

Waverley Sawmills Limited
Monitoring Programme
Annual Report
2013-2014

Technical Report 2014-82

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Taranaki Regional Council
Private Bag 713
STRATFORD

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Executive summary

Waverley Sawmills Limited (the Company) operates a wood waste disposal site located on Monk Road at Waverley, in the Whenuakura catchment, and a wood waste disposal site located on Village Settlement Road at Waverley, in the Moumahaki catchment. The Monk Road site is consented to receive untreated wood waste only, and the Village Settlement Road site is consented to receive treated and untreated wood waste. All the wood waste discharged at both sites originates from the Company's sawmill in Waverley. This report for the period July 2013-June 2014 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental performance during the period under review, the results of Council's monitoring activities, and the environmental effects of the Company's activities. This is the sixth compliance monitoring report on Waverley Sawmills Ltd's activities at the Monk Rd and Village Settlement Rd sites.

The Company holds a total of four resource consents, which include a total of 35 conditions setting out the requirements that the Company must satisfy. The Company holds one land use consent for the purpose of piping a stream, two consents to discharge wood waste onto and into land, and one consent to discharge leachate and stormwater to land and water.

Overall the Company demonstrated a good level of environmental performance with the resource consents.

The Council's monitoring programme for the period under review included three inspections, seven water samples, and four soil samples collected for physicochemical analysis.

The company however does require an improvement in its administrative performance. At the Village Settlement Road discharge site, notification of works was not given prior to capping the fill, and required works prior to capping had not been undertaken. The consent holder also continued capping operations after being directed to cease until sample results were available. As a result an abatement notice was issued. By the end of the monitoring period all the required works had been undertaken and the site was compliant with consent conditions.

The Monk Road site was well run and there were no major issues in regards to the discharge of wood waste. Leachate at the Monk Rd site still has potential to cause effects, and elevations in the concentration of contaminants were noted, however there were no non-compliances as a result of this during the period under review. During the year the suitability of capping materials being stored at the site was raised with the consent holder and this matter is continuing to be resolved.

During the monitoring period Waverley Sawmills Ltd demonstrated a good level of environmental performance, however an improvement is required in its administrative performance.

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

This report includes recommendations for the 2014-2015 period.

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1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is the Annual Report for the period July 2013-June 2014 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by Waverley Sawmills Limited (the Company). The Company operates two landfill (monofill – wood waste) sites situated on Monk Road at Waverley, in the Whenuakura catchment (consents 6413-2, 6412-1 and 7342-2), and on Village Settlement Road in the Moumahaki catchment (consent 6528-2).

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 the Company's use of water, land and air, and is the eighth combined annual report by the Council for the Company.

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 through annual programmes, the resource consents held by the Company in the Whenuakura catchment and the Moumahaki catchment, the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted at each of the two wood waste disposal sites.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

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

Section 4 presents recommendations to be implemented in the 2014-2015 monitoring year.

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 a discharger, 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 (e.g., recreational, cultural, or aesthetic);
- (e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each discharge source. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and consent performance

Besides discussing the various details of the performance and extent of compliance by the consent holder/s during the period under review, this report also assigns 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 (i.e. a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

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

Environmental performance

- **High** No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

- **Good** Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

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

Administrative performance

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

- **Poor** Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

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

1.2 Process description

In 2002, the Company was in the process of carrying out due diligence with regard to potential purchase of the sawmill. During this process the new owners noted that the sites to which their mill wood waste was being discharged did not have resource consents to cover this activity. While the Company viewed the issue of consenting the disposal site strictly a matter for the disposal contractor they considered it good environmental governance to make it their business, and become involved.

As a result the Company applied for and were granted consent to install a culvert at the Monk Road site and also a consent to discharge untreated wood waste to the site. They were later granted a consent to discharge treated wood waste to a site on Village Settlement Road.

As a result of ongoing leachate generation from historical filling at the Monk Rd site, Waverley Sawmills Ltd applied for, and were granted, a consent to discharge stormwater and leachate to land and water in August 2008 and this consent was renewed in 2010.

Wood waste is generated at the sawmill throughout the timber making process, from de-barking through to gauging. In the course of applying for resource consent to discharge treated wood waste the Company identified ways to reduce the quantity of treated wood waste produced. One of these measures included machining timber products before they are treated with preservative whenever possible. Such alterations to the production process have significantly reduced the quantity of treated wood waste for disposal.

The site at Monk Road is a gully in the upper reaches of a catchment predominated by dairy farm land. Immediately above the discharge area is a small farm dam. The Company installed a culvert at the site that conducted the discharge from this dam around and downstream of the discharge area, effectively bypassing the discharge area. The aim of this work was to reduce the quantity of water entering the discharge area and coming into contact with the wood waste discharged therein.

After this development was completed, a spring was discovered under the area filled prior to the purchase of the sawmill, and this was promoting leachate generation. This leachate was found to be discharging into the unnamed tributary of the Kohi Stream. The presence of copper chromium and arsenic in the leachate indicated that treated woodwaste had been disposed at the site in the past. A consent to permit this leachate discharge was obtained by the Company in August 2008 and renewed in October 2010.

The discharge site on Village Settlement Road was chosen because it is elevated and thus dry. The site is small in size compared to the Monk Road site and while it is situated close to an unnamed tributary at the north west end of the site, the surface gradient and contours dictate that surface water from the site flows in a south easterly direction, some distance from any water body. The Company is now at the point that it produces no treated wood waste as all machining is done prior to treatment and the Company's Village Settlement Rd site was closed in June 2014.



Figure 1 Waverley Sawmills discharge sites



Photo 1 Waverley Sawmills discharge site at Village Settlement Rd, Waverley



Photo 2 Waverley Sawmills discharge site at Monk Rd, Waverley

1.3 Resource consents

Waverley Sawmills Ltd holds four resource consents the details of which are set out in the table below and in sections 1.3.1 to 1.3.3.

Table 1 Resource consents held by Waverley Sawmills Ltd

Consent Number	Purpose	Granted	Review	Expires
6412-1	To install an maintain culvert (Monk Rd)	Mar 2005	June 2016	June 2022
6413-2	To discharge untreated wood waste (Monk Rd)	May 2012	June 2016 June 2022	June 2028
7342-2	To discharge leachate (Monk Rd)	Oct 2010	June 2014 June 2016	June 2022
6528-2	To discharge treated wood waste	31 July 2012	June 2014 June 2018	June 2022

1.3.1 Discharge to water

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.

Consent 7342-2

The Company holds discharge permit **7342-2** to cover the discharge of leachate and stormwater from a sawmill-waste disposal site to water and into land where it may enter in an unnamed tributary of the Kohi Stream. This permit was issued by the Council on 7 October 2010 under Section 87(e) of the RMA It is due to expire on 1 September 2022.

The permit has six special conditions.

Special condition 1 requires that the consent holder adopt the best practicable option.

Special conditions 2 and 3 specify certain parameters and effects that shall not be exceeded in the unnamed tributary of the Kohi Stream.

Special conditions 4 and 5 require the consent holder to regularly take samples of the unnamed tributary of the Kohi Stream and undertake chemical analysis.

Special condition 6 is a review condition.

1.3.2 Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA Act stipulates 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.

Consent 6413-2

The Company holds discharge permit **6413-2** to cover the discharge of wood waste from sawmilling operations onto and into land. This permit was issued by the Council on 31 May 2012 under Section 87(e) of the RMA. It is due to expire on 1 June 2022.

Special condition 1 relates to the provision of a management plan for the site.

Special condition 2 specifies that only untreated wood waste can be discharged to the site.

Special condition 3 requires that the discharges only be made to a certain area.

Special condition 4 requires that the consent holder shall be the sole source of materials discharged.

Special condition 5 requires that discharged materials do not enter water.

Special condition 6 requires the consent holder to adopt the best practicable option when exercising the consent.

Special condition 7 specifies the requirements for capping and reinstatement.

Special condition 8 relates to review of the consent.

The permit is attached to this report in Appendix I.

Consent 6528-2

The Company holds discharge permit **6528-2** to cover the discharge of wood waste from sawmilling operations onto and into land. This permit was issued by the Council on 31 July 2012 under Section 87(e) of the RMA. This consent expires on 1 June 2022.

Special condition 1 requires the consent holder to adopt the best practicable option when exercising the consent.

Special condition 2 relates to the provision of a management plan for the site.

Special condition 3 specifies that only treated and untreated wood waste can be discharged to the site.

Special condition 4 specifies the area in which the discharges may occur.

Special condition 5 states that the consent holder be the sole supplier of waste to the site and special condition 6 deals with the control of storm water on the site.

Special condition 7, 10 and 11 relate to capping requirements.

Special conditions 8 and 9 set out maximum contamination limits allowed in soil at certain areas of the site.

Special conditions 12 and 13 deal with requirements to notify Council of certain events.

Special condition 14 and 15 set out post closure monitoring requirements, and special condition 16 is a review condition.

1.3.3 Land use permit

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations.

Consent 6412-1

The Company holds land use permit **6412-1** to culvert an unnamed tributary of the Kohi Stream for land improvement purposes associated with cleanfill activity. The Council issued this consent on 4 March 2005 as a resource consent under Section 87(e) of the RMA. It is due to expire on 1 June 2022.

Special condition 1 requires the consent holder to adopt the best practicable option to prevent or minimise the discharge of silt or other contaminants into or onto the streambed and to avoid or minimise the disturbance of the streambed and any adverse effects on water quality.

Special condition 2 states that the exercise of the consent should be undertaken in accordance with documents submitted with the application.

Special condition 3 requires the consent holder to notify the Council 48 hours before and after works occur on site.

Special condition 4 requires that the exercise of the consent shall not cause ponding on upstream properties.

Special condition 5 relates to the lapse of the consent after 5 years if not exercised.

Special condition 6 deals with review of the consent.

A copy of the consent is included in Appendix I of this report.

1.4 Monitoring programme

1.4.1 Introduction

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

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations, and seek information from consent holders.

The monitoring programme for Waverley Sawmills Ltd site consisted of three primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- in discussion over monitoring requirements;
- preparation for any reviews;
- renewals;
- new consents;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

The Monk Road site and the Village Settlement Road were visited three times during the monitoring period. With regard to consent for the disposal of wood waste onto and into land at both sites, the main points of interest were site processes with potential or actual discharges to receiving watercourses, including contaminated stormwater. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the consent holder were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council.

1.4.4 Chemical sampling

The Council undertook sampling at both discharge sites. These included leachate samples, water quality samples and soil samples.

2. Results

2.1.1 Inspections

23 October 2013

A site visit was made to conduct a compliance monitoring inspection. It was fine at the time of the inspection with 6.5 mm of rain falling over the previous 48 hours.

Monk Rd Site:

The discharged wood waste appeared to be very clean and free of unacceptable wastes. The new pond pipe had been connected to the existing pipe that led down to the culvert under Monk Rd. Due to low flow conditions the culvert at Monk Road was only discharging undiluted contaminated spring water (i.e. no freshwater flow was occurring from the piped tributary). Water samples were taken of the upstream pond, 20 m downstream of Monk Rd and at the culvert near the dairy shed.

Village Rd Site:

Stormwater from the capped areas was being intercepted by a small bund running along the cap edge and being diverted around the open cell. The system is working well and containing the runoff from the tipface to within the landfill footprint.

26 February 2014

A site visit was made to conduct a compliance monitoring inspection. It was fine at the time of the inspection with no rain falling over the past 48 hours.

Monk Rd Site:

The discharged wood waste appeared to be very clean and free of unacceptable wastes. The culvert under Monk Rd was discharging only contaminated spring water as there was no flow from the pond. Water samples were taken 20 m downstream of Monk Rd and at the culvert near the dairy shed. A discussion was held about how the fill was encroaching on the spring channels in the gully. One channel had been piped but a second channel had not. The contractor stated that piping was in the process of being brought onsite. The consent holder was instructed to pipe the spring channel so that the flow was isolated from the encroaching fill.

Village Rd Site:

The recently used cell had been covered in clay, and there was only a small amount of uncovered sawdust on site. The consent holder stated that the site was being closed up. The consent holder was advised to cease all capping operations until the results of soil samples taken during the inspection were available. Consent conditions required the consent holder notify Council 20 days prior to commencing capping. Incident 30528 was logged (see incident section 2.3). The consent holder was directed to cease all capping operations until soil sampling results were available.

17 March 2014

Village Rd Site

A site visit was made to undertake soil sampling at the request of the consent holder and it was noted that reinstatement works had not ceased as directed. An abatement notice was issued (see incident section 2.3). It was noted that the contractor had done good job reinstating and re-contouring the site.

13 June 2014

A site visit was made to conduct a compliance monitoring inspection. There were intermittent showers at the time of the inspection.

Monk Rd Site:

The discharged wood waste appeared largely clean and free of unacceptable wastes. There were some pockets of other materials that needed to be removed. Cover material was being accumulated on site and discussions were held in regards to ensuring that cover material was clean soil or clay. The pond at the top of the site was quite low and below the culvert intake.

The spring had been piped approximately 30 m out from the tipface and was discharging at approximately 6 L/min and a sample was taken. A sample was also taken from the dairy shed culvert and it was noted that the sample had slight odour and that there was foam present around the culvert discharge.

Village Rd Site:

The area of leachate contaminated soil had been scraped out and buried under a metre of clay. New soil had been brought and used to fill in the scraped out areas. A composite soil sample was taken along the bottom fence (site SOL000179).

Discussions were held with site owner and consent holder, and the site owner enquired about the status of the site in terms of contamination in the long term. During the discussions it was made clear to the site owner that the works undertaken were for the purposes of complying with consent conditions and reducing risk to the neighbouring property and did not mean that the site was remediated to any particular land use standard.

2.2 Soil and water monitoring

2.2.1 Monk Rd

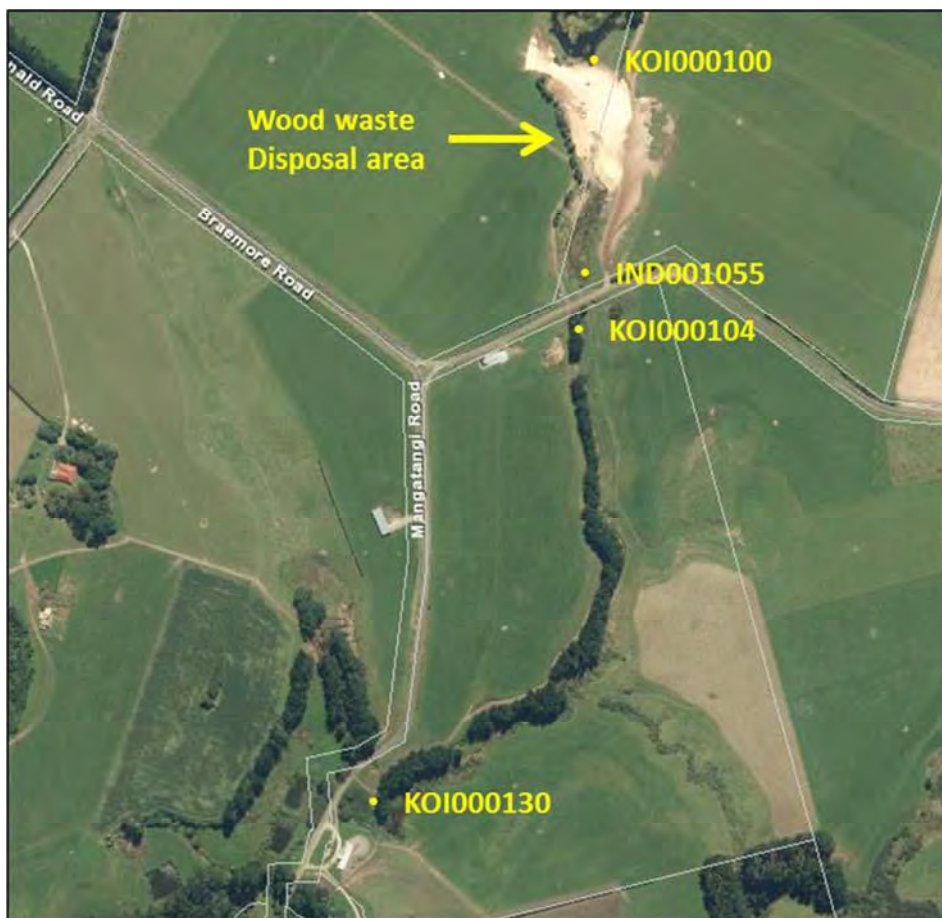


Figure 2 Monk Road sampling sites, Waverley

Council took seven water quality samples across three sites during the period under review. The sites used for sampling are shown in Figure 4 above. The results of sample analysis are given in the tables below.

Table 2 Water quality analysis of samples taken from monitoring sites at Waverley
Sawmills Limited's wood waste discharge site at Monk Road 23 October 2013

Parameter	Unit	KOI000100	KOI000104	KOI000130
Alkalinity	g/m ³ CaCO ₃	32	148	103
Dissolved arsenic	g/m ³	<0.001	0.54	0.030 (0.1)
BODCF	g/m ³	0.6	98	0.6 (3.0)
Conductivity	mS/m	16.0	46.0	27.8
Dissolved chromium	g/m ³	<0.03	0.28	0.02 (0.1)
Dissolved copper	g/m ³	<0.01	0.01	<0.01 (0.01)
Unionised ammonia	g/m ³	0.00005	-	0.00031
Ammonium-N	g/m ³ - N	0.022	0.196	0.036
pH	pH	6.8	6.1	7.4
Temperature	Deg C	16.9	-	15.4

(bold) = consented limit at site KOI000130 - = not measured BODCF= biochemical oxygen demand

Table 3 Water quality analysis of samples taken from monitoring sites at Waverley Sawmills Limited's wood waste discharge site at Monk Road 26 February 2014

Parameter	Unit	KOI000104	KOI000130
Alkalinity	g/m ³ CaCO ₃	220	105
Dissolved arsenic	g/m ³	0.36	0.030 (0.1)
BODCF	g/m ³	30	0.9 (3.0)
Conductivity	mS/m	49.8	26.4
Dissolved chromium	g/m ³	0.16	<0.03 (0.1)
Dissolved copper	g/m ³	<0.01	<0.01 (0.01)
Unionised ammonia	g/m ³	0.00002	0.00089
Ammonium-N	g/m ³ - N	0.017	0.095
pH	pH	6.4	7.3
Temperature	Deg C	22.4	19.9

(bold) = consented limit

Table 4 Water quality analysis of samples taken from monitoring sites at Waverley Sawmills Limited's wood waste discharge site at Monk Road 12 June 2014

Parameter	Unit	IND001055	KOI000130
Alkalinity	g/m ³ CaCO ₃	148	79
Dissolved arsenic	g/m ³	2.26	0.024 (0.1)
BODCF	g/m ³	630	0.7 (3.0)
Conductivity	mS/m	61.6	23.3
Dissolved chromium	g/m ³	2.20	<0.03 (0.1)
Dissolved copper	g/m ³	<0.01	<0.01 (0.01)
Unionised ammonia	g/m ³	<0.00001	0.00035
Ammonium-N	g/m ³ - N	0.040	0.072
pH	pH	5.1	7.3
Temperature	Deg C	25.9	11.1

(bold) = consented limit at site KOI000130

Results of note are the higher than usual levels of filtered carbonaceous oxygen demand and CCA (copper- chromium-arsenate) at site KOI000104. Sample comments for all samples indicate that the pond above the landfill was well below the intake and that the stream channel at KOI000104 was being fed by contaminated spring water only, and was not being diluted by clean pond water. It was also noted that the spring water at the source (site IND001055) was running warmer than usual and had elevated levels of CCAB and BODCF when compared to the previous five years. Since the massive spike in contaminant loads that were noted in 2007, the levels of contaminants in this spring water were appearing reduce and remain consistent (see figure below). This slight resurgence indicates that this discharge is still apt to fluctuate over the long-term and should continue to be monitored.

Notwithstanding the fluctuations in contaminant loads within the discharge, after mixing with the unnamed tributary downstream of the sampling site and passage through the wetland, the discharge at the compliance point at site KOI000130, was compliant with consent conditions.

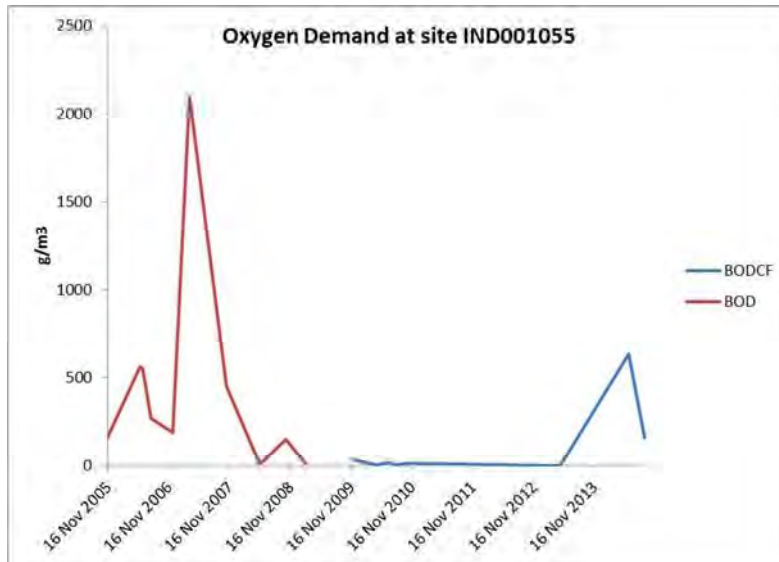


Figure 3 Graph showing recent increase in biochemical oxygen demand at site IND001055

2.2.2 Village Settlement Road Site

Soil samples were taken from the capped areas, on virgin ground down-gradient of the landfill foot print and from the neighbouring property. The sampling sites are shown in Figure 5 and the results of soil analysis are given in the tables below.

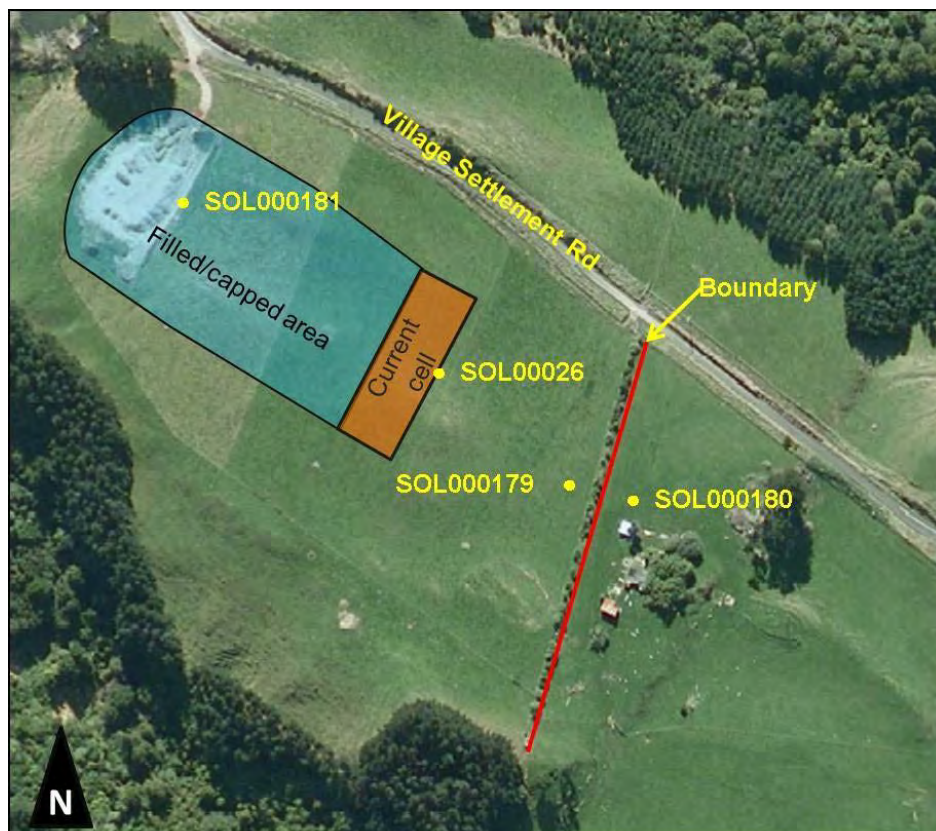


Figure 4 Aerial view of the discharge site and sampling sites at Waverley Sawmills Ltd's Village Settlement Rd site

2.2.2.1 Capped area –site SOL000181

Twenty cores were taken along a NW diagonal transect passing through the centre of the capped area. These cores were made into a composite sample and analysed for CCAB (copper-chromium arsenate-boron) contaminants. The results (given in the table below) show that the capped areas were compliant with consent conditions in regards to CCAB concentrations.

Table 5 Composite soil sample test results taken on the capped areas at the Village Settlement Road, Waverley -26 February 2014

Parameter	Unit	SOL000181	6528-2 Consent limit
Arsenic	mg/kg dry weight	23	30
Boron		<20	380
Chromium		48	76
Copper		30	40

2.2.2.2 Outside landfill footprint – site SOL000179

Five cores were taken across a 15 m transect running parallel to the southern boundary fence. These cores were made into a composite sample and analysed for CCAB contaminants. It should also be noted that the consent 6528-2 contains conditions that require this area to be remediated should CCAB levels exceed certain limits once filling operations have been completed.

During the inspection that was undertaken during sampling, it was found that the capping of the site had commenced and was approaching completion without the notification or works required by consent 6528-2. Sample results (given in the table below) also showed that this area had levels of arsenic and chromium exceeding the post closure limits set out in consent 6528-2. An incident was logged and an abatement notice was issued (see incidents section 2.3).

The required works (see section 2.2.3) were undertaken by the consent holder and the site was re-sampled in June 2014. This sample complied with post closure limits as shown in the table below.

Table 6 Results of soil sampling at site SOL000179 – 26 February 2014

Parameter	Units	SOL000179 3 m above south boundary	
		Recorded value	6528-2 Consent limit*
Arsenic	mg/kg dry weight	310	38
Boron		<20	160
Chromium		173	76
Copper		86	130

* Consent limit is for post closure targets after remediation

Table 7 Results of soil re-sampling at site SOL000179 (after soil works) – 12 June 2014

Parameter	Units	SOL000179 3 m above south boundary	
		Recorded value	6528-2 Consent limit (post closure)
Arsenic	mg/kg dry weight	38	38
Boron		<20	160
Chromium		38	76
Copper		49	130

2.2.2.3 Neighbouring property-site SOL000180

Five cores were taken across a 15 m transect running parallel to the southern boundary fence. These cores were made into a composite sample and analysed for CCAB contaminants. The results, given in the table below, showed that this area was compliant with consent conditions in regards to CCAB limits set out by the consent for the operational life of the site. The consent also sets out more stringent limits that must be attained at this site just prior to the site being capped and the site also complied with these limits.

Table 8 Results of soil sampling at site SOL000180 – 26 February 2014

Parameter	Units	SOL000180 1 m below south boundary		
		Recorded value	6528-2 Consent limit (operational)	6528-2 Consent limit (post closure)
Arsenic	mg/kg dry weight	5	30	30
Boron		<20	380	20
Chromium		13	76	76
Copper		30	130	42

2.3 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 Incident Register (UIR) includes events where the Company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

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

In the 2013-2014 period, the Council was required record an incident and issue an abatement notice, with regard to non –compliances consent conditions as detailed below.

26 February 2014

During routine monitoring it was found that capping works had commenced without the Company providing the notification required by consent conditions, nor had works prior to capping been undertaken as required by consent conditions.

The consent holder was instructed to cease capping works until sample results were available. During an inspection on 17 March 2014 to undertake the further soil sampling, it was found that the capping works had been completed without the required remediation works. Abatement Notice EAC-20212 was issued. Re-inspection was to be undertaken after 16 May 2014. Due to inclement weather the consent holder requested an extension of the deadline to undertake works until 16 June 2014. This extension was granted and a re-inspection was undertaken after that date.

13 June 2014

The area of leachate contaminated soil had been scraped out and buried under a metre of clay. New soil had been brought and used to fill in the scraped out areas. A composite soil sample was taken along the bottom fence (site SOL000179).

Discussions were held with site owner and consent holder, and the site owner enquired about the status of the site in terms of contamination in the long term. During the discussions it was made clear to the site owner that the works undertaken were for the purposes of complying with consent conditions and reducing risk to the neighbouring property and did not mean that the site was remediated to any particular land use standard.



Figure 5 Aerial view of the site with approximate area of scraped back soil



Photo 3 Scraped out area



Photo 4 Burial site for contaminated soil



Photo 5 Fresh soil in scraped out area and re-contoured burial area (at rear)

2.4 Discussion of site performance

2.4.1 Monk Rd site

In regards to the discharge of wood waste the site was well managed and there was no evidence of illegal dumping or any significant amounts of unacceptable materials in the wood waste loads. There were no odour or dust issues noted during any of the inspections and no complaints were received about the site. The pipe installed under consent 6412 -1 has been repaired and is now functional. The spring channel on the floor of the fill area was piped as requested by Council and as required by consent conditions.

2.4.2 Village Rd site

Improvement is required in regards to site performance as the consent holder did not notify Council of the fact the site was being capped, nor did the consent holder undertake required works prior to the commencement of capping. Consent conditions were specifically designed in anticipation of the site requiring soil works and therefore they required notification prior to capping to ensure contaminated soils could be scraped back and put over the fill area and capped. An abatement notice was issued and the consent undertook works to meet consent conditions and the requirements of the abatement notice.

2.5 Environmental effects of exercise of consents

2.5.1 Monk Rd site

The discharge of leachate from the site is still having an effect on the environment immediately downstream of the discharge, and it was noted that contaminant levels in the discharge had elevated levels during this monitoring period. The exact cause of this elevation is not known, however the water quality at the property boundary and compliance point was compliant with consent conditions.

No significant effects were noted from the current discharge of untreated wood waste at the site.

2.5.2 Village Settlement Rd site

During the monitoring year works were undertaken to scrape back leachate contaminated soils and bury them in clay with a one metre cap. This was undertaken to meet consent conditions and to lower the risk of contamination to the property down-gradient of the site. A soil survey was undertaken by the Council to show that contamination existed in and around the leachate flow path and the consent holder essentially used the flow foot print as a guide to scrape out the contaminated soil. By removing the bulk of the most contaminated soil up-gradient of the property boundary, the likelihood of contamination of any significance migrating down into the neighbours' property has been reduced. Subsequent sampling by the Council indicates that the works to have been successful and the site now complies with consent conditions. The site must comply with the post closure levels for at least five years prior to the consent being surrendered.

It should be noted that the consent conditions were only designed to reduce risk to the neighbour's property and were not designed to have the site remediated to any particular land use guideline.

2.6 Evaluation of performance

A tabular summary of the Company's compliance record for the period under review is set out in Tables 9-13.

Table 9 Summary of performance for consent 6412-1 to install culvert

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall adopt the best practicable option when exercising the consent	Site specific monitoring programme – programme management	Yes
2. The consent shall be exercised generally in accordance with the information provided in the application	Site specific monitoring programme – programme management	Yes
3. The consent holder shall inform the Council of the culvert installation and completion of works within 48 hrs	Site specific monitoring programme – programme management	Yes

Condition requirement	Means of monitoring during period under review	Compliance achieved?
4. The exercise of the consent shall not cause flooding of upstream property	Site specific monitoring programme – programme management	Yes
5. The consent shall lapse after 5 years if not exercised	Site specific monitoring programme – programme management	Yes
6. Optional review provision	No review due this period	N/A
Overall assessment of administrative performance in respect of this consent		High
Overall assessment of environmental performance in respect of this consent		High

N/A = not applicable

Table 10 Summary of performance for consent 6413-2 to discharge wood waste into and onto land

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall supply a management plan for the activity	Site specific monitoring programme – programme management	Yes
2. Only untreated wood waste shall be discharged to the site	Site specific monitoring programme – site inspections	Yes
3. Materials to discharge in certain area	Site specific monitoring programme – site inspections	Yes
4. The consent holder shall be the sole source of material discharged	Site specific monitoring programme – site inspection	Yes
5. Discharged material not to enter water	Site specific monitoring programme – site inspection	Yes
6. The consent holder shall adopt the best practicable option when exercising the consent	Site specific monitoring programme – site inspection	Yes
7. Specifications for capping and reinstatement	Site specific monitoring programme – inspection	No capping carried out as yet
8. Optional review provision	A review is not required	N/A
Overall assessment of administrative performance in respect of this consent		High
Overall assessment of environmental performance in respect of this consent		High

Table 11 Summary of performance for consent 6528-2 to discharge wood waste into and into land

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Site specific monitoring programme – site inspections	Yes
2. The consent holder shall supply a management plan for the activity	Site specific monitoring programme – programme management	Yes
3. Only wood waste shall be discharged to the site	Site specific monitoring programme – site inspections	Yes
4. No wood treatment chemicals or sludges shall be discharged to the site	Site specific monitoring programme – site inspections	Yes
5. The consent holder shall be the sole discharger to the site	Site specific monitoring programme – site inspection	Yes
6. The consent holder shall minimise storm water movement across the site	Site specific monitoring programme – site inspection	Yes
7. Fill capped top certain specifications	Site specific monitoring programme – site inspection	Yes
8. Capped areas not to exceed certain contaminant limits	Site specific monitoring programme –soil sampling	Yes
9. Non capped areas not to exceed certain contaminant limits prior to closure	Site specific monitoring programme –soil sampling	No-capping commenced prior to remediation works
10. Final toe of cap to meet certain specifications	Site specific monitoring programme – site inspection	Yes
11. Maintenance of capped areas	Site specific monitoring programme – site inspection	Yes
12. The consent holder shall notify Council 20 days prior to final capping	Site specific monitoring programme – programme management	Yes
13. The consent holder shall notify Council 7 days after final capping is complete	Site specific monitoring programme – programme management	No
14. The consent holder to retain consent for monitoring purposes for a minimum of five years after closure	Site specific monitoring programme – programme management	Yes
15. Entire filled are must be capped and reinstated by June 2017	Site specific monitoring programme – programme management	Yes
16. Optional review provision	Review not due this period	N/A
Overall assessment of administrative performance in respect of this consent		Improvement required
Overall assessment of environmental performance in respect of this consent		Good

N/A = not applicable

Table 12 Summary of performance for consent 7342-1 to discharge leachate and stormwater to land and water

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall adopt the best practicable option when exercising the consent	Site specific monitoring programme – programme management	Yes
2. Certain effects not to be present 50 m downstream of the discharge	Site specific monitoring programme – programme management and inspection	Yes
3. Certain parameters not to be exceeded at site KOI000130	Site specific monitoring programme – sampling	Yes
4. Records to be supplied	Site specific monitoring programme – programme management	N/A
5. A review condition	A review is not required	N/A
Overall assessment of administrative performance in respect of this consent		High
Overall assessment of environmental performance in respect of this consent		High

N/A = not applicable

During the monitoring period the Company demonstrated a good level of environmental performance, however an improvement is required in its administrative performance. The consent holder failed to notify Council 20 days prior to commencement of capping operations and then continued with capping operations after being directed to cease capping until soil sample results were available.

2.7 Recommendations from the 2012-2013 Annual Report

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

1. THAT monitoring of discharges from the Company's site on Monk Rd and Village Settlement Rd sites in the 2013-2014 year continue at the same level as in 2012-2013.
2. THAT the option for a review of resource consent(s) 7342-1 and 6528-2 in June 2014 not be exercised, on the grounds that current consent conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent.

2.8 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for air/ water discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA the obligations of the Act in terms of monitoring emissions/ discharges and effects, and subsequently reporting to the regional community. The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere/ discharging to the environment.

It is proposed that for 2014-2015 the programme remain unchanged from that undertaken in the 2012-2013 period. A recommendation to this effect is attached to this report.

3. Recommendation

THAT monitoring of discharges from Waverley Sawmills Ltd sites on Monk Rd and Village Settlement Rd in the 2014-2015 year continue at the same level as in 2012-2013.

Glossary of common terms and abbreviations

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

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.
Condy g/m ³	Conductivity, an indication of the level of dissolved salts in a sample,. Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
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).
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
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	<i>Resource Management Act</i> 1991 and including all subsequent amendments.
UI	Unauthorised Incident.
UIR	Unauthorised Incident Register – contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.

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

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

Bibliography and references

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ANZECC, 2000: *Australian and New Zealand guidelines for fresh and marine water quality* 2000. Australian and New Zealand Environment and Conservation Council; Agriculture and Resource Management Council of Australia and New Zealand, October 2000.

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Appendix I

Resource consents held by Waverley Sawmills



Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 06-765 7127
FAX 06-765 5097

Please quote our file number
on all correspondence

Name of
Consent Holder: Waverley Sawmills Limited
 P O Box 44
 WAVERLEY

Consent Granted 4 March 2005
Date:

Conditions of Consent

Consent Granted: To erect, place and maintain a culvert in an unnamed
 tributary of the Kohi Stream in the Whenuakura catchment
 at or about GR: R21:515-629

Expiry Date: 1 June 2022

Review Date(s): June 2010, June 2016

Site Location: Monk Road, Waverley

Legal Description: Sec 71 Blk II Wairoa SD

Catchment: Whenuakura

Tributary: Kohi

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document
www.trc.govt.nz*

General conditions

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

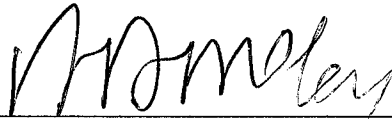
Special conditions

- 1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
- 2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3154. In the case of any contradiction between the documentation submitted in support of application 3154 and the conditions of this consent, the conditions of this consent shall prevail.
- 3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least 48 hours prior to the commencement and upon completion of the initial installation and again at least 48 hours prior to and upon completion of any subsequent maintenance works which would involve disturbance of or deposition to the riverbed or discharges to water.
- 4. The exercise of this consent shall not result in the significant ponding of water on the upstream neighbouring property.
- 5. 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.

6. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2010 and/or June 2016, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 4 March 2005

For and on behalf of
Taranaki Regional Council

A handwritten signature in black ink, appearing to read 'M. J. McLeary', is written over a horizontal line.

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: Waverley Sawmills Limited
 P O Box 44
 WAVERLEY 4544

Decision Date: 29 May 2012

Commencement
Date: 29 May 2012

Conditions of Consent

Consent Granted: To discharge untreated wood waste from sawmill
 operations onto and into land at or about (NZTM)
 1741513E-5601129N

Expiry Date: 1 June 2028

Review Date(s): June 2016, June 2022

Site Location: Monk Road, Waverley

Legal Description: Secs 71 & 72 Blk II Wairoa SD (Discharge site)

Catchment: Whenuakura

Tributary: Kohi

*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. 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 infiltration of stormwater and spring water into the filled areas. 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 manner in which any stormwater water will be isolated diverted from the fill area;
 - b) the manner in which any spring water will be isolated and diverted from the fill;
 - c) a timetable for capping works for any completed areas; and
 - d) details of final contouring and stormwater diversion of completed capped areas.
2. This consent only authorises the discharge of untreated wood shavings, sawdust and bark at the site. The discharge of any other material or waste at this site shall not occur.
3. The discharge of materials shall only occur in the shaded area shown in Figure 1 (attached).
4. The Waverly Sawmills Limited sawmill site at Oturi Road, Waverley shall be the sole source of material discharged at the site.
5. The exercise of this consent shall not result in any discharged material entering surface water.
6. The consent holder shall at all times adopt the best practicable option or options (as defined in section 2 of the Resource Management Act 1991) to prevent or minimise any actual or potential effect on the environment arising from any discharge at the site.
7. Any area used for the discharge of material under this consent shall be capped and re-vegetated. The cap shall be contoured to ensure no ponding occurs over the discharge area and shall consist of a minimum of 300 mm of clean clay and 100 mm of top soil.
8. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2016 and/or June 2022 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 29 May 2012

For and on behalf of
Taranaki Regional Council

Director-Resource Management



Figure 1 Discharge area at Waverley Sawmill's Monk Road site

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

Name of
Consent Holder: Waverley Sawmills Limited
 P O Box 44
 WAVERLEY 4544

Decision Date: 31 July 2012

Commencement
Date: 31 July 2012

Conditions of Consent

Consent Granted: To discharge treated and untreated wood waste and
 associated leachate onto and into land at or about (NZTM)
 1744652E-5597502N

Expiry Date: 1 June 2022

Review Date(s): June 2014, June 2018

Site Location: Village Settlement Road, Waverley

Legal Description: Lot 6 DP 5250 Blk VIII Wairoa SD (Discharge site)

Catchment: Waitotara

Tributary: Moumahaki

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

General condition

- a. The consent holder shall pay to the Taranaki Regional Council [the Council] all the administration, monitoring and supervision costs of this consent, fixed in accordance with 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 actual or potential effect on the environment arising from any discharge at the site. This includes, but is not necessary limited to:
 - a) controlling stormwater to minimise infiltration into the filled areas;
 - b) leachate control to minimise to migration of contaminants from the tipface
 - c) minimising the area of discharged wood waste that is uncapped; and
 - d) minimising the duration for which discharged wood waste remains uncapped.
2. Within three months of this consent being granted the consent holder shall prepare and maintain a site management plan that documents how the requirements set out in this consent will be met. This plan shall be followed at all times and after having been certified by the Chief Executive, Taranaki Regional Council.
3. This consent only authorises the discharge of treated and untreated wood shavings, sawdust and bark at the site. The discharge of any other material at this site shall not occur.
4. The discharge shall only occur in the area depicted by the orange shading shown in Figure 1 (attached) and in particular but without limitation no discharges shall occur within 25 metres of the property's boundary.
5. The Waverly Sawmills Limited sawmill site at Oturi Road, Waverley shall be the sole source of material discharged at the site.
6. The consent holder shall establish and maintain all necessary stormwater structures and retention bunding to ensure that any tipface runoff is minimised and contained within the landfill footprint. This includes the establishment of new drains as required when new discharge cells are constructed.
7. When each discharge cell is full it shall be capped as soon as is practicable. The cap shall consist of a minimum of 600 mm of clean compacted clay and 200 mm of clean topsoil and shall contoured to ensure that stormwater is diverted away from the open tipface and drains freely from the capped area.

8. During the operational life of the landfill, the exercise of this consent shall not result in any of the maximum concentrations of contaminants shown in the table below being exceeded in the top 150 mm of soil beyond the site boundary.

Contaminant	Maximum concentration
Arsenic	30 mg kg ⁻¹
Boron	380 mg kg ⁻¹
Total chromium	76 mg kg ⁻¹
Copper	130 mg kg ⁻¹

9. Immediately prior to the final capping of the last discharge cell, the consent holder shall undertake any soil remediation action required to ensure that the levels of contaminants in the top 150 mm of soil in the areas identified in the table below do not exceed the respective maximum concentrations as also set out in the table below.

Soil Contaminant	Maximum concentrations		
	Capped Areas	Beyond site boundary	Area between toe and south boundary*
Arsenic	30 mg kg ⁻¹	30 mg kg ⁻¹	38 mg kg ⁻¹
Total chromium	76 mg kg ⁻¹	76 mg kg ⁻¹	76 mg kg ⁻¹
Copper	40 mg kg ⁻¹	42 mg kg ⁻¹	130 mg kg ⁻¹
Boron	380 mg kg ⁻¹	20 mg kg ⁻¹	160 mg kg ⁻¹

*Area depicted by purple shading in Figure 1

10. After completing the final cell, the toe of the filled area shall be capped in a manner that ensures that the fill material is completely encapsulated with 600 mm of compacted clay prior to applying topsoil.
11. For the duration this consent is in effect, the consent holder shall maintain the capped areas at the site to following standards:
- all areas capped prior to the granting of this consent shall be maintained to their current standard;
 - all areas capped during the exercise of this consent shall be maintained to the standard set out in special condition 7;
 - with the exception of access tracks, a vegetative cover shall be maintained on all capped areas of the site; and
 - an appropriate contour shall be maintained on all capped areas to ensure adequate drainage.
12. The consent holder shall notify the Taranaki Regional Council 20 days prior to commencing final capping of the final discharge cell. Notification shall include the consent number and a brief description of the activity consented and shall be emailed to worknotification@trc.govt.nz.

Consent 6528-2

13. The consent holder shall notify the Taranaki Regional Council within 7 days of the completion of the final capping of the final discharge cell. Notification shall include the consent number and a brief description of the activity consented and shall be emailed to worknotification@trc.govt.nz. Once the Taranaki Regional Council receives and acknowledges this notification, no further discharges may occur at the site.
14. This consent cannot be surrendered for at least five years after reinstatement of the site, during which soil quality monitoring will be undertaken to ensure that the contaminants in the fill have been effectively contained. During this period the level of soil contaminant must not exceed the limits set out in special condition 9.
15. To ensure that a five year post closure monitoring window is available, the site must be closed to discharges, reinstated and remediated by no later than June 2017.
16. 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 2018 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 31 July 2012

For and on behalf of
Taranaki Regional Council

Director-Resource Management

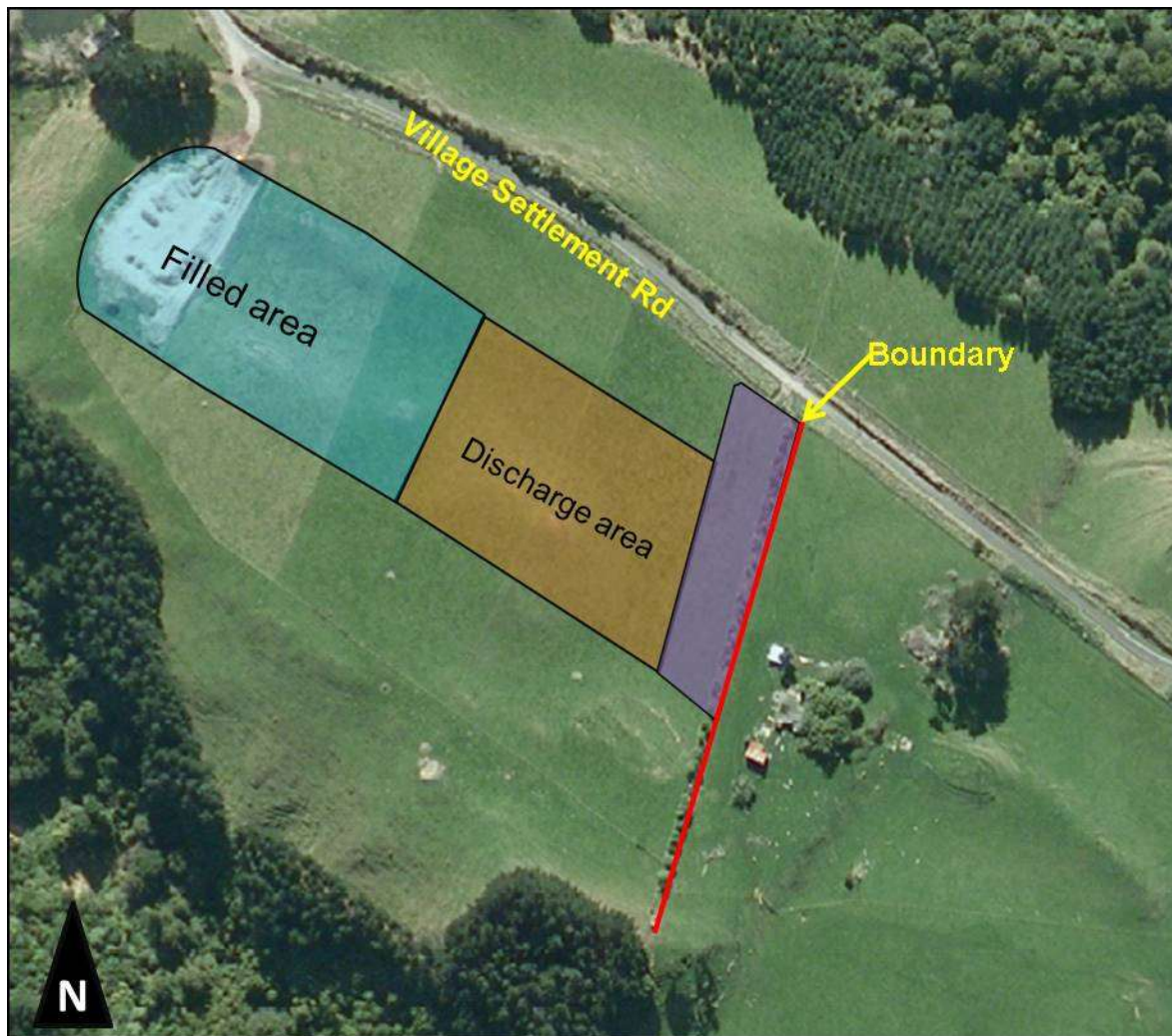


Figure 1 Discharge area at Waverley Sawmills Village Settlement Rd site

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

Name of
Consent Holder: Waveley Sawmills Limited
P O Box 44
WAVERLEY 4544

Decision Date
(Change): 4 March 2014

Commencement Date
(Change): 4 March 2014 (Granted: 7 October 2010)

Conditions of Consent

Consent Granted: To discharge leachate and stormwater from a sawmill-waste disposal site into an unnamed tributary of the Kohi Stream

Expiry Date: 1 June 2028

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

Site Location: Monk Road, Waverley

Legal Description: Sec 71 Blk II Wairoa SD (Discharge site)
Pt Lot 2 DP 4352 (Discharge source)

Grid Reference (NZTM) 1741531E-5601034N

Catchment: Whenuakura

Tributary: Kohi

*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 1991.

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 exercise of this consent shall not give rise to any or all of the following effects in the unnamed tributary of the Kohi Stream at a point 50 metres downstream of the discharge;
 - 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.
3. The exercise of this consent shall not cause the receiving water at site KOI000130 (1741323E-5600500N) to breach the following standards;
 - a) concentration of filtered carbonaceous biochemical oxygen demand no greater than 3.0 g/m³;
 - b) concentration of dissolved copper demand no greater than 0.01 g/m³;
 - c) concentration of dissolved chromium demand no greater than 0.1 g/m³;
 - d) concentration of dissolved arsenic demand no greater than 0.1 g/m³.
4. 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 2012, 2014, 2016 and/or June 2022 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 4 March 2014

For and on behalf of
Taranaki Regional Council

A D McLay
Director-Resource Management

Appendix II

Soil analysis results



ANALYSIS REPORT

Page 1 of 1

Client:	Taranaki Regional Council	Lab No:	1240994	SPv1
Contact:	Scott Cowperthwaite	Date Registered:	27-Feb-2014	
	C/- Taranaki Regional Council	Date Reported:	06-Mar-2014	
	Private Bag 713	Quote No:	49397	
	STRATFORD 4352	Order No:	43441	
		Client Reference:	Waverley Sawmills 6528-2	
		Submitted By:	Scott Cowperthwaite	

Sample Type: Soil						
Sample Name:		SOL000179	SOL000180	SOL181		
		26-Feb-2014	26-Feb-2014	26-Feb-2014		
Lab Number:		1240994.1	1240994.2	1240994.3		
CCAB, screen level						
Total Recoverable Arsenic	mg/kg dry wt	310	5	23	-	-
Total Recoverable Boron	mg/kg dry wt	< 20	< 20	< 20	-	-
Total Recoverable Chromium	mg/kg dry wt	173	13	48	-	-
Total Recoverable Copper	mg/kg dry wt	86	40	30	-	-

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-3
CCAB, screen level	Total recoverable digestion, ICP-MS. screen level	2 - 20 mg/kg dry wt	1-3
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1-3

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Ara Heron BSc (Tech)
Client Services Manager - Environmental Division





ANALYSIS REPORT

Page 1 of 1

Client:	Taranaki Regional Council	Lab No:	1287061	SPv1
Contact:	Scott Cowperthwaite	Date Registered:	13-Jun-2014	
	C/- Taranaki Regional Council	Date Reported:	20-Jun-2014	
	Private Bag 713	Quote No:	49397	
	STRATFORD 4352	Order No:	45247	
		Client Reference:	Waverley Sawmills 6528-2	
		Submitted By:	Scott Cowperthwaite	

Sample Type: Soil						
Sample Name:	SOL000179					
	12-Jun-2014					
	10:15 am					
Lab Number:	1287061.1					
CCAB, screen level						
Total Recoverable Arsenic	mg/kg dry wt	38	-	-	-	-
Total Recoverable Boron	mg/kg dry wt	< 20	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	38	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	49	-	-	-	-

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1
CCAB, screen level	Total recoverable digestion, ICP-MS. screen level	2 - 20 mg/kg dry wt	1
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Martin Cowell - BSc
Client Services Manager - Environmental Division



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The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.