and lower yards flows through the interceptors during rainfall events.

The wash pad in the upper yard has not been used for washing purposes for a number of years.

The larger wash pad in the lower yard drains via an in-ground pipe to a three stage interceptor on the bank of the unnamed tributary. The pipes overhang the wash pad slightly, so a moveable catchment facility has been installed to capture wash water at the end of the wash pad to avoid discharge on to land. This wash pad is used for the majority of the wash down that occurs at the site.

The property slopes towards the Waitaha Stream where it runs along the western boundary and towards the unnamed tributary that runs along the northern boundary. The site is mostly metalled, with only the wash pad areas sealed. Recent works have been undertaken on site to direct overland flow to settling ponds for treatment.

Photo 9 Weatherford New Zealand Ltd site - view from the northern corner

11.1.2 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.

Weatherford holds water discharge permit **4775-1** to cover the discharge of up to 180 L/s of treated stormwater and minor treated wash-down water from an oilfield engineering services premises onto land and into an unnamed tributary of the Waitaha Stream. This permit was originally issued to Austoil Drilling Services Pty Limited for the discharge of treated stormwater by the Council on 5 September 1995 under Section 87(e) of the RMA. A variation to consent was granted on 30 June 1997 to also allow for the discharge of minor treated wash-down water onto land. The permit was transferred to Weatherford on 15 April 2002. It was reviewed in August 2008 for the purpose of ensuring that the special conditions of the consent were adequate to deal with potential adverse effects of the discharge on the receiving environment. Consent 4775-1 expired on 1 June 2014.

An application to renew the consent was received on 29 November 2013. Council requested that Weatherford provide further information that, in summary, was required to better identify:

- The number and location of the discharge points,
- The nature and concentrations of the contaminants that may be present in the discharge(s) as a result of historical and on-going activities on the site,
- A consideration of alternatives, including the feasibility of directing the waste water to trade waste.

As the renewal application was received more that 6 months before the expiry of the existing consent, under Section 124 of the RMA, the consent holder can continue to operate under the terms and conditions of the expired consent until a decision is made on the renewal application. The special conditions of the consent are summarised below.

Special condition 1 places limits on the quality of the discharges. There is an oil and grease limit of 25 g/m^3 for the interceptor discharging to land and 15 g/m^3 for the stormwater and wash water to the Waitaha Stream.

Special condition 2 requires the construction of bunding.

Special condition 3 limits the effects of the discharge on receiving water quality beyond a 10 metre mixing zone.

Special condition 4 contains review provisions.

Special condition 5 requires the provision of a management plan to ensure that the consent holder is operating activities at the site in a manner that is consistent with the best practicable option to minimise contamination in the discharges from the site.

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

11.3 Results

11.3.1 Inspections

18 July 2014
A site inspection was undertaken as part of routine compliance monitoring during fine weather conditions.

Inspection of the wash down area found it to be dry, clean and tidy. There was no evidence of contaminants tracking outside of the bunded area. The wash down water was being collected and directed for treatment to the three stage separator prior to discharge into an unnamed tributary of the Waitaha Stream.

The interceptor on the upper pad was not discharging and all three stages within appeared to be visually free of hydrocarbons.

The lower interceptor was discharging at a trickle rate into the receiving environment. Hydrocarbons were observed trapped in the first two stages of the separator with the third stage being relatively free of contaminants. No adverse effects were noted on the receiving environment as a result of the discharge.

No hazardous substances were found to be stored outside of the locked bunded container. The plastic drill /casing caps noted in a previous inspection remain stored on site in the stormwater catchment and these were found to have traces of oil and grease on them and were a potential source of contaminants that my become entrained in stormwater. Staff on-site were directed to have them removed.

14 October 2014
Inspection found that usual business activities were being undertaken on site at the time. The drill caps previously stored on the property have been removed thus reducing the potential for contaminants to enter the stream.

No washing was taking place within the wash bay at the time of the inspection, and the area around the wash bay was in a clean and tidy order. Works were being undertaken to provide for more containment of washing and phosphating fluid to within the area directed to the interceptor.

Works were also being undertaken in preparation to direct all wash water from the wash pad to trade waste. It was advised that works were being planned to further treat stormwater from other areas of the site via silt retention pond.

8 January 2015
A site inspection found that the yard storage area was clean and tidy with a small amount of pipe cleaning/washing taking place at the time of inspection. All wash water was being collected and directed to the three stage separator for treatment prior to being sucked out or discharged. No discharge was occurring at the time of inspection.

A bund had been constructed along the edge of the site adjacent to the unnamed tributary of the Waitaha Stream. All stormwater was now being directed into settling ponds prior to discharge through a heavily vegetated area prior to entry into surface water.

No issues identified at time of inspection.

30 April 2015
A site inspection was undertaken following recent wet weather. Both interceptors on the site were full but not discharging. The separator that discharges to land was inspected and all chambers were found to be free of hydrocarbons. The interceptor that discharges into the unnamed tributary of the Waitaha Stream was found to have light hydrocarbon sheen in the third chamber.

The receiving environment was inspected and found to be free of any staining associated with the discharge of hydrocarbons.

The silt and sediment pond was inspected and it was found that the pond was collecting stormwater from site for treatment prior to discharging into surface water. Recent heavy rain appears to have eroded the bank about the discharge pipes. This would need to be repaired prior to any future significant rainfall event.

11.3.2 Results of discharge monitoring

The discharge to the tributary of the Waitaha Stream from the lower interceptor (TRC site code IND002031) and the discharge to land from the interceptor servicing the top wash pad (IND002021) are sampled as part of this programme. Stormwater runoff from the yard area (STW002025) was also sampled during the year under review.

No discharges from the lower interceptor (site IND002031) were noted during scheduled sampling visits and therefore no samples were taken. This may be a reflection of the consent holder's management of the interceptor by having it emptied by contractor on a regular basis.

The results for the sampling undertaken in the 2014-2015 year are presented in Table 29 and Table 30, along with a summary of all data from the site.

Special condition 1 of resource consent 4775 requires that the oil and grease concentration of the discharge to the Waitaha Stream tributary must not exceed 15 g/m^3, the oil and grease concentration of the interceptor discharge to land must not exceed 25 g/m^3, the pH of all discharges must be in the range 6.0 – 9.0, and the suspended solids concentration of all discharges must not exceed 100 g/m^3.

The programme provided for the interceptors to be checked, and sampled if they are discharging. Recent changes in management practices at the site associated with the interceptors have meant that the interceptors are emptied frequently (fortnightly) due to the issues that Weatherford had been experiencing in meeting the required water quality standards on the consent, particularly the oil and grease limit. As a result, the interceptors should discharge very infrequently.

During the period under review two samples were taken of the discharge from the upper interceptor, and two samples were collected from the overland flow discharging to the unnamed tributary.

Table 29 Results of sampling at Weatherford New Zealand Ltd – upper interceptor to land (IND002021)

Parameter	Units	Minimum	Maximum	Median	Number	06 Mar 2015	07 May 2015	Consent Limit
Conductivity @ 20'C	mS/m@20C	4.3	23	8.3	25	12.6	7.6	
Acid soluble copper	g/m³	0.01	0.03	0.02	10	<0.01	-	
Dissolved reactive phosphorus	g/m³ P	0.003	30.6	0.005	22	<0.003	-	
Lead acid soluble	g/m³	0.05	0.05	0.02	10	<0.05	-	
Oil and Grease	g/m³	0.5	120	12.5	19	<0.5	a	15
pH	pH	6.2	7.8	7.2	25	7.8	7.8	6-9
Suspended solids	g/m³	2	180	42	3	-	<2	100
Temperature	Deg.C	10.3	20.5	13.2	23	20.5	17.4	
Acid soluble zinc	g/m³	0.136	1.81	0.924	10	0.136	-	

Key: Results in bold within a table indicate that a consent limit for a particular parameter has been exceeded
a =No visual sheens or odour

The samples from the upper interceptor onto land showed that this discharge was in compliance with consent conditions at the time the surveys were undertaken.

The acid soluble zinc concentration found in the discharge was a new minimum for this monitoring location and the concentration of dissolved copper was below the historical median. It is noted that the wash pad draining via this interceptor is no longer in use, and there is also only a limited amount of activity that occurs in this area of the site that has the potential to result in stormwater contamination.

Phosphating has been carried out exclusively at the lower wash pad area for a number of years.

Table 30 Results of sampling at Weatherford New Zealand Ltd – stormwater overland flow to stream (STW002025)

Parameter	Units	Minimum	Maximum	Median	Number	11 Nov 2014	07 May 2015	Consent Limit
Conductivity @ 20'C	mS/m @20C	0.1	19.8	5.8	22	9.9	9.2	
Acid soluble copper	g/m³	0.01	0.07	0.02	15	0.03	0.07	
Dissolved reactive phosphorus	g/m³ P	0.003	0.061	0.009	23	0.014	0.017	
Acid soluble lead	g/m³	0.05	0.07	0.02	15	<0.05	0.07	
Acid soluble manganese	g/m³	0.1	0.77	0.34	4	-	0.11	
Acid soluble nickel	g/m³	0.02	0.06	0.02	4	-	0.06	
Oil and Grease	g/m³	0.5	56	0.9	21	1.2	-	15
pH	pH	6.4	9.8	6.9	23	7.3	9.8	6-9
Suspended solids	g/m³	6	420	69	19	45	230	100
Temperature	Deg.C	10.2	21.3	15.3	23	18	17.3	
Acid soluble zinc	g/m³	0.082	1.08	0.364	16	0.374	0.364	

Key: Results in bold within a table indicate that a consent limit for a particular parameter has been exceeded
a =No visual sheens or odour

The stormwater discharge from the site was found to comply with component concentrations given in the consent on all occasions, with the exception of suspended solids in one sample. It was noted during sampling that substantial works had been undertaken at the site for silt control and this may have, as a result of soil disturbance to achieve this, may have resulted in elevated levels in suspended solids until such time as the system recovers from the works . Sampling undertaken early in the 2015-2016 period indicated that some further works may be required and the site is currently under an abatement notice to comply with suspended solids limits.

The concentrations of acid soluble zinc was similar to the historical median on both sampling occasions, whilst acid soluble copper exhibited a new maximum of 0.07 g/m^3 in the 7 May 2015 sample. The elevated suspended solid result in this sample may have contributed to this and the addition of dissolved metals analysis will serve to ascertain the bioavailable component of metals this discharge.

11.3.3 Investigations, interventions, and incidents

In the 2014-2015 year, it was necessary for the Council to record an incident in respect of Weatherford's compliance. There was one non-compliance in regards to suspended solids however as there was no effect observed and as Weatherford had undertaken significant works to address this issue, this was dealt with by way of an inspection notice.

11.4 Discussion

11.4.1 Discussion of plant performance

Inspections found that the housekeeping at the site was generally of a high standard and operations were well managed. Weatherford responded to Council's concerns for

the potential for stormwater contamination from greasy plastic end caps that were being stored outside and had these removed. Works were also undertaken in preparation to divert all wash water to sewer and there were also improvements in stormwater treatment.

During the year under review, the site was visited on a total of seven occasions for inspections and/or sampling. A trickle discharge was found to be occurring from the upper interceptor on one occasion and from the lower wash pad interceptor on two occasions. Only the upper interceptor was discharging during scheduled sampling, and these samples were found to be compliant with consent conditions.

The overland flow of stormwater to the tributary was sampled on two occasions, with one exceedance of consent limits for suspended solids found. Weatherford went to significant efforts to construct new sediment controls, however they encountered issues with ground stability to the point that a replacement sediment pond had to be installed. Works at the site to improve stormwater are continuing. An abatement notice remains in place to comply with suspended solid limits.

11.4.2 Environmental effects of exercise of consent

Observation of the Waitaha Stream and its tributary during inspection and sampling found no significant effects in the receiving water related to the Weatherford discharges. There was one exceedance of the suspended solids limit found in the stormwater discharging to the tributary that flows between the Weatherford and Taranaki Sawmills sites, however no increase in turbidity was found in the Waitaha Stream as a result.

The level of metals in the discharge will continue to be monitored and their potential effects assessed in more detail once sufficient data has been collected. The addition of dissolved metals analysis will assist in determining if the metals are immediately bioavailable or pose a longer term risk via accumulation in stream sediments.

In the meantime, as the source of metal contamination is likely to be from the soils on site, the ongoing silt control measures being undertaken at the site will assist in reducing the levels of these contaminants.

11.4.3 Evaluation of performance

A tabular summary of Weatherford's compliance record for the year under review is set out in Table 31.

Table 31 Summary of performance for Consent 4775-1 Weatherford New Zealand Ltd

Purpose: To discharge of treated stormwater and wash down water onto land and into a stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limits on chemical composition of discharge	Chemical sampling	Exceedance of suspended solids in one discharge sample
2. Construction of bunding	Site inspection	Yes
3. Discharge cannot cause specified adverse effects beyond mixing zone	Inspections and chemical sampling	Yes
4. Optional review provision re environmental effects	Consent reviewed in 2008, no further opportunities for review	N/A
5. Preparation and maintenance of stormwater management plan	Review of documentation submitted to Council	Yes
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

During the year, Weatherford New Zealand Limited demonstrated a good level of environmental performance, and a high level of administrative performance. There was one non-compliant result in regard to suspended solids and Weatherford is working to improve silt control.

11.4.4 Recommendation from the 2013-2014 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring programmed for consented activities of Weatherford New Zealand Limited in the 2014-2015 year continues at the same level as programmed in 2013-2014.

This recommendation was implemented.

11.4.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for 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 and discharges and their 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 and discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

11.5 Recommendation

THAT monitoring programmed for consented activities of Weatherford New Zealand Limited in the 2015-2016 year continues at the same level as programmed in 2014-2015.

12. Woodwards 2008 Limited

12.1 Introduction

12.1.1 Process description

Woodwards 2008 Limited (Woodwards) operates a firewood business which generates woodwaste such as sawdust, bark and offcuts. These are burnt in a fire pit on the site for which a consent was required.

The site is located at 124 De Havilland Drive, Bell Block; approximately 6.5 km east of New Plymouth city centre. The surrounding land use is predominantly industrial or trade premises; there is also pasture bordering the site to the east which is currently used for grazing livestock.

An open fire-pit is located at the eastern side of the site approximately 75 metres south of De Havilland Drive (Figure 12). Industrial premises are currently located to the north, west and south of the property. The closest industrial premises are approximately 115 metres north of the fire pit across De Havilland Drive.

The Waitaha Stream flows through a pipe underneath the site and resurfaces on the northern side of De Havilland Drive.

Figure 12 Woodwards 2008 Limited's property and fire pit location

Woodwards generates wood wastes which include timber blocks, bark and sawdust. They aim to burn the wood wastes daily, as it is generated, to prevent the waste from becoming saturated, which would make the potential for offsite effects harder to manage. The effects are managed by taking into account wind direction and strength and by also taking into account the amount of material within the pit, before it is lit.

The material incinerated in the open-pit is untreated timber off-cuts/sawdust. No tanalised timber wastes or plastics are incinerated.

There are a number of potential contaminants that are discharged into the air from the combustion of wood products, however in this case these are primarily:

- particulates
- odour and dust
- carbon monoxide

There are also aesthetic effects to be considered.

Particulates

The combustion of wood in the fire-pit may release particulate matter, and it is the fine particles that can adversely affect health. However, the following management practices are implemented to ensure the fire-pit is used efficiently, thereby minimising the potential for any effects:

- supervision during burning;
- using only dry waste-wood for incineration;
- loading only small quantities into the fire-pit;
- using the fire-pit during certain conditions/times of the day;
- Other operative procedures such as visual monitoring of smoke emissions, and staff training / awareness of environmental obligations.

Odour

The primary odour associated with the activity would be the smell of smoke from the burning of waste-wood. However, odours beyond the boundary will not be offensive or objectionable if the operation is managed sensibly.

Carbon monoxide (CO)

CO is produced from the incomplete combustion of wood, and it can adversely affect human health by reducing the amount of oxygen transported to body tissue, resulting in dizziness, weakness and nausea. Effects are avoided by maintaining optimal combustion conditions within the fire-pit.

Aesthetics

Air pollutants as discussed above can contribute to a haze that lowers visibility and raises public concern. With proper management the fire-pit is not expected to impact significantly on visibility.

In summary, provided the activity is conducted in accordance with the recommended special conditions, no significant effects are anticipated.

12.1.2 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.

Woodwards holds air discharge permit **7881-1** to cover discharge of emissions into the air from the combustion of untreated timber wastes. This permit was issued by the

Council on 17 August 2011 under Section 87(e) of the RMA. It is due to expire on 1 June 2026.

There are nine special conditions attached to the consent.

Special condition 1 requires the consent holder to adopt the best practicable option having regard to particular aspects of the management of the operation and wind conditions.

Special condition 2 restricts the material that can be combusted to untreated timber only, and limits the proximity of the fire pit to the property boundary.

Special condition 3 prohibits objectionable or offensive odours beyond the property boundary.

Special condition 4 requires that the activity is supervised at all times and limits the time of day at which the fire may be lit.

Special conditions 5, 6, and 7 control dust deposition, ambient suspended particulates and noxious or toxic contaminants beyond the property boundary.

Special condition 8 is a lapse condition.

Special condition 9 contains provisions for review.

A copy of the consent is attached in Appendix I.

12.2 Results

12.2.1 Inspections

14 October 2014
The inspection found that fire wood and associated sawdust was being stockpiled on site. It was found that the stockpiles were well clear of the site stormwater collection point. The stormwater collection point for the lower portion of the yard remains in an unused portion of the property in which thick grasses and vegetation are growing allowing for the treatment of any stormwater run-off prior to entry into surface waters.

The fire pit was inspected and it was found that the pit had been dug out slightly to re-define it and make it easier to use operationally.

Some waste oil was being stored on site, however this material was stored in closed top drums away from areas where it is likely to be damaged by machinery or vehicles. The IBC's were stored on a concrete pad and staff were advised that should a spill occur then sawdust (which is in plentiful quantities on site) could be used to absorb the spilt material before being disposed of.

No issues were identified at the time of the inspection.

29 January 2015
An inspection was carried out during an extended period of fine weather. The inspection found that the fire pit on site was clean and tidy with no signs of unacceptable materials within the pit.

Some waste timber was present within the pit awaiting incineration, however with a total fire ban in place, no burning would be allowed in the near future.

The diesel tank on site was secure within a steel bund with a shut off valve in place. Overall the site and burning pit were well managed as noted in previous inspections.

12.2.2 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of the activities of Woodwards.

12.3 Discussion

12.3.1 Discussion of plant performance

The site was found to be well managed during the year under review. No prohibited wastes were found in the fire pit, and staff were found to be well aware of the requirements of the consent with regard to permitted materials and taking wind conditions into consideration before commencing exercise of the consent.

12.3.2 Environmental effects of exercise of consent

No adverse environmental effects were found during the year under review.

12.3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 32.

Table 32 Summary of performance for Consent 7881-1

Purpose: To discharge emissions into the air		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option. Controls over management practices and consideration of wind conditions	Inspection and discussion with consent holder	Yes
2. Combustion of only untreated wood and wood wastes. Fire pit 20 m from boundary	Inspection and discussion with consent holder. Observation of materials in fire pit	Yes
3. Offensive and objectionable odour at site boundary not permitted	Odour surveys during inspection	Yes
4. Supervision of fire. No fires to be lit after 12 noon	Inspection and observation while council officers in the area	Yes

Purpose: To discharge emissions into the air		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Maximum dust deposition rate of 0.13/ m^2/day	No visible dust emissions reported at the time of inspection. Deposition rate not measured	N/A
6. Maximum suspended particulates of 3 mg/m^3	No visible dust emissions reported at the time of inspection	Yes
7. Prohibits noxious and toxic levels of contaminants beyond the boundary	Periodic inspection of log during inspection and review of documentation submitted to Council	Yes
8. Consent lapses if not exercised by 30 Sept 2016	Consent exercised	N/A
9. Optional review provision re environmental effects	Provision for review in June 2014	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 or not assessed

During the year, Woodwards 2008 Limited demonstrated a high level of environmental and high level of administrative performance with their resource consent as defined in Section 1.1.5.

12.3.4 Recommendations from the 2013-2014 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring programmed for consented activities at Woodwards 2008 Limited in the 2014-2015 year continues at the same level as programmed in 2013-2014.

This recommendation was implemented.

12.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for air 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 and discharges and their 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 and discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

12.4 Recommendation

THAT monitoring programmed for consented activities at Woodwards 2008 Limited in the 2015-2016 year continues at the same level as programmed in 2014-2015.

13. Zelam Limited

13.1 Introduction

13.1.1 Process description

Zelam Limited (Zelam) and the company before it, Taranaki NuChem Ltd, has manufactured a range of specialised chemical products for the agricultural, horticultural and timber industries at a plant in the Bell Block industrial estate, New Plymouth since 1992. The size of the operation is small and many of the processes are considered to be unprofitable for the larger chemical companies to undertake.

Zelam manufactures a range of chemicals that include 18 plant protectants and growth promotants, 23 herbicides, seven insecticides, seven additives (surface active agents), four sanitation products, and ten wood protection fungicides.

Production is largely by formulation (blending active ingredients and other agents), and the production is based on batch processes (i.e. not continuous).

Three wet scrubbers are the only significant point sources that discharge emissions directly to air. Other processes discharge into the buildings.

A generalised description of the processes is as follows:

Blending with no heat: Process equipment includes an enclosed mixing vessel fitted with a mechanical stirrer and a bottom liquid take-off through a pump. Products formed include biocides and plant growth promotants. These products result from blending operations at ambient temperature. It is claimed there are no air flows or discharges to the air. A minor quantity of water is used in washing and this water is substantially trapped and retained for make-up in the next product run.

Blending with some heat: This process produces products which include biocides and wood preservatives. The operation involves heating and blending. In the case of the biocides, these are heated with an electrical element to around 60 C. The preservatives are heated by electrical element to about 90 C. There are no air flows, but some discharges to air result from the heating of benzalkonium chloride. This vapour is trapped by the hood over the vessel which is connected to a water trap. The system is designed so that all vapours, which are predominantly absorbed water and benzalkonium chloride with some benzyl chloride, dissolve in this trap. Liquid wastes from washing equipment are of the order of 40-60 litres maximum, all of which is retained and returned as make-up for the next run.

Flowables: Process equipment includes an enclosed mixing vessel fitted with a mechanical stirrer and a bottom liquid take-off through a pump to a bead mill. The air space of the mixing vessel is ventilated to a dust trap before discharge to atmosphere within the working space.

The Taratek fungicides are formulated in this process. This blending operation is done at ambient temperature. Air flows during the process are minimal but during extraction of the powdered actives from their drums, and during addition to the mixing vessel, some dust is created.

This is contained by a canopy hood over the mixing vessel and by placing a slotted hood at the lip of the raw material container. A mobile bed spray scrubber is used as make-up water for the next batch. Air volumes are low and set appropriately to suction off all dust laden air at source. Water waste is primarily wash-down water, up to 60-80 litres which is retained and used as make-up water.

The only significant discharges to outside air from the plant are from three wet chemical scrubbers, one for the fungicide production shed and one for the insecticide production shed. The third one is a small scrubber for the encapsulation plant in shed five. This scrubber only runs for up to one hour per week and contains no biocides. There are also minor emissions to air from two laboratory fume cupboards and from a wood chip machine.

The gas streams entering the scrubbers contain water vapour, trace amounts of benzyl chloride, and dust. Benzyl chloride is a suspected carcinogen, a lacrimator (irritates mucous membranes), and is potentially corrosive.

Two of the scrubbers are "forced draft" scrubbers which treat the discharges from the insecticide and fungicide manufacture (Shed 2 scrubber), and herbicide manufacture (Shed 3 scrubber). The gas streams entering these scrubbers contain water vapour and small amounts of dust from the active ingredients going into the blend. Zelam has a procedure in place for the preparation and monitoring of the liquor for these scrubbers to ensure that the consent requirement to maintain the scrubber liquor at a pH of greater than 9 is satisfied. At the time this consent was granted, emissions from the quaternising process were treated by one of the forced draft scrubbers. The main driver for this pH requirement was for the effective treatment (hydrolysis) of the benzyl chloride emissions. An additional scrubber was installed during the 2008-2009 year that was dedicated to the quaternising process, which is no longer undertaken at the site. The pH requirement was retained for the "forced draft" scrubbers, as many of the other activities that might accumulate in the scrubber liquor are deactivated at this pH.

Zelam consulted with Council regarding the installation of a new granulation plant at the site, in which a microencapsulated active ingredient would be mixed with a dispersant and inert medium, prior to extrusion, spherification and drying. Council was advised that the air streams from the mixing process would be either directed through a cyclone and baghouse prior to treatment through a wet scrubber, or would be directed directly to the wet scrubber. The gas streams from the dryer would be extracted through a cyclone and baghouse prior to treatment through a wet scrubber. An application to vary Zelam's consent was received by Council, however after further consultation the application was withdrawn. Council considered that the proposed activity, with the proposed treatment systems in place, was not substantially different from the existing activities at the site, and that this new process would be within the conditions of the current consent, with no additions or amendments necessary at this time.

13.1.2 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.

Zelam holds air discharge permit **4059-5** to cover discharge of emissions into the air from industrial agri-chemical formulation processes and associated activities. The Council originally issued this permit to Taranaki NuChem Limited on 8 February 1995 as a resource consent under Section 87(e) of the RMA. The consent was renewed on 20 December 2000, was transferred to Zelam on 30 November 2006, and renewed again on 13 February 2008 with the same purpose and conditions as consent 4059-4. An application to vary the consent was received on 24 August 2009 to better reflect the monitoring and control of an improved emission abatement system already in place for the control of benzyl chloride emissions. The varied consent was issued on 1 September 2009. It will expire on 1 June 2026.

The changes to consent related to the amendment of special conditions 7 and 8 to clarify that these conditions related only to the forced draft scrubbers, and the insertion of two new conditions relating to the control and monitoring of the liquor used in the air displacement scrubber (resulting in the renumbering of the following conditions).

Special condition 1 requires that the consent holder adopts the best practicable option to minimise emissions from the site.

Special condition 2 requires consultation with the Council prior to significant changes to operations at the site that may alter the quantity or nature of contaminants emitted from the site.

Special conditions 3 and 11 (formerly condition 10) limit effects and contaminant concentrations at or beyond the boundary of the site.

Special conditions 4 and 5 limit the concentration of contaminants in the discharge.

Special condition 6 requires the consent holder to keep an incident log.

Special condition 7 controls the pH of the liquor in the "forced draft" scrubbers, and special condition 9 controls the free amine concentration of the "air displacement " scrubber so that they continue to be effective.

Special conditions 8 and 10 require the consent holder to monitor the pH of the "forced draft" scrubber liquors and the free amine concentration of the "air displacement" scrubber liquor.

Special condition 12 (formerly condition 10) contains a provision for reviewing the conditions of the consent.

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

13.2 Results

13.2.1 Inspections

5 August 2014
An inspection around the perimeter of the shed found no objectionable odours beyond the property boundary.

The bio-beds were inspected and were found to be functioning as designed. Two beds were full with liquid while two remaining beds had some free board available for more waste to be received.

The newly establish granulation plant was now set up and trials had been undertaken. The trials were only being run with clay and no active ingredient had yet been added to the process.

Fungicide washings were no longer being irrigated onto the lawn for disposal. The waste was being collected within the sump and then directed to the bio-beds for disposal.

All dust scrubbers were maintained and staff were checking weekly and measuring pH of the scrubber liquor to ensure compliance with consent conditions.

The site was clean and tidy and many of the waste containers stored outside, that were identified in the inspection of 4 June 2014, had been removed.

16 October 2014
The inspection found that the recently installed granulation plant was being continually tested, however no active product was being used in the granulation process. Dust scrubbers were being constructed on the site for the granulation plant.

All stormwater grates were inspected and no visual signs of contamination were observed. The stormwater management plan remains unchanged with all shut off valves present and in good operational order. Staff had been trained in operating the shut off valves and associated procedures should a spill occur on site at a recent internal training day.

The bio-beds were inspected and found to be working well. Secondary containment about the beds was visually inspected and there were no obvious signs of contaminants within these. Another bio-bed was under construction thus increasing the storage and treatment capabilities of the site.

Some minor housekeeping issues were identified and Zelam staff undertook to address these.

The grass area near the rear of the site where fungicide was previously applied, appears reasonably healthy. All fungicide waste is now directed to the bio-beds rather than the previous practise of irrigating it onto pasture.

19 February 2015
At the time of the inspection the weather conditions were fine, dry with no detectable wind.

The inspection found that an emergency practice drill had just been completed. As part of this practice all stormwater shut off valves were activated and tested to ensure that these work as they are designed to. Some upgrading of these would be occurring in the coming months, however in general the system was found to work well. The shut off valves were being tested every three months to ensure that they are working as per design.

No odour was detected about the boundary of the site. The bio-beds at the rear of the site were inspected and were all found to be in operation. Enquiries were being made by the company in respect to cleaning these out and replenishing the soil with new material to help better breakdown the waste material.

Some odour was detected immediately above these beds, however this was not noticeable at the boundary of the site.

The dust scrubbers were in good working order. Fungicide waste washings were being disposed of through the bio-beds system and not irrigated onto the grass as was the previous practise. No issues were identified at the time of the inspection.

30 April 2015
The inspection found no noticeable odour at or beyond the boundary of the property. All the bio-beds were being utilised on the property with Zelam investigating the options available to clean out the contents of one of the beds to ensure they are being maintained and operated to their maximum potential.

Dust scrubbers were inspected and discussions were held with staff in regard to the monitoring and maintenance procedures undertaken to ensure they are operating effectively.

Work was still being carried out for the installation of the granulation plant on site. Air filters and charcoal filters were being installed to ensure that no dust or odours would be emitted during the granulation process.

The yard was found to be full but tidy at the time of inspection. No tracking of contaminants was observed around the site.

13.2.2 Results of receiving environment monitoring

Prior to site inspections the inspecting officer conducts a survey around the plant perimeter to check for any off-site odours, visible emissions or evidence of effects on the foliage of plants in the vicinity of the site.

During these inspections no objectionable or offensive odour or other effects were detected at or beyond the boundary.

13.2.3 Data review

Zelam's consent contains requirements for the consent holder to monitor the pH of the forced draft scrubbers on a weekly basis (special condition 8) and free amine concentration of the air displacement scrubber prior to each production run (special condition 10), and to send this information through to the Council in the form of a written report on request.

A summary of the information provided that covers the year under review is shown in Table 33. During the 2011-2012 year, Council was informed that the air displacement scrubber was no longer in use at the site. As the process had been discontinued, results were only provided for the pH of the forced draft scrubbers during the year under review.

Table 33 Summary of Zelam Limited's scrubber liquor monitoring log for the year under review

	Forced draft scrubber liquors	
	Shed 2 - pH	Shed 3 - pH
Consent limit	*Minimum of 9.0*	*Minimum of 9.0*
minimum	9.0	9.0
maximum	11.7	11.5
median	9.6	9.4
number	52	51

Zelam's monitoring shows that the scrubber liquors were maintained at or above the required minimum pH levels.

13.2.4 Investigations, interventions, and incidents

In the 2014-2015 year, it was not necessary for the Council to undertake significant additional investigations, interventions, or record incidents in respect of the site operated by Zelam.

13.3 Discussion

13.3.1 Discussion of plant performance

Inspections found that general housekeeping were consistently good during the year under review.

Information supplied to the Council in relation to Zelam's self monitoring of the scrubber liquor pH showed that the scrubber liquors were maintained as per the conditions of the consent.

13.3.2 Environmental effects of exercise of consent

No significant adverse effects were found as a result of Zelam's activities. No odours were noted during the off-site odour surveys, and no effects were noted on the foliage of the surrounding vegetation during the year under review.

13.3.3 Evaluation of performance

A tabular summary of Zelam's compliance record for the year under review is set out in Table 34.

Table 34 Summary of performance for Consent 4059-5

Purpose: To discharge emissions into the air		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Minimisation of emissions to air	Inspection and discussion with consent holder	Yes
2. Consultation prior to alterations to plant or processes	Liaison during visits and consultation regarding the installation of a new granulation plant	Yes
3. Objectionable odour at site boundary not permitted	Odour surveys	Yes
4. Maximum concentration of benzyl chloride	Process not undertaken	N/A
5. Concentration of discharge of particulate matter	No visible emissions at the time of inspection	Yes
6. Immediate notification in the event of incident affecting off-site location	No incidents reported. No incidents found at inspection. No complaints received	Yes
7. pH of forced draft scrubber liquor	Periodic inspection of log during inspection and review of documentation submitted to Council	Yes
8. Monitoring of forced draft scrubber liquor pH	Periodic inspection of log during inspection and review of documentation submitted to Council	Yes
9. Free amine concentration of air displacement scrubber liquor	Process not undertaken	N/A
10. Monitoring of air displacement scrubber liquor free amine concentration	Process not undertaken	N/A
11. Maximum ground-level concentrations of contaminants beyond boundary	Not monitored during year under review	N/A
12. Optional review provision re environmental effects	Provision for review in June 2014	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

During the year, Zelam Limited demonstrated a high level of environmental and high level of administrative performance with the resource consents as defined in Section 1.1.5.

13.3.4 Recommendation from the 2013-2014 Annual Report

In the 2012-2013 Annual Report, it was recommended:

THAT monitoring programmed for consented activities at Zelam Limited in the 2014-2015 year continues at the same level as in 2013-2014.

This recommendation was implemented.

13.3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for air 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 and discharges and their 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 and discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged. A recommendation to this effect is attached to this report.

13.4 Recommendation

THAT monitoring programmed for consented activities at Zelam Limited in the 2015-2016 year continues at the same level as in 2014-2015.

14. Catchment unauthorised discharges

In the Waitaha catchment during the year under review, there were five water-related, and seven air-related incidents logged on the Council database. Of these twelve incidents, only five could be substantiated at the time of investigation.

Table 35 Summary of the number of potential unauthorised discharges investigated in relation to the Waitaha Catchment

Company	Number of substantiated unauthorised discharges	Number of unsubstantiated unauthorised discharges
Waitaha catchment joint monitoring programme		
AICA (NZ) Limited		1
C & O Concrete	0	0
Greymouth Facilities/ Parker Drilling International of New Zealand	0	0
Intergroup Limited	0	0
New Plymouth District Council	0	0
Symons Property Developments Limited	2 (air)	2 (air) (water)
Taranaki Sawmills Limited	2 (water)	0
TBS Coatings Limited	0	0
Weatherford New Zealand Limited	1 (water)	0
Woodwards 2008 Limited	0	0
Zelam Limited	0	0
Other monitored/consented industries	0	0
Permitted activities/other		
Edward John Whiting	0	1 (air)
Fletcher Easysteel	1 (air)	0
Unsourced/unidentified	1 (water)	1 (air)
Total	7	5

An outline of those incidents not already detailed in this report is given below.

Airport Farm Trust Limited
On 13 February 2015 an odour complaint was received regarding chicken sheds at Airport Drive, Bell Block. Upon inspection, an intermittent noticeable odour was found. The incident was not considered a breach of consent conditions.

Fletcher Easysteel
On 15 January 2015 a notification was received about an argon gas leak. Inspection found that an Argon gas cylinder had discharged to air at an industrial site due to a strop breaking which caused the cylinder valve to open when the cylinder fell over. The area was evacuated and the Fire Department responded by closing the cylinder valve. No further action was required in response to this incident.

Unsourced
On 3 November 2014 during unrelated monitoring it was found that the Waitaha Stream was discoloured at De Havilland Drive, Bell Block. A sample was taken. No unauthorised discharges could be found at the time of inspection. Further inspections will be undertaken during routine monitoring of the catchment.

Unsourced
On 16 February 2015 a complaint was received regarding dust originating from an unknown site in Bell Block. No dust of an objectionable or offensive nature was observed and no further action was required in response to the incident.

15. Waitaha Stream receiving environment monitoring

15.1 Results of chemical surveys

Two full wet weather surveys were conducted during the year under review, with seven in-stream water quality sites sampled by the Council. All samples were tested for pH, conductivity, oil and grease, and turbidity. Further tests for metals, phosphorus, nitrogen, formaldehyde, and/or phenol were carried out on particular samples depending on the expected potential pollutants from industries in the vicinity of the sampling points. The results of this sampling are presented in Table 36 and Table 37.

The boron concentrations recorded during the year under review were higher than the respective historical medians, however they were still well below the high reliability trigger value of 0.37 g/m^3 given in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) for slightly to moderately disturbed ecosystems.

As in previous years, lead, formaldehyde and phenol were not detected during any of the monitoring surveys carried out during the year under review.

Monitoring found no significant changes in the pH or temperature of the stream during the surveys conducted.

Table 36 Results of receiving environment sampling of the Waitaha Stream and tributaries, 13 November 2014 with historical median values for sampling up to 30 June 2014

Parameter		Waitaha Stream													
		Below AICA WTH000013		At DeHavilland Drive WTH000035		Trib at DeHavilland Drive WTH000037		~ 120m d/s DeHavilland Drive WTH000040		Weatherfords trib u/s confluence WTH000041		At old farm access bridge WTH000050		30m d/s Connett Road WTH000095	
13 November 2014		09:28	median	09:43	median	09:36	median	09:51	median	09:58	median	11:04	median	10:47	median
Boron	g/m^3	-	-	-	0.07	-	-	-	-	-	-	0.16	0.06	0.18	0.07
Conductivity	mS/m	13.5	13.6	14.8	12.5	17.7	13.4	18.0	13.2	22.2	13.4	19.0	14.0	20.6	12.6
Copper (dissolved)	g/m^3	-	-	-	0.004	-	-	0.009	0.004	<0.001	0.004	0.006	<0.01	0.008	-
Dissolved reactive phosphorus	g/m^3 P	-	-	-	0.114	-	-	1.34	0.072	-	-	0.453	0.03	0.637	0.026
Formaldehyde	g/m^3	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
HC-VIS	-	Pass	-	Pass	-	Pass	-	Pass	-	Pass	-	Pass	-	Pass	-
Unionised ammonia	g/m^3 N	0.00002	0.00005	-	0.0007	-	-	0.0025	0.00077	-	-	-	-	0.00300	0.00096
Ammoniacal nitrogen	g/m^3 N	0.020	0.032	-	0.290	-	-	1.19	0.302	-	-	-	-	1.39	0.347
Lead (acid soluble)	g/m^3	-	-	-	<0.05	-	-	<0.05	<0.05	-	-	-	-	<0.05	-
pH	pH	6.6	6.7	6.7	6.8	6.7	6.8	6.8	6.8	6.6	6.6	6.8	6.9	6.8	6.9
Phenol	g/m^3	0.02	<0.02	-	0.01	-	-	-	-	-	-	-	-	-	-
Temperature	Deg.C	15.0	14.8	15.0	14.8	15.0	14.8	15.1	15.1	15.4	15.2	15.4	15	15.5	15.1
Turbidity	NTU	1.1	22	139	58	39	60	120	74	410	77	54	60.5	50	135.6
Zinc (dissolved)	g/m^3	-	-	-	0.100	-	-	0.120	0.085	0.029	0.099	0.102	0.087	0.075	-

Key: HC-VIS = Hydrocarbon visual assessment; Pass =no visible hydrocarbon sheen and no odour

Table 37 Results of receiving environment sampling of the Waitaha Stream and tributaries 6 March 2015, with historical median values for sampling up to 30 June 2014

Parameter		Waitaha Stream													
		Below AICA WTH000013		At DeHavilland Drive WTH000035		Trib at DeHavilland Drive WTH000037		~ 120m d/s DeHavilland Drive WTH000040		Weatherfords trib u/s confluence WTH000041		At old farm access bridge WTH000050		30m d/s Connett Road WTH000095	
6 March 2015		09:55	median	10:05	median	10:05	median	10:15	median	10:13	median	10:50	median	12:30	median
Boron	g/m³	-	-	-	0.07	-	-	-	-	-	-	0.1	0.06	0.03	0.07
Conductivity	mS/m	16.5	13.6	11	12.5	9.5	13.4	11.2	13.2	21.9	13.4	11.2	14.0	9.4	12.6
Copper (dissolved)	g/m³	-	-	0.009	0.004	0.009	-	0.009	0.004	0.002	0.004	0.029	<0.01	0.020	-
Dissolved reactive phosphorus	g/m³ P	-	-	0.819	0.114	-	-	0.467	0.072	-	-	0.28	0.03	0.042	0.026
Formaldehyde	g/m³	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
HC-VIS	-	Pass	-	Pass	-	Pass		Pass	-	Pass	-	Pass	-	Pass	-
Manganese (dissolved)		-		0.07		0.09		0.14	-	-		0.17			-
Unionised ammonia	g/m³ N	0.0012	0.00005	0.00081	0.0007	-	-	0.0007	0.00077	-	-	-	-	0.01253	0.00096
Ammoniacal nitrogen	g/m³ N	0.34	0.032	0.216	0.290	-	-	0.185	0.302	-	-		-	0.226	0.347
Nickel (dissolved)		-		-		-	-	<0.02		-	-	<0.02	-	-	-
Lead (acid soluble)	g/m³	-	-	<0.05	<0.05	-	-	<0.05	<0.05	-	-	<0.05	-	<0.05	-
pH	pH	7	6.7	6.9	6.8	7	6.8	6.9	6.8	6.6	6.6	6.9	6.9	8.1	6.9
Phenol	g/m³	<0.02	<0.02	-	0.01	-	-	-	-	-	-	-	-	-	-
Temperature	Deg.C	16.1	14.8	19.9	14.8	19.9	14.8	19.7	15.1	17	15.2	19.5	15	19.5	15.1
Turbidity	NTU	42	22	98	58	120	60	150	74	540	77	68	60.5	180	135.6
Zinc (dissolved)	g/m³	-	-	0.151	0.100	0.255	-	0.122	0.085	0.087	0.099	0.092	0.087	0.008	-

Key: HC-VIS = Hydrocarbon visual assessment; Pass =no visible hydrocarbon sheen and no odour

Historically the dissolved reactive phosphorus (DRP) concentration has generally been elevated in the upper to middle catchment, reducing at the site below the Connett Road bridge. This is likely to be due to farming activities above the headwaters of the catchment, and the presence of a horticultural supply business upstream of De Havilland Drive. However the sample taken below Connett Road in November 2014 had the highest level of DRP ever recorded at this site (of 0.637 g/m^3) and also showed an increase when compared to the upstream sites. This is contrary to the general trend of decreasing concentration of DRP in a downstream direction. The cause of this was not ascertained, however the results obtained below Connett Road in the survey of March 2015 showed that the normal pattern of DRP concentrations had returned and this was found to be the case again in August 2015 (not shown).

During the November 2014 survey the ammoniacal nitrogen was elevated at all sites and at sites further down the catchment the level was found to increase with site WTH000095 having the highest levels of ammoniacal nitrogen recorded when compared to the historical results. Based on historical results the levels of ammoniacal nitrogen would be expected to decrease or at least remain stable as one moves downstream, however in this case there was an increase. The sampling comments indicated that the sampling was done at lower flows that usual as the rain had abated, and whilst the source of the ammoniacal nitrogen may not have been established, the lower flows may have contributed to the elevated concentrations, especially when comparing against previous results obtained during higher flows. The results of the

March 2015 survey which was undertaken at higher flows returned results commensurate with the historical data.

No sheens, odours or any other physical evidence was found in any of the receiving environment samples during either survey.

There are several guidelines for zinc and copper for assessing water quality in terms of suitability for sustaining aquatic life. The United States Environmental Protection Agency (USEPA), in defining metals criteria for protection of freshwater aquatic life, has adopted the use of dissolved metals as most closely approximating the bio available fraction of metal in the water column. Previously, water quality criteria were based on total recoverable metal concentration. Metal monitoring has been recently expanded to new sites to assist in determining potential sources (consented or otherwise) in the Waitaha Catchment.

The water quality criteria for dissolved copper and zinc, for water of hardness 50 g/m^3 $CaCO_3$, are 0.005 g/m^3 for Cu and 0.058 g/m^3 for Zn respectively as a 4 day average, for chronic (long term) exposure. The corresponding criteria for acute (4-hour) exposure are 0.007 g/m^3 for Cu and 0.064 g/m^3 for Zn. Only the acute criteria are applicable to wet weather sampling results, whereas both chronic and acute exposure criteria would be applicable to dry weather sampling results.

In the November 2014 survey dissolved copper was found to slightly exceed the 4 hour acute exposure at two of the sites monitored for this parameter and at three of the sites during the March 2015 survey. This is slightly elevated when compared to historical results and of special note was the results obtained at sites WTH000050 (and subsequently WTH00095) during the March 2015 survey which was considerably higher than the historical maximum. The cause of this was not sourced and subsequent monitoring indicated that copper levels had returned to levels similar to previous values as shown by Figure 13.

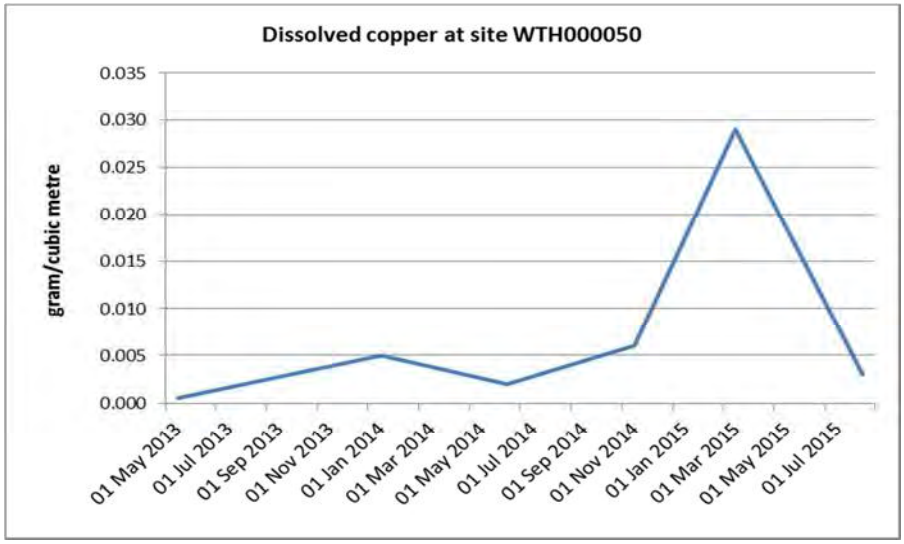

Figure 13 Dissolved copper levels at site WTH000050

During the November 2014 survey, three of the four sites monitored for zinc were found to exceed the USEPA acute guideline of 0.064 g/m^3 and in the March 2015 survey four of five monitored sites exceeded the guideline. Whilst for most sites, this

represents elevation of zinc levels above historical medians; none of the results from this period equalled, or exceeded the historical maximum for any given site. As discussed earlier, metal monitoring is being expanded to assist in determining the source(s) of these elevated levels of zinc in the catchment.

During both surveys most turbidity results were similar to historical medians, with the exception of site WTH000041. This is the tributary that runs between Weatherford and Taranaki Sawmills and feeds into the Waitaha just above site WTH000059

Whilst the non–compliances certainly would have contributed to the overall sediment loading, the turbidity levels at WTH000041 can not be attributable to the non-compliant results from Taranaki Sawmills as their main discharge occurs downstream of the confluence. It however should be noted that there are some minor discharge points from Taranaki Sawmills in the unnamed tributary which may require sampling if similar results are found in the next monitoring period.

Weatherford had one non-compliant result during the 11 November 2014 survey and no discharges were occurring during the 6 March 2015 survey, and therefore on this particular occasion this elevation in turbidity can not be attributable to that discharge.

Council staff will continue to monitor suspended solids in discharges in the catchment, encourage better silt management by consent holders and also continue to investigate any unauthorised discharges that contribute to sediment loads.

Turbidity levels in the Waitaha Stream system are shown in Figure 14 (asterisked sites are tributaries) along with the median of historical data.

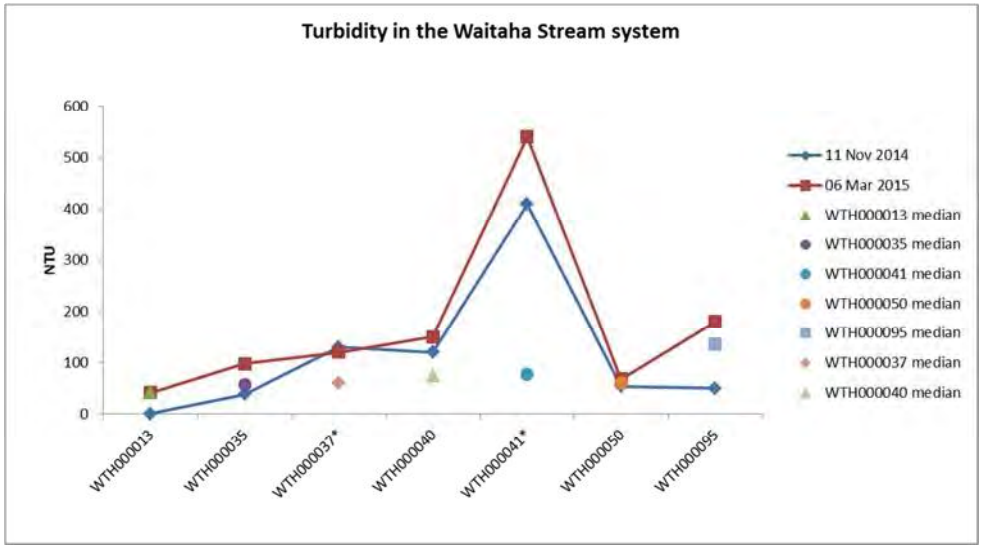

Figure 14 Turbidity levels in Waitaha Stream and tributaries*

The Waitaha Stream has a small catchment area and is coming under increasing pressure, as the land upstream of Devon Road is further developed. In order to improve the water quality of the stream, the Council will be focusing on ensuring special conditions on existing consents are adequate; identifying any sites that require discharge consents; and educating site operators in the catchment to ensure that they are aware of their obligations under Rule 23 of the Regional Freshwater Plan for permitted stormwater discharges (see Appendix II).

16. Summary of recommendations

1. THAT monitoring programmed for consented activities of AICA (NZ) Limited in the 2015-2016 year continues at the level programmed for 2014-2015.

2. THAT monitoring programmed for consented activities of C&O Concrete Products Limited in the 2015-2016 year continues at the level programmed for 2014-2015.

3. THAT monitoring programmed for consented activities of Greymouth Facilities Limited in the 2015-2016 year continues at the same level as programmed in 2014-2015.

4. THAT monitoring of the stormwater discharge from the Intergroup Limited site in the 2015-2016 year continues at the same level as programmed for 2014-2015.

5. THAT monitoring of the discharges from the Meredith Metals site in the 2015-2016 year continues at the same level as programmed for 2014-2015.

6. THAT monitoring programmed for consented activities of NPDC in this catchment in the 2015-2016 year continues at the same level programmed for 2014-2015.

7. THAT monitoring programmed for the consented activities of Symons Property Development Limited in the 2015-2016 year continues at the same level as programmed for 2014-2015.

8. THAT monitoring programmed for consented activities of Taranaki Sawmills Limited in the 2015-2016 year continues at the same level as programmed for 2014-2015.

9. THAT monitoring programmed for consented activities of TBS Coatings Limited in the 2015-2016 year continues at the same level as in 2014-2015.

10. THAT monitoring programmed for consented activities of Weatherford New Zealand Limited in the 2015-2016 year continues at the same level as programmed in 2014-2015.

11. THAT monitoring programmed for consented activities at Woodwards 2008 Limited in the 2015-2016 year continues at the same level as programmed in 2014-2015.

12. THAT monitoring programmed for consented activities at Zelam Limited in the 2015-2016 year continues at the same level as in 2014-2015.

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.
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.
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.
DRP	Dissolved reactive phosphorus.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m^3	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
HCVIS	An inspection of a water sample for hydrocarbon contamination based on visible scums /sheens and odour.
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.
IR	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.
l/s	Litres per second.
MCI	Macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
mS/m	Millisiemens per metre.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.

NH_4	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH_3	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
O&G	Oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons).
Pb*	Lead.
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
PM_{10}	Relatively fine airborne particles (less than 10 micrometre diameter).
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	*Resource Management Act* 1991 and including all subsequent amendments.
SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
UI	Unauthorised Incident.
Zn*	Zinc.

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

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

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Appendix I

Resource consents held by companies in the Waitaha catchment (alphabetical order)

(For a copy of the resource consent please contact the TRC consent department)

Discharge Permit

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

Name of Consent Holder:	Aica NZ Limited 149 Corbett Road Bell Block NEW PLYMOUTH 4373
Decision Date (Change):	7 May 2002
Commencement Date (Change):	7 May 2002 (Granted: 20 March 1996)

Conditions of Consent

Consent Granted:	To discharge up to 150 litres/second of stormwater from a chemical manufacturing complex into a wetland at the headwaters of an unnamed tributary of the Waitaha Stream
Expiry Date:	1 June 2014
Review Date(s):	June 2002, June 2008
Site Location:	149 Corbett Road, Bell Block, New Plymouth
Legal Description:	Pt 6B DP 1414 Lots 1 & 2 DP 16173 Blk VII Waitara SD
Grid Reference (NZTM)	1701011E-5677852N
Catchment:	Waitaha

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 (hereinafter the Chief Executive), 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

Condition 1 (changed)

1. The following limits shall not be exceeded in the discharge:

pH (within the range)	6-9	
Suspended solids	100	gm^{-3}
Oil & grease (Freon extractable)	15	gm^{-3}
Phenol	1	gm^{-3}
Ammonia - nitrogen	20	gm^{-3}
Formaldehyde	2	gm^{-3}

Conditions 2 to 6 (unchanged)

2. Allowing for a mixing zone of 10 metres extending downstream of any direct discharge, the discharge shall not give rise to any of the following effects in the receiving water:

   i) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
   ii) any conspicuous change in the colour or visual clarity;
   iii) any emission of an objectionable odour;
   iv) any significant adverse effects on aquatic life, habitats, or ecology;
   v) the rendering of the water unsuitable for consumption by farm animals;
   vi) any undesirable biological growths.

3. The consent holder shall maintain a contingency plan, to the satisfaction of the Chief Executive, Taranaki Regional Council, for action to be taken in the event of accidental discharge or spillage of contaminants.

4. The consent holder shall keep records of the chemical monitoring of the stormwater basins and the frequency and volume of discharges as a result of exercising this consent, and shall make such records available to the Taranaki Regional Council upon request.

5. No chemicals shall be stored within the carpark catchment area which discharges directly to the Waitaha Stream.

6. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of a review during June 2002 and/or June 2008 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects of the discharge on the receiving environment.

Transferred at Stratford on 2 April 2013

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:	Aica NZ Limited 149 Corbett Road Bell Block NEW PLYMOUTH 4373
Decision Date (Change):	5 October 2009
Commencement Date (Change):	5 October 2009 (Granted: 12 June 1996)

Conditions of Consent

Consent Granted:	To discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises
Expiry Date:	1 June 2014
Site Location:	Corbett Road, Bell Block
Legal Description:	Pt 6B DP 1414 Lots 1 & 2 DP 16173 Blk VII Waitara SD
Grid Reference (NZTM)	1701049E-5677952N

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

Conditions 1 and 2 (changed)

1. That the total emissions of formaldehyde from all processes on the site shall not exceed in aggregate 1.2 kg/hr as formaldehyde.

2. That the total emissions of formaldehyde from either the main stack of the multi-purpose plant or the vent of the formaldehyde absorber tower of the formaldehyde synthesis plant shall not exceed 1.0 kg/hr as formaldehyde.

Condition 3 (unchanged)

3. That the exercise and the effects of the exercise of this consent shall be monitored to the satisfaction of the Chief Executive, Taranaki Regional Council.

Conditions 4 and 5 (new)

4. Without limitation to condition 3, the consent holder shall have emissions tests conducted on discharges from the "formaldehyde absorber tower", and any other treatment stack at the request of the Chief Executive, Taranaki Regional Council, to demonstrate compliance with special conditions 1 and 2. These tests shall;

a) be conducted by 1 June 2010 and every twelve months thereafter for the duration of the consent, and

b) comprise not less than three separate samples taken during operating conditions that give rise to maximum emissions from the stack, and

c) be reported to the Chief Executive, Taranaki Regional Council, within 20 working days of the samples being taken. The report shall include the results of the tests, the relevant plant operating parameters over the period of each test, all the raw data and all the calculations.

5. The emissions tests referred to in special condition 4 shall be carried out in accordance with USEPA Method 0011, or any other equivalent method subject to the written approval of the Chief Executive, Taranaki Regional Council, and these tests shall be performed by a party independent from the consent holder, appropriately qualified and experienced in such testing to the satisfaction of the Chief Executive, Taranaki Regional Council.

Condition 6 (unchanged, formerly condition 4)

6. That the consent holder shall at all times operate, maintain, supervise and monitor all processes authorised by this consent so that emissions are reduced to a practicable minimum.

Condition 7 (changed, formerly condition 5)

7. That all emissions of formaldehyde to the atmosphere under all operational conditions shall be so controlled and discharged as to ensure that maximum ground level concentrations of formaldehyde at any point beyond the site boundary do not exceed 0.10 mg/m^3 (ambient conditions) at any time.

Conditions 8 to 12 (unchanged, formerly conditions 6 to 10)

8. That all emissions of phenol to the atmosphere under all operational conditions shall be so controlled and discharged as to ensure that maximum ground level concentrations of phenol at any point beyond the site boundary do not exceed 0.63 mg/m^3 (ambient conditions) at any time.

9. That all emissions of resorcinol to the atmosphere under all operational conditions shall be so controlled and discharged as to ensure that maximum ground level concentrations of resorcinol at any point beyond the site boundary do not exceed 1.5 mg/m^3 (ambient conditions) at any time.

10. That this consent may be reviewed by the Chief Executive, Taranaki Regional Council, at any time if there are grounds for holding that the exercise of this consent may relate to any significant adverse effects on any ecosystems including, but not limited to disturbance to habitats, plants, animals, microflora or microfauna.

11. That prior to undertaking any alteration at the plant, processes, or operations as specified in the application and supporting documentation lodged with the Taranaki Regional Council for this consent, which may significantly change the nature or quantity of contaminants discharged from the site, the consent holder shall consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act 1991.

12. That the consent holder shall provide to the Chief Executive, Taranaki Regional Council, by 30 June 1997, and again by 30 June 2001, and every six years thereafter, a written report:

    a) reviewing any technological advances in the reduction or mitigation of discharges to air from the site, how these might be applicable and/or implemented at the site, and the costs and benefits of these advances; and

    b) addressing any other issue relevant to the minimisation or mitigation of discharges to air from the site that the Chief Executive, Taranaki Regional Council, considers should be included; and

    c) detailing an inventory of discharges to air from the site of such contaminants as the Chief Executive, Taranaki Regional Council, may from time to time specify following consultation with the consent holder.

Condition 13 (changed, formerly condition 11)

13. That the consent holder shall at all times adopt the best practicable option to prevent or minimise any actual or likely adverse effect on the environment associated with the discharges into the air from the site. `Best practicable option' shall be determined by the Taranaki Regional Council, taking into account the information supplied by the consent holder under special condition 12 of this consent, and following review as set out under special condition 14 of this consent.

Condition 14 (unchanged, formerly condition 12)

14. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 1998 and/or June 2002 and/or June 2008 for the purpose of:

    a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered and which it is appropriate to deal with at the time of review; or

    b) requiring the holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by any discharge to air; or

    c) to alter, add, or delete limits on discharge or ambient concentrations of any contaminant or contaminants.

Transferred at Stratford on 2 April 2013

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:	Aica (NZ) Limited Private Bag 2055 New Plymouth 4342
Decision Date:	26 May 2015
Commencement Date:	26 May 2015

Conditions of Consent

Consent Granted:	To discharge emissions into the air from the manufacture of formaldehyde solution and urea formaldehyde resin, together with emissions from associated activities at the plant premises
Expiry Date:	1 June 2032
Review Date(s):	June 2020, June 2026 and in accordance with special condition 12
Site Location:	149 Corbett Road, Bell Block
Legal Description:	Lots 2 & 4 DP 41775 (Discharge source & site)
Grid Reference (NZTM)	1701038E-5677959N

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. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. Any discharge to air from the exercise of this consent shall not give rise to any offensive, objectionable or toxic levels of dust or odour at or beyond the boundary of the property.

3. The total emissions of formaldehyde from either the main stack of the multi-purpose plant or the vent of the formaldehyde absorber tower of the formaldehyde synthesis plant shall not exceed 1.0 kg/hr as formaldehyde.

4. The consent holder shall have emissions tests conducted on discharges from the "formaldehyde absorber tower" to demonstrate compliance with special conditions 3, unless advised by the Chief Executive, Taranaki Regional Council, that the tests are not required due to the clear evidence that no emission is being breached. These tests shall;

    a) be conducted annually by 1 June each year, and

    b) comprise not less than three separate samples taken during operating conditions that give rise to maximum emissions from the stack, and

    c) be reported to the Chief Executive, Taranaki Regional Council, within 20 working days of the samples being taken. The report shall include the results of the tests, the relevant plant operating parameters over the period of each test, all the raw data and all the calculations.

5. The emissions tests referred to in special condition 4 shall be carried out in accordance with USEPA Method 0011, or any other equivalent method subject to the written approval of the Chief Executive, Taranaki Regional Council, and these tests shall be performed by a party independent from the consent holder, appropriately qualified and experienced in such testing to the satisfaction of the Chief Executive, Taranaki Regional Council.

6. The consent holder shall control all emissions of formaldehyde to the atmosphere to ensure that maximum ground level concentration of formaldehyde at any point beyond the site boundary does not exceed 0.10 mg/m^3 (ambient conditions) at any time.

7. The consent holder shall control all emissions of phenol to the atmosphere to ensure that maximum ground level concentration of phenol at any point beyond the site boundary does not exceed 0.63 mg/m^3 (ambient conditions) at any time.

8. The consent holder shall control all emissions of resorcinol to the atmosphere to ensure that maximum ground level concentration of resorcinol at any point beyond the site boundary does not exceed 1.5 mg/m^3 (ambient conditions) at any time.

9. The consent holder shall control all emissions of carbon monoxide, nitrogen dioxide, fine particles (PM10) and sulphur dioxide to the atmosphere from the site, in order that the maximum ground level concentration of any of these contaminants arising from the exercise of this consent measured under ambient conditions does not exceed the relevant ambient air quality standard as set out in the Resource Management (National Environmental Standards for Air Quality Regulations, 2004) at or beyond the boundary of the property on which the site is located.

10. Prior to undertaking any alterations to the plant, processes or operations, which may significantly change the nature or quantity of contaminants emitted to air from the site, the consent holder shall first consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act 1991.

11. The consent holder shall provide to the Taranaki Regional Council during June of each year, for the duration of this consent, a report reviewing any technological advances in the reduction or mitigation of emissions, how these might be applicable and/or implemented at the plant, and the costs and benefits of these advances.

12. 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:

    a) during the month of June 2020 and/or June 2026; and/or
    b) within 3 months of any consultation under special condition 11 above;

    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 26 May 2015

For and on behalf of
Taranaki Regional Council

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A D McLay
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:	C & O Concrete Products Limited PO Box 7141 New Plymouth 4341
Decision Date:	09 December 2014
Commencement Date:	09 December 2014

Conditions of Consent

Consent Granted:	To discharge stormwater from a concrete products manufacturing premises into the Waitaha Stream
Expiry Date:	01 June 2032
Review Date(s):	June 2020, June 2026
Site Location:	194 Connett Road East, Bell Block
Legal Description:	Lot 25 DP 12988 (Discharge source)
Grid Reference (NZTM)	1701106E-5679098N (sump) 1700897E-5679053N (Discharge point in the Waitaha Stream)
Catchment:	Waitaha

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. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The stormwater discharged shall be from a catchment area not exceeding 0.415 hectares.

3. All stormwater shall be directed for treatment through the stormwater treatment system for discharge in accordance with the special conditions of this permit.

4. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
oil and grease	Concentration not greater than 15 gm^{-3}

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

5. After allowing for reasonable mixing, within a mixing zone extending 10 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:

   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.

6. The consent holder shall maintain a contingency plan that details measures and procedures to be undertaken to prevent spillage or any discharge of contaminants not authorised by this consent. The contingency plan shall be followed in the event of a spill or unauthorised discharge and shall be certified by the Chief Executive, Taranaki Regional Council as being adequate to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

7. The consent holder shall maintain an up to date stormwater management plan that documents how the site is to be managed to minimise the contaminants that become entrained in the stormwater. This plan shall be followed at all times, shall be certified by the Chief Executive, Taranaki Regional Council, and shall include but not necessarily be limited to:

   a) the loading and unloading of materials;
   b) maintenance of conveyance systems;
   c) general housekeeping;
   d) management of the interceptor system; and
   e) names and contact details of relevant staff.

   A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.

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 2020 and/or June 2026, 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 09 December 2014

For and on behalf of
Taranaki Regional Council

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A D McLay
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:	New Plymouth District Council Private Bag 2025 NEW PLYMOUTH 4342
Consent Granted Date:	10 June 2008

Conditions of Consent

Consent Granted:	To discharge stormwater from the Connett Road industrial subdivision into the Waitaha Stream at or about (NZTM) 1701124E-5678621N to 1700868E-5679211N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	175 Connett Road, Bell Block
Legal Description:	Lots 58 & 95 DP 14599
Catchment:	Waitaha

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. Notwithstanding any other condition of this consent, the consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The consent holder shall prevent, where possible, or mitigate any erosion occurring as a result of the exercise of this consent.

3. After allowing for a mixing zone of 10 metres extending downstream of the discharge, the discharge shall not give rise to any of the following effects in the receiving waters of the Waitaha Stream:

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.

4. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

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 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 10 June 2008

For and on behalf of
Taranaki Regional Council

_____

Director-Resource Management

TRK950609

DISCHARGE PERMIT

**Pursuant to the RESOURCE MANAGEMENT ACT 1991
a resource consent is hereby granted by the
Taranaki Regional Council**

Name of Consent Holder: NEW PLYMOUTH DISTRICT COUNCIL
PRIVATE BAG 2025 NEW PLYMOUTH

Renewal
Granted Date: 6 December 1995

CONDITIONS OF CONSENT

Consent Granted: TO DISCHARGE UP TO 1200 LITRES/SECOND OF STORMWATER FROM AN INDUSTRIAL SUBDIVISION INTO AN UNNAMED TRIBUTARY OF THE WAITAHA STREAM AT OR ABOUT GR: Q19:108-406

Expiry Date: 1 June 2014

Review Date[s]: June 2002 and June 2008

Site Location: CORBETT ROAD BELL BLOCK

Legal Description: PT SEC 4 DP4954 BLK II PARITUTU SD

Catchment: WAITAHA 393.002

Tributary: UNNAMED TRIBUTARY

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

TRK950609

GENERAL CONDITIONS

(a)That on receipt of a requirement from the General Manager, Taranaki Regional Council (hereinafter the General Manager), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.

(b)That 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)That 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;
(ii)charges for the carrying out of the Council's functions under section 35 in relation to this consent; and
(iii)charges authorised by regulations.

SPECIAL CONDITIONS

1)THAT the following limits shall not be exceeded in the discharge:

Oil and grease [Freon extractable]	<15 gm^{-3}
pH in the range	6.0 - 8.5
Suspended solids	100 gm^{-3}

2)THAT allowing for a mixing zone of 10 metres extending downstream of the discharge point, the discharge shall not give rise to all or any of the following effects in the receiving water:

(i)the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
(ii)any conspicuous change in the colour or visual clarity;
(iii)any emission of an objectionable odour;
(iv)any significant adverse effects on aquatic life, habitats, or ecology;
(v)any undesirable biological growths.

3)THAT the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2002 and/or June 2008 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects of the discharge on the receiving environment.

Signed at Stratford on 6 December 1995

For and on behalf of
TARANAKI REGIONAL COUNCIL

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GENERAL MANAGER

Discharge Permit

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

Name of Consent Holder:	Greymouth Facilities Limited PO Box 3394 Fitzroy New Plymouth 4341
Decision Date (Change):	01 August 2014
Commencement Date (Change):	01 August 2014 (Granted Date: 08 May 2014)

Conditions of Consent

Consent Granted:	To discharge untreated stormwater from a yard used for storage and maintenance of hydrocarbon exploration drilling equipment directly onto and into land, and to discharge treated stormwater into the Waitaha Stream via the New Plymouth District Council reticulated stormwater system, from an interceptor
Expiry Date:	01 June 2032
Review Date(s):	June 2017, June 2020, June 2023, June 2026, June 2029 and/or within 3 months of receiving a notification under special condition 13
Site Location:	58 Corbett Road, Bell Block
Legal Description:	Lots 1 & 2 DP 16891 (Discharge source and site)
Grid Reference (NZTM)	1700523E-5678513N (source) 1700582E-5678541N (discharge from site) 1700889E-5679046N (discharge to stream)
Catchment:	Waitaha

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. This consent authorises the discharge of stormwater onto land only when the capacity of the primary discharge pipe to the New Plymouth District Council reticulated stormwater system is exceeded.

2. The consent holder shall record all occasions on which a discharge authorised by condition 1 occurs. These records shall be retained and be made available to the Chief Executive of the Taranaki Regional Council upon request.

3. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

4. The stormwater discharged shall be from a catchment area not exceeding 1.065 ha

5. Before 31 October 2014, the interceptor and bunding shall be installed such that stormwater shall be directed for treatment through the interceptor discharge in accordance with the special conditions of this permit.

6. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
oil and grease	Concentration not greater than 15 gm^{-3}
chloride	Concentration not greater than 50 gm^{-3}

This condition shall apply before entry of the treated stormwater into the New Plymouth District Council reticulated stormwater system at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

7. For the purpose of assessing compliance with special condition 6 the consent holder shall install and maintain access to the designated sampling point.

8. After allowing for reasonable mixing, within a mixing zone extending 10 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:

   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.

9. The consent holder shall maintain a contingency plan that details measures and procedures to be undertaken to prevent spillage or any discharge of contaminants not authorised by this consent. The contingency plan shall be followed in the event of a spill or unauthorised discharge and shall be certified by the Chief Executive, Taranaki Regional Council as being adequate to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

10. Within three months of the granting of this consent the consent holder shall prepare and maintain a stormwater management plan that documents how the site is to be managed to minimise the contaminants that become entrained in the stormwater. This plan shall be followed at all times, shall be certified by the Chief Executive, Taranaki Regional Council, and shall include but not necessarily be limited to:

    a) the loading and unloading of materials;
    b) maintenance of conveyance systems;
    c) general housekeeping; and
    d) management of the structural and procedural controls in place to minimise the concentration of contaminant present in the discharge.
    e) maintenance and cleaning of the interceptor

    A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

11. The discharge of stormwater either from the interceptor to land, or directly to land, shall not result in the discharge of contaminants beyond the boundary of the site.

12. The concentration of hydrocarbons in the soil shall not exceed the soil acceptance criteria shown in the following table:

Contaminant		Soil acceptance criteria (mg/kg)
Total Petroleum Hydrocarbons	C_7-C_9	590
	C_{10}-C_{14}	1400
	C_{15}-C_{36}	NA[1]
Monoaromatic Hydrocarbons	Benzene	0.0054
	Toluene	1.0
	Ethylbenzene	1.1
	Xylenes	0.61
Polycyclic Aromatic Hydrocarbons	Naphthalaene	0.043
	Non-carc. (Pyrene)	1.2
	Benzo(a)pyrene	0.85

[1] *NA indicates contaminant not limiting as estimated health-based criterion is significantly higher than that likely to be encounter on site*

13. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.

14. This consent shall lapse on 30 June 2019, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

15. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review:

    a) during the month of in June 2017 and/or June 2020 and/or June 2023 and/or June 2026 and/or June 2029 and/or
    b) within 3 months of receiving a notification under special condition 13 above;

    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 01 August 2014

For and on behalf of
Taranaki Regional Council

A D McLay
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:	Meredith Scrap Metals Limited 7 Catalina Place RD 3 New Plymouth 4373
Decision Date:	04 June 2014
Commencement Date:	04 June 2014

Conditions of Consent

Consent Granted:	To discharge contaminants onto and into land associated with scrap metal storage and processing
Expiry Date:	01 June 2032
Review Date(s):	June 2020, June 2026
Site Location:	7 Catalina Place, Bell Block
Legal Description:	Lot 2 DP 18719 Lot 2 DP 309386 (Discharge source & site)
Grid Reference (NZTM)	1701643E-5679034N
Catchment:	Waitaha

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. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants from the site.

2. The discharge shall not result in any contaminants reaching any adjacent property.

3. The exercise of this consent shall not result in any contaminant concentration within groundwater, which after reasonable mixing, exceeds the background concentration for that particular contaminant.

4. The concentration of heavy metals in any soil shall not exceed the Intervention Values as shown in the following table:

Metal	Intervention Value (mg/kg dry matter)
Antimony	15
Arsenic	55
Barium	625
Cadmium	12
Chromium	380
Cobalt	240
Copper	190
Mercury	10
Lead	530
Molybdenum	200
Nickel	210
Zinc	720

5. The concentration of hydrocarbons in any soil shall not exceed the Soil acceptance criteria shown in the following table:

Contaminant		Soil acceptance criteria (mg/kg)
Total Petroleum Hydrocarbons	C_7-C_9	590
	C_{10}-C_{14}	1400
	C_{15}-C_{36}	NA[1]
Monoaromatic Hydrocarbons	Benzene	0.0054
	Toluene	1.0
	Ethylbenzene	1.1
	Xylenes	0.61
Polycyclic Aromatic Hydrocarbons	Naphthalaene	0.043
	Non-carc. (Pyrene)	1.2
	Benzo(a)pyrene	0.85

[1] *NA indicates contaminant not limiting as estimated health-based criterion is significantly higher than that likely to be encountered on site*

6. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.

7. From 1 March 2032 (three months prior to the consent expiry date), constituents in the soil shall not exceed the standards shown in the following table:

Constituent	Standard
Arsenic	20 mg/kg
Cadmium	1 mg/kg
Chromium	600 mg/kg
Copper	100 mg/kg
Lead	300 mg/kg
Mercury	1 mg/kg
Nickel	60 mg/kg
Zinc	300 mg/kg
chloride	700 mg/kg
sodium	460 mg/kg
total soluble salts	2500 mg/kg
MAHs PAHs TPH	Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Ministry for the Environment, 1999). Tables 4.12 and 4.15, for soil type sand.

MAHs - benzene, toluene, ethylbenzene, xylenes
PAHs - napthalene, non-carc. (pyrene), benzo(a)pyrene eq.
TPH - total petroleum hydrocarbons (C_7-C_9, C_{10}-C_{14}, C_{15}-C_{36})

The requirement to meet these standards shall not apply if, before 1 March 2032, the consent holder applies for a new consent to replace this consent when it expires, and that application is not subsequently withdrawn.

8. This consent may not be surrendered at any time until the standards in condition 7 have been met.

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 2020 and/or June 2026, 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 04 June 2014

For and on behalf of
Taranaki Regional Council

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A D McLay
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:	Meredith Scrap Metals Limited 7 Catalina Place RD 3 New Plymouth 4373
Decision Date:	10 July 2014
Commencement Date:	10 July 2014

Conditions of Consent

Consent Granted:	To discharge stormwater from scrap metal storage and processing into the Waitaha Stream and into an unnamed tributary of the Mangaoraka Stream via the New Plymouth District Council reticulated stormwater system
Expiry Date:	01 June 2032
Review Date(s):	June 2020, June 2026
Site Location:	De Havilland Drive, Bell Block
Legal Description:	Lot 1 DP 341109, Lot 2 DP 18719, Lot 2 DP 309386 (Discharge source & site)
Grid Reference (NZTM)	1701605E-5679056N & 1701708E-5679041N
Catchment:	Waitaha Waiongana
Tributary:	Mangaoraka

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. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The stormwater discharged shall be from a catchment area not exceeding 1.7 Hectares.

3. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
oil and grease	Concentration not greater than 15 gm^{-3}
chloride	Concentration not greater than 50 gm^{-3}

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

4. After allowing for reasonable mixing, within a mixing zone extending 7 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:

   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.

5. Within three months of the granting of this consent the consent holder shall prepare and maintain a contingency plan that details measures and procedures to be undertaken to prevent spillage or any discharge of contaminants not authorised by this consent. The contingency plan shall be followed in the event of a spill or unauthorised discharge and shall be certified by the Chief Executive, Taranaki Regional Council as being adequate to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

6. Within three months of the granting of this consent, the consent holder shall prepare and maintain a stormwater management plan that documents how the site is to be managed to minimise the contaminants that become entrained in the stormwater. This plan shall be followed at all times, shall be certified by the Chief Executive, Taranaki Regional Council, and shall include but not necessarily be limited to:

   a) the loading and unloading of materials;
   b) general housekeeping; and
   c) management of the interceptor system.

   A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.

8. This consent shall lapse on 30 September 2019, 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.

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 2020 and/or June 2026, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 10 July 2014

For and on behalf of
Taranaki Regional Council

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A D McLay
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:	Symons Property Developments Limited 179 Surrey Hill Road R D 4 NEW PLYMOUTH 4374
Decision Date:	9 May 2011
Commencement Date:	9 May 2011

Conditions of Consent

Consent Granted:	To discharge stormwater from a truck depot and pipe cleaning facility into the Waitaha Stream at or about (NZTM) 1700740E-5678991N and 1700804E-5679014N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	141 to 145 Connett Road East, Bell Block, New Plymouth
Legal Description:	Lot 6 DP 373725 Lot 26 DP 376382 and part of Lot 24 DP 376382 subject to survey [Discharge source & site]
Catchment:	Waitaha

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 to section 36 of the Resource Management Act.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The stormwater discharged shall be from a catchment area not exceeding 3.14 ha.

3. By 13 May 2011, all stormwater from part of Lot 24 DP 376382, as identified in Appendix I attached to this consent, shall be directed for treatment through the stormwater treatment system for discharge in accordance with the special conditions of this permit.

4. Any significant volumes of hazardous substances [e.g. bulk fuel] on site shall be:

   a) contained in a double skinned tank, or
   b) stored in a dedicated bunded area with drainage to sumps, or to other appropriate recovery systems, and not directly to the site stormwater system.

5. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
oil and grease	Concentration not greater than 15 gm^{-3}
chloride	Concentration not greater than 50 gm^{-3}
BOD	Concentration not greater than 5 gm^{-3}

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

6. After allowing for reasonable mixing, within a mixing zone extending 10 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:

   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. The consent holder shall maintain a contingency plan. The contingency plan shall be adhered to in the event of a spill or emergency and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, detail measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not authorised by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

8. The consent holder shall maintain a stormwater management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater. The plan shall include but not necessarily be limited to:

   a) the loading and unloading of materials;
   b) maintenance of conveyance systems;
   c) general housekeeping; and
   d) management of the interceptor systems.

   A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

9. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site, that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz.

10. The consent holder shall review the Symons Group Stormwater Management Plan and Symons Spill Contingency Plan prior to making any changes to the processes or operations undertaken at the site and/or on receiving written notice from the Taranaki Regional Council of:

    - the requirement to review the Plans;
    - the matters which shall be addressed within the plan review; and
    - the reasons or anticipated results of the matters requiring review.

    The reviewed Plan(s) shall document all operations, maintenance activities, and mitigation and contingency measures and shall be submitted for approval to the Chief Executive, Taranaki Regional Council, acting in a certification capacity, at least two weeks prior to making any changes to the operations on site and/or within one month of receiving written notice of the requirement to review the Plan.

11. The data obtained from any investigations into the effectiveness of the stormwater detention tanks installed at the site is to be made available to the Chief Executive, Taranaki Regional Council upon request.

12. This consent shall lapse on 30 June 2016, 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.

13. 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:

    a) during the month of June 2014 and/or June 2020 and/or
    b) within 3 months of receiving a notification under special condition 9 above;

    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 9 May 2011

For and on behalf of
Taranaki Regional Council

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Director-Resource Management

Appendix I


Lot 3 DP 338141
Lot 2 DP 340932
Lot 2 DP 338141
Lot 2 DP 417724
Lot 1 DP 338141
Lot 14 DP 7555
1165
Lot 13 DP 7555
Lot 12 DP 7555
1163
Marked A DP 417724
1159
1161
Lot 11 DP 7555
Lot 1 DP 417724
Devon Road
Lot 10 DP 7555
1155
Lot 9 DP 7555
Lot 8 DP 7555
1153
Lot 7 DP 7555
1151
1149
SH 3
Lot 6 DP 7555
Lot 27 DP 373725
1147
Lot 5 DP 7555
1145
Lot 1 DP 76994
1143
1139
1141
Lot 3 DP 7555
Lot 59 DP 14599
Lot 58 DP 14599
177
Lot 2 DP 16125
1148
Lot 61 DP 14599
Lot 3 DP 16125
Lot 60 DP 14599
Lot 26 DP 376382
179
175
Lot 6 DP 373725
Lot 1 DP 16125
176
143
Marked A DP 376382
Lot 1 DP 12988
Lot 1 DP 361831
141
Lot 24 DP 376382
Lot 1 DP 13792
144
135
Connett Road East
140
Lot 23 DP 376382
138
136
Lot 5 DP 361831
Lot 56 DP 12911
134
Lot 4 DP 361831
Lot 3 DP 361831
Lot 1 DP 14113
Lot 21 DP 376382
7
Lot 2 DP 361831
6
Lot 2 DP 14113
Lot 7 DP 376382
Mustang Drive
Lot 20 DP 376382
9
29A
8
Lot 3 DP 14113
Lot 1 DP 15329
Lot 8 DP 376382
Lot 19 DP 376382
11
Lot 2 DP 15329
Lot 2 DP 428727
Lot 9 DP 376382

Consent 2333-3

Discharge Permit

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

Name of Consent Holder:	Taranaki Sawmills Limited P O Box 49 NEW PLYMOUTH
Consent Granted Date:	8 December 2000

Conditions of Consent

Consent Granted:	To discharge stormwater from a sawmill operating site onto and into land and into the Waitaha Stream at or about GR: Q19:111-407 and Q19:111-404
Expiry Date:	1 June 2014
Review Date(s):	June 2002, June 2008
Site Location:	Hudson Road, Bell Block, New Plymouth
Legal Description:	Lot 1 DP 13792 Lot 18 DP 12911 Lot 2 DP 15755 Lot 1 DP 17946 Blk II Paritutu SD
Catchment:	Waitaha

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

General conditions

a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.

b) That 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) That the consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:

i) the administration, monitoring and supervision of this consent; and
ii) charges authorised by regulations.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in the Resource Management Act 1991, to prevent or minimise any adverse effects of the discharge on the receiving environment.

2. The consent holder shall provide a contingency plan to the Taranaki Regional Council, by 30 March 2001, outlining measures and procedures to be undertaken to prevent the spillage or accidental discharge of contaminants in the stormwater catchment, and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

3. The maximum stormwater discharge rate shall be no more than 540 litres per second.

4. The following concentrations shall not be exceeded in the discharge:

Component	**Concentration**
pH (range)	6.0-9.0
suspended solids	100 gm^{-3}
oil and grease	15 gm^{-3}

5. After allowing for reasonable mixing, within a mixing zone extending 10 metres downstream of the stormwater drain discharges, the discharge shall not give rise to any of the following effects in the receiving waters of the Waitaha Stream:

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.

6. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2002 and/or June 2008, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects of the discharge on the environment arising from the exercise of this 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 8 December 2000

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:	Taranaki Sawmills Limited P O Box 7145 Fitzroy NEW PLYMOUTH
Consent Granted Date:	27 January 2004

Conditions of Consent

Consent Granted:	To discharge emissions into the air from sawmilling and untreated timber processing and associated activities including the combustion of wood and/or coal within boilers and wastes in an open firepit at or about GR: Q19:110-405
Expiry Date:	1 June 2032
Review Date(s):	June 2008, June 2014, June 2020, June 2026
Site Location:	Hudson Road, Bell Block, New Plymouth
Legal Description:	Lot 1 DP 13792 Blk II Paritutu SD
Catchment:	Waitaha

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

General conditions

a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.

b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.

c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:

i) the administration, monitoring and supervision of this consent; and
ii) charges authorised by regulations.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The consent holder shall minimise the emission and effects of contaminants discharged to air from the property, by the selection of the best practicable process equipment, process control equipment, contaminant abatement equipment, and methods of control, supervision and operation, and the proper and effective operation, supervision, control and maintenance of all equipment and processes at all times.

3. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of Application 2797. In the case of any contradiction between the documentation submitted in support of application 2797 and the conditions of this consent, the conditions of this consent shall prevail.

4. The Vekos boiler, stack and associated equipment shall be constructed, operated, and maintained generally as specified in the attachments to application 93/337 lodged with the Taranaki Regional Council on 18 August 1993. In the case of any contradiction between the documentation submitted in support of application 93/337 and the conditions of this consent, the conditions of this consent shall prevail.

5. Prior to undertaking any alterations to the plant, processes or operations, as specified in the application, which may significantly change the nature or quantity of contaminants emitted from the site, the consent holder shall consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act 1991 and any amendments.

6. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing as soon as is practicable, and in any case within one working day, of any use of coal as a fuel (whether as a sole fuel or blended with other fuels) on the site in the exercise of this consent. This condition applies when the intended or anticipated cumulative duration of the use of coal is more than 72 hours within any 14 day period.

7. The consent holder shall record all use of coal as a fuel, including the rate of consumption and the time and duration, and shall make this information available to the Chief Executive, Taranaki Regional Council, upon reasonable request.

8. Within three months of the granting of this consent, the consent holder shall prepare and submit to the Chief Executive, Taranaki Regional Council, a management and operations plan for the combustion of wastes in the fire pit on the property. Upon the approval of the Chief Executive, Taranaki Regional Council, the consent holder shall thereafter maintain and comply with the plan. In the case of any contradiction between the plan and the conditions of this consent, the conditions of this consent shall prevail.

9. The plan for the management and operation of combustion of wastes in the firepit shall ensure a level of environmental performance that is to no less a level than that which would be achieved by compliance with the plan submitted in application 2797, and in particular but without exclusion or limitation, section 6.1.4 (B) and Appendix 3 of that application.

10. In the event of any incident having an adverse effect beyond the boundary of the property of the consent holder, the consent holder shall, as immediately as is practicable, notify the Chief Executive, Taranaki Regional Council.

11. The discharges authorised by this consent shall not give rise to any significant adverse ecological effect on any ecosystems in the Taranaki region.

12. The discharges authorized by this consent shall not give rise to an odour at or beyond the boundary of the site that is offensive or objectionable.

13. For the purposes of condition 12, without restriction, an odour shall be deemed to be offensive or objectionable if:

    a) it is held to be so in the opinion of an enforcement officer of the Taranaki Regional Council, having regard to the duration, frequency, intensity and nature of the odour; and/or
    b) an officer of the Taranaki Regional Council observes that an odour is noticeable, and either it lasts longer than three (3) hours continuously, or it occurs frequently during a single period of more than six (6) hours; and/or
    c) no less than three individuals from at least two different properties, each declare in writing that an objectionable or offensive odour was detected beyond the boundary of the site, provided the Council is satisfied that the declarations are not vexatious and that the objectionable or offensive odour was emitted from the site as specified in (b). Each declaration shall include the individuals' names and addresses, the date and time the objectionable or offensive odour was detected, the location of the individual when it was detected and the prevailing weather conditions during the event. The declarations shall be signed and dated.

14. The discharges authorised by this consent shall not give rise to suspended or deposited dust at or beyond the boundary of the site that, in the opinion of at least one enforcement officer of the Taranaki Regional Council, is offensive or objectionable. For the purpose of this condition, ambient levels of dust in excess of the following limits are deemed to be offensive or objectionable:

    a) dust deposition rate 0.13 g/m^2/day; and/or
    b) suspended dust level 1.5 mg/m^3.

15. The consent holder shall control all emissions of sulphur dioxide to the atmosphere from the site, in order that the maximum ground level concentration of sulphur dioxide arising from the exercise of this consent measured under ambient conditions on land does not exceed 350 micrograms per cubic metre [one-hour average exposure] or 125 micrograms per cubic metre [twenty-four hour average exposure] at or beyond the boundary of the site.

16. The consent holder shall control all emissions of particulate of effective diameter of less than 10 micrometres (PM10) to the atmosphere from combustion sources, whether alone or in conjunction with any other emissions from the site, in order that the maximum ground level concentration of PM10 arising from the exercise of this consent measured under ambient conditions does not exceed 50 micrograms per cubic metre [one hour average exposure], on more than 5 occasions per year cumulative across any and all monitoring sites, and does not exceed 120 micrograms per cubic metre [one hour average exposure] at any time, at or beyond the boundary of the site.

17. The discharges authorized by this consent shall not give rise to a level of a contaminant or contaminants at or beyond the boundary of the site that is noxious or toxic.

18. There shall be no emissions of dark smoke from the boiler stack(s) for any continuous period of 2 minutes or for more than 4 minutes cumulative in any 60 minute period, except:

    a) during soot blowing, which may occur up to 4 times per day for a total cumulative duration of 20 minutes in any 24 hour period; and
    b) during the first 30 minutes following the lighting up of any boiler

19. The minimum height of discharge of products of combustion from the boilers shall be 12 metres above the ground level prevailing at the time of lodging the application for this consent.

20. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

21. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2008 and/or June 2014 and/or June 2020 and/or June 2026, for the purpose or purposes of:

    a) 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; and/or
    b) to address via a more appropriate condition or conditions any adverse effect on the environment arising from odour emissions or discharges of other contaminants to air; and/or
    c) to further specify 'best practicable option' in terms of the consent holder's management, supervision, maintenance and/or operation of its processes on the property; and/or
    d) to specify numerical values for any operating or environmental effects parameter.

Signed at Stratford on 27 January 2004

For and on behalf of
Taranaki Regional Council

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Director-Resource Management

Discharge Permit

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

Name of Consent Holder:	TBS Coatings Limited P O Box 7057 Fitzroy NEW PLYMOUTH
Consent Granted Date:	9 August 2002

Conditions of Consent

Consent Granted:	To discharge emissions into the air from abrasive blasting operations and associated processes at a permanent site at Corbett Road, Bell Block at or about GR: Q19:115-397, and from mobile operations at various locations throughout the Taranaki region
Expiry Date:	1 June 2020
Review Date(s):	June 2005, June 2008, June 2011, June 2014, June 2017
Site Location:	Corbett Road, Bell Block, New Plymouth
Legal Description:	Lot 1 DP 11084 Pt Sec 150 Blk II Paritutu SD
Catchment:	Mangati

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 (hereinafter the Chief Executive), 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

All operations

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment.

2. As far as is practicable all abrasive blasting shall be carried out in a booth, shed or other effectively facility on the consent holders site.

3. Sand used for dry blasting must contain less than 5% by dry weight free silica and less than 2% by dry weight dust able to pass a 0.15 mm sieve.

4. All abrasive blasting is to be conducted with regard to wind direction and wind strength, such that off-site emissions are kept to a practicable minimum.

5. As far as is practicable, work areas and surrounding areas shall be cleared of accumulations of sand and any other blasted material at the end of each blasting session and by the end of each working day.

6. Any discharge to air from the exercise of this consent shall not give rise to any offensive, objectionable or toxic levels of dust or odour at or beyond the boundary of the property on which the abrasive blasting is occurring.

7. Dry sand blasting shall be used in yard and mobile operations only when specified by a client. High pressure water blasting, wet sand blasting, grit blasting, vacuum blasting or an equivalent alternative process must be used when practicable.

8. It shall be the responsibility of the consent holder to ensure that all operators of abrasive blasting equipment understand and comply with all of the conditions of this consent prior to the commencement of any work for which this consent is required.

Operations conducted within permanent facilities

9. All emissions from abrasive blasting, surface preparation or surface coating operations and all other associated emissions from abrasive blasting, shall be contained and treated, as far as is practicable, prior to discharge beyond any operations enclosure. All gas streams ventilated or otherwise emitted from an enclosure shall be treated to a concentration of total particulate matter of less than 125 mg/m^3 [natural temperature & pressure] corrected to dry gas basis, at any time.

10. The dust deposition rate beyond the property boundary arising from the discharge, shall be less than 4.0 g/m^2/30 days.

11. The final discharge after any pre-treatment shall not contain lead [Pb] or Pb components at a concentration greater than 0.7 mg/m^3 as Pb, chromium [Cr] or Cr compounds at a concentration of 1.5 mg/m^3 as Cr, or zinc [Zn] or Zn compounds at a concentration of 15 mg/m^3 as Zn [discharge corrected to 0 degrees Celsius and dry gas], at any time.

Yard operations

12. From time to time, the consent holder may receive for abrasive blasting or other surface treatment, an item that, because of its bulk, weight, or other factor, cannot be treated inside the appropriate facility. Such yard operations shall not be permitted on a frequent or continual basis, or other than in exceptional circumstances.

13. Prior to commencing any yard operation as described in special condition 12 above, the consent holder shall specifically provide written notification to the Chief Executive, Taranaki Regional Council.

14. All items which cannot be treated within the properly enclosed facilities shall be screened by means of covers, tarpaulins, cladding or other means, as completely as practicable, to contain dust emissions and depositions and to restrict the spread of all blasting debris.

Mobile operations

15. All items or premises to be blasted from a mobile blasting unit shall be screened by means of covers, tarpaulins, cladding, or other means, as completely as practicable, to contain dust emissions and depositions and to restrict the spread of all blasting debris and materials to the satisfaction of the Chief Executive, Taranaki Regional Council.

16. Prior to undertaking abrasive blasting from a mobile blasting unit within residential areas, the consent holder shall notify the relevant District Council.

17. Where abrasive blasting or surface coating from a mobile blasting unit is to take place within 100 metres of a watercourse, the consent holder shall provide written notification to the Chief Executive, Taranaki Regional Council, prior to any operation commencing. The Chief Executive, Taranaki Regional Council, may require additional measures to prevent, minimise or mitigate any potential for adverse environmental effects. It shall be the responsibility of the consent holder to ascertain such measures prior to commencing an abrasive blasting operation, and to comply with any and all such measures at all times.

18. Dry abrasive blasting from a mobile blasting unit shall be conducted within 200 metres of any dwelling place or property boundary only with the written approval of the Chief Executive, Taranaki Regional Council, and then only after either public notice or individual notice to all affected owners or occupiers has been given.

19. The suspended particulate matter shall not exceed 3 mg/m^3 [measured under ambient conditions], and the deposition of dust shall not exceed 0.13 g/m^2/day beyond the property boundary or beyond 50 metres of the discharge when sited on public amenity areas, whichever is less.

20. The discharge shall not give rise to any of the following effects in any surface watercourse:

    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;
    f) an increase in suspended solids of more than 10 g/m^3;
    g) turbidity above 4 nephelometric turbidity units [NTU], except that if the turbidity within the water body is above 3.2 NTU, no more than 25% increase in NTU;
    h) any increase in the concentration of zinc, lead, arsenic, chromium or thorium-based products.

Review

21. 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 2005 and/or June 2008 and/or June 2011 and/or June 2014 and/or June 2017, 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 9 August 2002

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:	Transpacific Industrial Solutions P O Box 7076 NEW PLYMOUTH
Consent Granted Date:	5 September 1995

Conditions of Consent

Consent Granted:	To discharge up to 65 litres/second of stormwater from a truck depot premises into the Waitaha Stream at or about GR: Q19:113-406
Expiry Date:	1 June 2014
Review Date(s):	June 2002, June 2008
Site Location:	Hudson Road, Bell Block
Legal Description:	Lots 36 & 37 DP 12911 Bell Dist Blk II Paritutu SD
Catchment:	Mangati
Tributary:	Waitaha

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

General conditions

a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.

b) That 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) That 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;
(ii) charges for the carrying out of the Council's functions under section 35 in relation to this consent; and
(iii) charges authorised by regulations.

Special conditions

1. That the following limits shall not be exceeded in the discharge:

Oil and grease [Freon extractable]	< 15 mg/L
pH in the range	6.0 - 8.5

2. That allowing for a mixing zone of 10 metres extending downstream of any direct discharge, the discharge shall not give rise to all or any of the following effects in the receiving water:

(i) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
(ii) any conspicuous change in the colour or visual clarity;
(iii) any emission of an objectionable odour;
(iv) any significant adverse effects on aquatic life, habitats, or ecology;
(v) any undesirable biological growths.

3. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2002 and/or June 2008 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects of the discharge on the receiving environment.

Transferred at Stratford on 10 January 2007

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:	Weatherford New Zealand Limited P O Box 7162 NEW PLYMOUTH
Review Completed Date:	21 August 2008 [Granted: 5 September 1995]

Conditions of Consent

Consent Granted:	To discharge up to 130 litres/second of treated stormwater and minor treated washdown water from an oilfield engineering services premises onto land and into an unnamed tributary of the Waitaha Stream at or about (NZTM) 1701110E-5678552N
Expiry Date:	1 June 2014
Site Location:	Dakota Place, Bell Block
Legal Description:	Lots 5-7 DP 12035 Lots 2 & 3 DP 11781 Lot 4 DP 12035 Bell Dist Blk II Paritutu SD
Catchment:	Waitaha

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

Condition 1 [changed]

1. Constituents in the discharge shall meet the standards shown in the following table:

Constituent	Standard
pH	Within the range 6.0 to 9.0
Suspended solids	Concentration not greater than 100 gm^{-3}
Oil and grease [to water]	Concentration not greater than 15 gm^{-3}
Oil and grease [to land]	Concentration not greater than 25 gm^{-3}

This condition shall apply prior to the entry of the treated stormwater and wastewater into the receiving waters, and prior to the discharge of wastewater on to land at designated sampling points approved by the Chief Executive, Taranaki Regional Council.

Conditions 2 to 4 [unchanged]

2. That the consent holder shall construct bunding around the oil/petroleum storage area to avoid the contamination of stormwater to the satisfaction of the Chief Executive, Taranaki Regional Council.

3. That allowing for a mixing zone of 10 metres extending downstream of any direct discharge or from the nearest boundary of the consent holder's property, the discharge shall not give rise to all or any of the following effects in the receiving water:

i) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
ii) any conspicuous change in the colour or visual clarity;
iii) any emission of an objectionable odour;
iv) any significant adverse effects on aquatic life, habitats, or ecology;
i) any undesirable biological growths.

4. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2002 and/or June 2008 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects of the discharge on the receiving environment.

Condition 5 [new]

5. Before 30 November 2008 the consent holder shall prepare and thereafter maintain a stormwater management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater. The plan shall include but not necessarily be limited to:

   a) on site hazardous substance storage;
   b) general housekeeping; and
   c) management of the interceptor systems.

Signed at Stratford on 21 August 2008

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:	Woodwards 2008 Limited P O Box 9036 NEW PLYMOUTH 4351
Decision Date:	17 August 2011
Commencement Date:	17 August 2011

Conditions of Consent

Consent Granted:	To discharge emissions into air from the combustion of untreated timber wastes at or about (NZTM) 1701037E-5678250N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	124 De Havilland Drive, Bell Block
Legal Description:	Lot 8 DP 11912 [Discharge site]

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 to section 36 of the Resource Management Act.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent including [but not limited to]:

    - having regard to the prevailing and predicted wind speed and direction at the time of burning in order to minimise offsite effects;
    - allowing the waste material to dry before burning;
    - starting a small fire with the driest material and adding further material once it is blazing, as opposed to igniting a large stack and leaving it unattended.

2. The materials for combustion are restricted to untreated wood and wood wastes; and shall be combusted only when placed in a pit no closer than 20 metres to any boundary.

3. There shall be no objectionable or offensive odour to the extent that it causes an adverse effect at or beyond the boundary of the site.

    Note: For the purposes of this condition:

    - The site is defined as Lot 8 DP 11912; and
    - Assessment under this condition shall be in accordance with the *Good Practice Guide for Assessing and Managing Odour in New Zealand, Air Quality Report 36, Ministry for the Environment, 2003.*

4. The consent holder, or an authorised agent, shall supervise burning at all times and the fires shall not be lit later than 12 noon on any day.

5. The dust deposition rate beyond the property boundary arising from the discharge shall be less than 0.13 $g/m^2/day$.

6. Any discharge to air from the site shall not give rise to any offensive, objectionable, noxious or toxic levels of dust at or beyond the boundary of the property, and in any case, suspended particulate matter shall not exceed 3 mg/m^3 [measured under ambient conditions] beyond the boundary of the site.

7. The discharges authorised by this consent shall not give rise to a level of a contaminant or contaminants at or beyond the boundary of the site that is noxious or toxic.

8. This consent shall lapse on 30 September 2016, 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.

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 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 17 August 2011

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:	Zelam Limited P O Box 7142 NEW PLYMOUTH 4341
Change To Conditions Date:	1 September 2009 [Granted: 13 February 2008]

Conditions of Consent

Consent Granted:	To discharge emissions into the air from industrial agri-chemical formulation processes and associated processes at or about (NZTM) 1701317E-5678995N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	13 Hudson Road, Bell Block
Legal Description:	Lot 1 DP 17241 Blk II Paritutu SD

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

Conditions 1 to 6 [unchanged]

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. Prior to undertaking any alterations to the plant, processes or operations, which may significantly alter the nature or quantity of contaminants emitted form the site, the consent holder shall consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act 1991.

3. The discharges authorised by this consent shall not give rise to any offensive or objectionable odour at or beyond the site boundary in the opinion of an enforcement officer of the Taranaki Regional Council.

4. The concentration of benzyl chloride discharge from any vent shall not exceed 1 part per million [vol/vol].

5. The discharge of particulate matter from any vent or source shall not exceed 125 milligrams per cubic metre corrected to 0 degrees Celsius, 1 atmosphere of pressure and a dry gas basis.

6. In the event of any incident arising from the discharge of contaminants to air having an effect beyond the boundary of the site, the consent holder shall contact the Chief Executive, Taranaki Regional Council as soon as is practicable.

Conditions 7 & 8 [changed]

7. The consent holder shall maintain the scrubber liquor of the forced draft scrubbers at or greater than pH 9.

8. The consent holder shall monitor and record the pH of the forced draft scrubber liquors on a weekly basis. The consent holder shall forward this information in the form of a written report to the Chief Executive, Taranaki Regional Council, upon request.

Conditions 9 & 10 [new]

9. The consent holder shall maintain the excess free amine concentration of the scrubber liquor of the air displacement scrubber at or greater than 0.5%.

10. The consent holder shall monitor and record the excess free amine concentration of the scrubber liquor of the air displacement scrubber prior to each quaternary process run. The consent holder shall forward this information in the form of a written report to the Chief Executive, Taranaki Regional Council, upon request.

Conditions 11 & 12 [unchanged, formerly conditions 9 & 10]

11. The consent holder shall control all emissions to the atmosphere from the site so that the maximum ground level concentration for any particular contaminant arising from the exercise of this consent measured at or beyond the boundary of the site shall not exceed:

    a) 1/30th of the relevant Occupation Threshold Value Time Weighted Average as defined in the Department of Labour Workplace Exposure Standards and Biological Indices for New Zealand; or

    b) by more than the Short Term Exposure Limit as defined in the Department of Labour Workplace Exposure Standards and Biological Indices for New Zealand; or

    c) if no Short Term Exposure Limit is set, more than three times the Time Weighted Average at any time.

12. 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 1 September 2009

For and on behalf of
Taranaki Regional Council

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Director-Resource Management

Appendix II

Rule 23 of the Regional Freshwater Plan (permitted stormwater rule)

Discharge of stormwater

Activity	Rule	Standards/Terms/Conditions	Classification	Notification	Control/Discretion	Policy Reference
Discharge of stormwater into or onto land or into water (excluding those wetlands listed in Appendix II) that is not provided for by Rules 25-27	23	• The discharge shall not originate from any industrial or trade premise where the active area of the site is greater than 0.5 ha, unless there is an interceptor system in place that is designed and managed so that it will keep stormwater from entraining contaminants; • The discharge shall not originate from any industrial or trade premise where hazardous substances are used, stored or potentially spilt unless: (i) there is an interceptor system in place that is designed and managed so that it will keep stormwater from entraining contaminants; or (ii) there is an interceptor system in place that is designed and managed so that it is capable of capturing contaminated stormwater and either diverting it to trade waste or containing it and/or removing or reducing the contaminants such that: - any spills can be recovered; - the discharge shall not contain any persistent or bioaccumulative substances; - the discharge shall not breach any other specified condition of this rule; and a spill contingency and interceptor system maintenance plan is maintained and regularly updated for the site; • The discharge shall not originate from any industrial or trade premises where the movement of rock, earth or other soil material is taking place, unless that movement is being undertaken in connection with site landscaping, or the installation, construction, maintenance or demolition of buildings, structures or equipment; • The discharge shall not be greater than is able to be discharged from a pipe of 900 mm in diameter;	Permitted			

Discharge of stormwater (continued)

Activity	Rule	Standards/Terms/Conditions	Classification	Notification	Control/Discretion	Policy Reference
		• The discharge shall not cause significant erosion, scour or deposition; • Discharge that will, or is liable to enter surface water, shall not exceed the following: pH 6.0-9.0 oil and grease 15 gm^{-3} suspended solids 100 gm^{-3} BOD 5 gm^{-3} unionised ammonia 0.025 gm^{-3} free chlorine 0.2 gm^{-3} • The discharge shall not give rise to any of the following effects in receiving waters after reasonable mixing: (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.	Permitted			

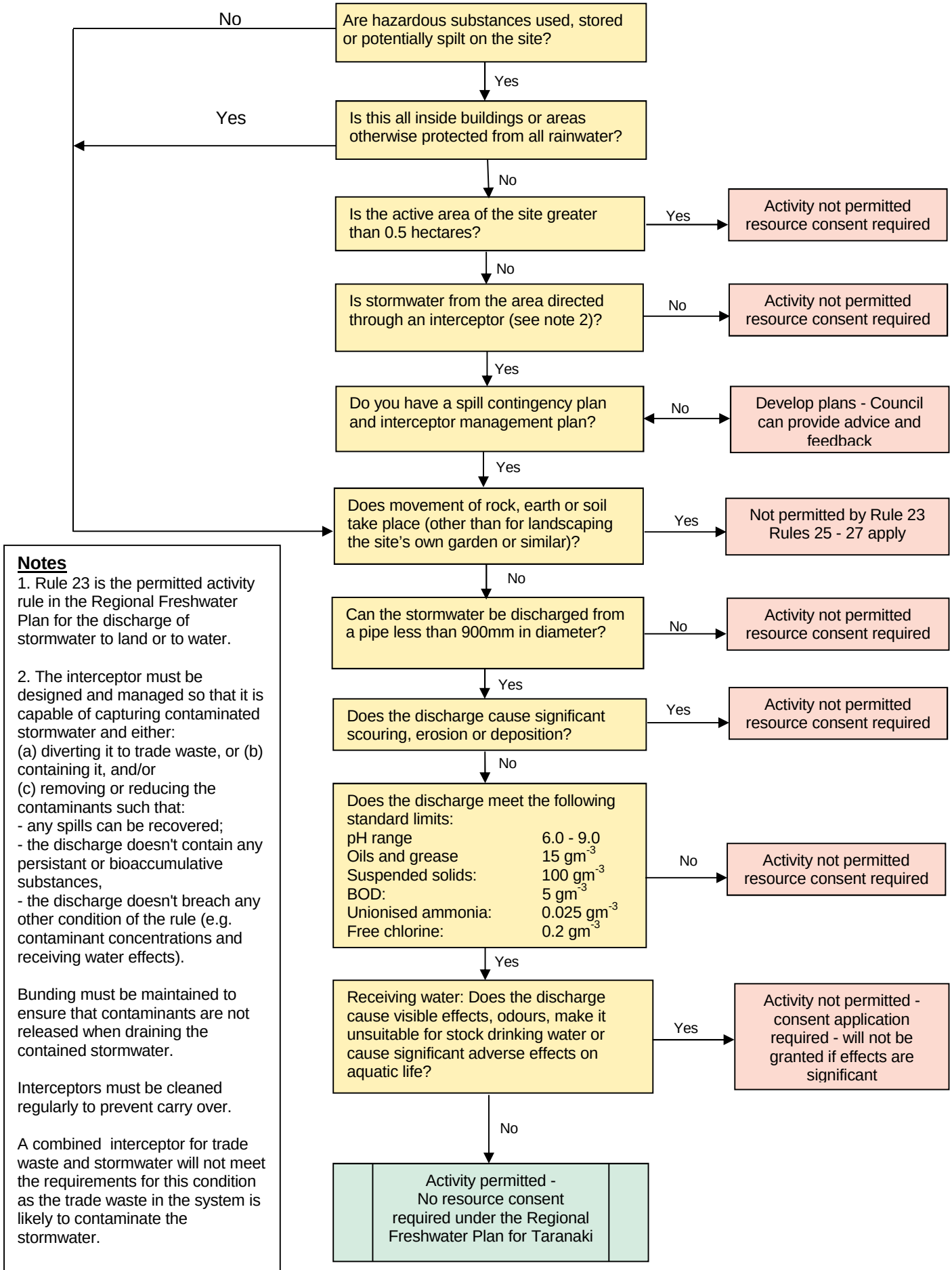
Explanation

Rule 23 provides for the large number of stormwater discharges that have no or only minor adverse effects on the environment. A resource consent is not required for stormwater discharges to either land or water so long as the discharge can comply with the conditions of this rule. The first condition restricts discharges from industrial or trade that are over 0.5 hectares in area, unless the site has a means of ensuring that stormwater will not be contaminated (a roofed site is a good example of this). The reference to the 'active area' of the site refers to that part of the site where industrial and trade activity is taking place, including areas on site where goods, products, hazardous substances or other materials are stored, used or potentially split, but does not include areas that are grassed; landscaped; or roofed; or carparks which are used exclusively for non-goods vehicles.

Any sites storing and/or using hazardous substances must either ensure that the stormwater cannot be contaminated (for example is the site is roofed) or that an interceptor system is designed and managed so that contaminated stormwater is diverted to trade waste or captured and contained and/or treated so that the contamination is removed and reduced. In this regard the bunding of hazardous substances and the capture and treatment of stormwater would enable the discharge of stormwater from sites under 0.5 hectares to be a permitted activity. The condition also requires that a contingency plan be maintained and regularly updated for the site.

The third condition restricts the discharge of stormwater from any industrial and trade premises where the movement of rock and other earth material is taking place, other than the types of minor works outlined in the condition. This is consistent with other rules in the Plan relating to stormwater discharges from soil disturbance activities.

Rule 23 also contains conditions relating to the receiving environment to ensure that adverse effects are avoided, remedied or mitigated. Conditions relate to both water quality (by specifying discharge limits and receiving water effects) and the quantity of water that is being discharged (to avoid erosion, scour or deposition).



Notes

1. Rule 23 is the permitted activity rule in the Regional Freshwater Plan for the discharge of stormwater to land or to water.

2. The interceptor must be designed and managed so that it is capable of capturing contaminated stormwater and either:
(a) diverting it to trade waste, or (b) containing it, and/or
(c) removing or reducing the contaminants such that:
- any spills can be recovered;
- the discharge doesn't contain any persistant or bioaccumulative substances,
- the discharge doesn't breach any other condition of the rule (e.g. contaminant concentrations and receiving water effects).

Bunding must be maintained to ensure that contaminants are not released when draining the contained stormwater.

Interceptors must be cleaned regularly to prevent carry over.

A combined interceptor for trade waste and stormwater will not meet the requirements for this condition as the trade waste in the system is likely to contaminate the stormwater.