

Waverley Sawmills Limited
Monitoring Programme
Annual Report
2014-2015

Technical Report 2015-76

ISSN: 0114-8184 (Print)
ISSN: 1178-1467 (Online)
Document: 1620877 (Word)
Document: 1621526 (Pdf)

Taranaki Regional Council
Private Bag 713
STRATFORD

February 2016

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 former 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 2014 to June 2015 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental performance during the period under review, the results of Council's monitoring activities, and the environmental effects of the Company's activities. This is the ninth compliance monitoring report on the Company's activities at the Monk Road and Village Settlement Road 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 high level of environmental performance with the resource consents.

The Council's monitoring programme for the period under review included three inspections, eight water samples, and five soil/wood waste samples collected for physicochemical analysis.

At the Village Settlement Road discharge site, remediation undertaken during the 2013-2014 year has remained effective and stable during the 2014-2015 year.

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 Road 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 monitoring period the Company demonstrated a high level of environmental performance, and a high level of administrative performance

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 recommendations for the 2015-2016 period.

Table of contents

	Page
1. Introduction	1
1.1 Compliance monitoring programme reports and the Resource Management Act 1991	1
1.1.1 Introduction	1
1.1.2 Structure of this report	1
1.1.3 The Resource Management Act 1991 and monitoring	1
1.1.4 Evaluation of environmental and consent performance	2
1.2 Process description	4
1.3 Resource consents	7
1.3.1 Discharge to water	7
1.3.2 Discharges of wastes to land	7
1.3.3 Land use permit	9
1.4 Monitoring programme	9
1.4.1 Introduction	9
1.4.2 Programme liaison and management	10
1.4.3 Site inspections	10
1.4.4 Chemical sampling	10
2. Results	11
2.1.1 Inspections	11
2.1.1.1 Monk Road Site	11
2.1.1.2 Village Settlement Road	12
2.2 Soil and water monitoring	13
2.2.1 Monk Rd	13
2.2.1.1 Surface water sampling	13
2.2.1.2 Sampling of discharged material	15
2.2.2 Village Settlement Road Site	16
2.2.2.1 Capped area -site SOL000181	17
2.2.2.2 Outside landfill footprint - site SOL000179	17
2.2.2.3 Neighbouring property-site SOL000180	18
2.3 Investigations, interventions, and incidents	18
2.4 Discussion of site performance	19
2.4.1 Monk Road site	19
2.4.2 Village Road site	19
2.5 Environmental effects of exercise of consents	19
2.5.1 Monk Road site	19
2.5.2 Village Settlement Road site	19
2.6 Evaluation of performance	20
2.7 Recommendation from the 2013-2014 Annual Report	23
2.8 Alterations to monitoring programmes for 2015-2016	23
2.9 Exercise of optional review of consent	23
3. Recommendations	24
Glossary of common terms and abbreviations	25

Bibliography and references

26

Appendix I Resource consents held by Waverley Sawmills

Appendix II Soil analysis results

List of tables

Table 1	Resource consents held by Waverley Sawmills Limited	7
Table 2	Water quality analysis of samples taken from monitoring sites at Waverley Sawmills Limited's wood waste discharge site at Monk Road 16 September 2014	14
Table 3	Water quality analysis of samples taken from monitoring sites at Waverley Sawmills Limited's wood waste discharge site at Monk Road 8 December 2014	14
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	14
Table 5	Results of CCAB analysis of wood waste sample, 16 September 2014	16
Table 6	Results of CCAB analysis of wood waste sample, 16 September 2014	16
Table 7	Composite soil sample test results taken on the capped areas at the Village Settlement Road, Waverley -2 April 2015	17
Table 8	Results of soil sampling at site SOL000179 – 8 December 2014	18
Table 9	Results of soil sampling at site SOL000180 – 8 December 2014	18
Table 10	Summary of performance for Monk Road culvert consent 6412-1	20
Table 11	Summary of performance for Monk Road untreated wood waste discharge consent 6413-2	20
Table 12	Summary of performance for treated wood waste discharge consent 6528-2	21
Table 13	Summary of performance for Monk Road leachate and stormwater consent 7342-2	22

List of figures

Figure 1	Waverley Sawmills discharge sites	5
Figure 2	Monk Road sampling sites, Waverley	13
Figure 3	Graph showing recent increase in biochemical oxygen demand at site IND001055	15
Figure 4	Aerial view of the discharge site and sampling sites at Waverley Sawmills Limited's Village Settlement Road site	17

List of photos

Photo 1	Waverley Sawmills discharge site at Village Settlement Rd, Waverley – post closure	6
Photo 2	Waverley Sawmills Limited discharge site at Monk Road, Waverley	6

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 to June 2015 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. One site is situated on Monk Road at Waverley, in the Whenuakura catchment (consents 6413-2, 6412-1 and 7342-2), and the other is 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 the Company'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 ninth 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 2015-2016 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 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 (for example, recreational, cultural, or aesthetic);
- (e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each 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 Company during the period under review, this report also assigns a rating as to the Company's environmental and administrative performance.

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

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

The categories used by the Council for this monitoring period, and their interpretations, 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 failures 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 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 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 on going leachate generation from historical filling at the Monk Road site, the Company applied for, and were granted, a consent to discharge stormwater and leachate to land and water in August 2008. This consent was renewed in 2010.

Wood waste is generated at the sawmill at various stages of the timber processing operation, 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 were 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 it was found that 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 wood waste 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 the consent was renewed in October 2010.



Figure 1 Waverley Sawmills discharge sites

The discharge site on Village Settlement Road was chosen because it is elevated and therefore 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 Road site was closed in June 2014. Site remediation work was undertaken in the 2013-2014 year to ensure that the soil component concentrations specified in the consent for the cap and surface soils down gradient of the fill area were met, and this is discussed in the 2013-2014 Annual Report.



Photo 1 Waverley Sawmills discharge site at Village Settlement Road, Waverley – post closure



Photo 2 Waverley Sawmills Limited discharge site at Monk Road, Waverley

1.3 Resource consents

The Company holds four resource consents the details of which are summarised in the table below and outlined in sections 1.3.1 to 1.3.3.

Table 1 Resource consents held by Waverley Sawmills Limited

Consent Number	Purpose	Granted	Review	Expires
6412-1	To install and maintain a culvert (Monk Road)	Mar 2005	June 2016	June 2022
6413-2	To discharge untreated wood waste (Monk Road)	May 2012	June 2016 June 2022	June 2028
7342-2	To discharge leachate (Monk Road)	Oct 2010	June 2016	June 2022
6528-2	To discharge treated wood waste (Village settlement Road)	31 July 2012	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.

Condition 1 requires that the consent holder adopt the best practicable option to prevent or minimise effects.

Conditions 2 and 3 limit certain parameters in the unnamed tributary of the Kohi Stream and prohibit certain effects beyond reasonable mixing.

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

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 or into 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.

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

Condition 2 specifies that only untreated sawdust, shavings and bark can be discharged to the site.

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

Condition 4 requires that the consent holder be the sole source of materials discharged.

Condition 5 requires that discharged materials do not enter water.

Condition 6 requires the consent holder to adopt the best practicable option to prevent or minimise effects when exercising the consent.

Condition 7 specifies the requirements for capping and reinstatement.

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.

Condition 1 requires the consent holder to adopt the best practicable option to prevent or minimise effects when exercising the consent.

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

Condition 3 specifies that only treated and untreated shavings sawdust and bark can be discharged to the site.

Condition 4 specifies the area in which the discharges may occur.

Condition 5 states that the consent holder shall be the sole supplier of waste to the site and special condition 6 deals with the control of stormwater on the site.

Conditions 7, 10 and 11 relate to capping requirements.

Conditions 8 and 9 set out maximum component concentration limits allowed in the soil at certain areas of the site.

Conditions 12 and 13 require the consent holder to notify Council of certain events.

Conditions 14 and 15 set out post closure monitoring requirements, and 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.

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.

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

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

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

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

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 the Company's wood waste disposal sites 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 Company 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, surface water samples, wood waste samples and soil samples.

2. Results

2.1.1 Inspections

2.1.1.1 Monk Road Site

16 September 2014

It was found that a large amount of sawdust had been discharged since the last inspection. A small amount of unauthorised waste was noted above the toe of the fill area on the southern side of the site. There was quite a lot of stock piled material present on the top of the filled area at the northern end of the site. Some of the piles were what appeared to be top soils, however some of the piles also contained quite a bit of road chip/gravel and some cured bitumen. Some appeared to be dried sludge or drain cleanings. Photographs were taken and a composite sample was collected from dried sludge/drain cleanings. The Company was advised that this material was not to be discharged, buried, incorporated into the fill or used as capping material without further investigation, as the consent permits the discharge of only wood waste at the site, and specifies the use of clay and top soil for the cap.

There were a few bits of treated timber present at the back of the area above the wetland on the northern side of the site. It was noted that the fill material had got quite close to the wetland area. The Company was instructed to ensure that there are no discharges of wood waste to the stream or wetland as per consent conditions.

Sampling of the leachate and receiving water was undertaken. It was noted that there were some heterotrophic growths in the leachate discharge channel, however there were none noted beyond the mix zone permitted by the consent.

The following action was to be undertaken:

- Remove unauthorised wastes from the fill areas.
- Further investigation may show that the stockpiled non wood waste material needs to be removed.

8 December 2014

A site visit was made in fine weather to undertake a routine compliance monitoring inspection and take water samples. The discharged wood waste appeared to be clean and free of any unacceptable material. It was noted that the amount of wood waste at the site had increased significantly since the previous inspection and it appeared that about half the site had reached approximately final level. It was noted that the piles of soil, roadside cleanings and dried sludge had been spread over the northern end of the filled area. This had become predominantly vegetated, which appeared to have been as a result of self seeding. There did not appear to be any clay under this spread material.

It was noted that material in the area bordering the pond on the northern end of the disposal area had been scrapped back, giving an acceptable clearance between the discharged material and the surface water body.

During sampling it was found that there was no flow from the northern pond, the pipe below the filled area or at the site immediately downstream of Monk Road. Samples were taken from the northern pond and downstream of the farm race (KOI000130) only.

At a meeting at the site later that day with two of the Company Directors, it was identified that the dried sludge was a wood waste/yard scrapping slurry from the sawmill log yard. As such this material would not have been impacted by any of the timber treatment processes at the site. This was confirmed by a composite soil sample taken from the piles at the previous inspection. The inspecting officer was informed that this practice has always been undertaken about once per year.

The Company confirmed that the material was not intended to be a final cap, and that consent conditions requiring 300 mm of clean clay and 100 mm of top soil would be complied with. Capping requirements regarding the type of cover, contouring to ensure no ponding, diversion of stormwater away from the cap and on-going monitoring requirements to manage potential slumping and/or cracking were discussed.

It was agreed that one of the Directors would talk to the land owner about the final fill levels, how the capping requirements would be achieved and the approximate timings of works. This information would then be emailed to Council.

2 April 2015

The discharged wood waste appeared to be clean and free of any unacceptable material. It was noted that some slumping may have occurred along the northern end of disposal area as there were deep holes and cracks found above the northern toe. The Company was advised that it may be necessary to remedy this area to prevent material slumping and blocking the culvert inlet. The water level at the upstream monitoring site (KOI000100) was very low and there was no discharge occurring to the culvert inlet. The spring water channel and the site downstream of Monk Road (IND001055 & KOI000104) were found to be dry. A sample was collected 500 metres downstream from the Monk Road site.

The cracking in the cap was followed up with the Company post inspection. Council's concerns relating to the possibility of the material slumping into the culvert inlet and the health and safety aspect were outlined. The Director advised that he was going to visit the site on 29 April 2015 then get back to the Council to advise what action the Company would take to ensure that the material was secure. Council was subsequently informed that the cracking was 20 to 25 m south of the culvert inlet, it was outlined that cracking had occurred in the past in the summer months, due to the material drying out, and that the Director would continue to monitor the situation.

There have been no issues noted at subsequent inspection regarding slumping towards the culvert inlet.

2.1.1.2 Village Settlement Road

16 September 2014

It was found that grass was starting to become established on the remediated strip along the stormwater flow path. Grass cover on the cap was good, although some pugging was present that indicated heavy grazing in wet conditions. The cap contouring looked good, with no slumping or ponding present on the cap. It was noted that there was some minor surface cracking present in some small discrete areas where there had been heavy pugging from stock. There was evidence that there may have been some ponding in the stormwater flow path below the toe of the fill area. No soil

was sampling undertaken, however, no visible effects were noted on vegetation in the area.

8 December 2014

It was found that the cap was in good condition, with no evidence of slumping, cracking or ponding found. The cap was well vegetated. At this inspection soil samples were taken from above and below the eastern boundary fence, but not from the cap itself as the ground surface was too dry and hard. During a meeting later that day at the Monk Road site, it was highlighted that the site would need on-going monitoring to ensure that any potential issues with cracking, slumping or ponding could be identified and addressed as required.

2 April 2015

It was found that there was now reasonable pasture growth and the area appeared to be stable. There were no issues noted regarding ponding, slumping, or overgrazing. Soil sampling of the cap was also undertaken at this inspection.

2.2 Soil and water monitoring

2.2.1 Monk Rd

2.2.1.1 Surface water sampling



Figure 2 Monk Road sampling sites, Waverley

Water sampling was undertaken on three occasions at up to four monitoring sites, with a total of eight samples collected during the period under review. The sites used for sampling are shown in Figure 2. The results of sample analysis are given in the following tables. It is noted that some of the sampling sites were dry or not flowing at the time of some of the surveys.

Table 2 Water quality analysis of samples taken from monitoring sites at Waverley Sawmills Limited's wood waste discharge site at Monk Road 16 September 2014

Parameter	Unit	KOI000100	IND001055	KOI000104	KOI000130	Consent limit at KOI000130
Dissolved arsenic	g/m ³	<0.001	1.46	0.38	0.043	0.1
BODCF	g/m ³	1.3	160	39	0.8	3.0
Conductivity	mS/m	15	65.8	32	23.2	-
Dissolved chromium	g/m ³	<0.01	0.33	0.10	0.03	0.1
Dissolved copper	g/m ³	<0.01	0.01	<0.01	<0.01	0.01
pH	pH	7.0	7.4	6.6	7.4	-
Temperature	Deg C	12.1	25.2	17.2	13.2	-

BODCF= filtered carbonaceous 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 8 December 2014

Parameter	Unit	KOI000100 ^a	KOI000130	Consent limit at KOI000130
Dissolved arsenic	g/m ³	<0.001	0.037	0.1
BODCF	g/m ³	1.4	1.0	3.0
Conductivity	mS/m	14.8	24.5	-
Dissolved chromium	g/m ³	<0.03	<0.03	0.1
Dissolved copper	g/m ³	<0.01	<0.01	0.01
pH	pH	7.3	7.4	-
Temperature	Deg C	21.2	19.7	-

BODCF filtered carbonaceous biochemical oxygen demand

a not flow to culvert inlet sampled from pond

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	KOI000100 ^a	KOI000130	Consent limit at KOI000130
Dissolved arsenic	g/m ³	<0.001	0.035	0.1
BODCF	g/m ³	0.8	<0.5	3.0
Conductivity	mS/m	17.6	24.7	-
Dissolved chromium	g/m ³	<0.03	<0.03	0.1
Dissolved copper	g/m ³	<0.01	<0.01	0.01
pH	pH	6.6	7.2	-
Temperature	Deg C	16.3	16.3	-

BODCF filtered carbonaceous biochemical oxygen demand

a not flow to culvert inlet sampled from pond

The receiving water conditions on the consent were met at the time of all three sampling surveys.

Results of note are the higher than usual levels of filtered carbonaceous biochemical oxygen demand and CCA (copper- chromium-arsenate) at site KOI000104. Sample

comments for all but one of the samples outlined that the pond above the landfill was well below the intake. The consequence of this was that the stream channel at KOI000104 was only being fed by impacted spring water from under the filled area, and was not being diluted by any flow from the unnamed tributary upstream of the site.

It was also noted that the spring water at the source (site IND001055) had higher than usual levels of CCAB and BODCF when compared to the previous five years. Since the massive spike in contaminant loads in 2007 was noted, the levels of contaminants in this spring water were appearing reduce and remain relatively 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 (site KOI000130), was within the specified limits given in the consent conditions.

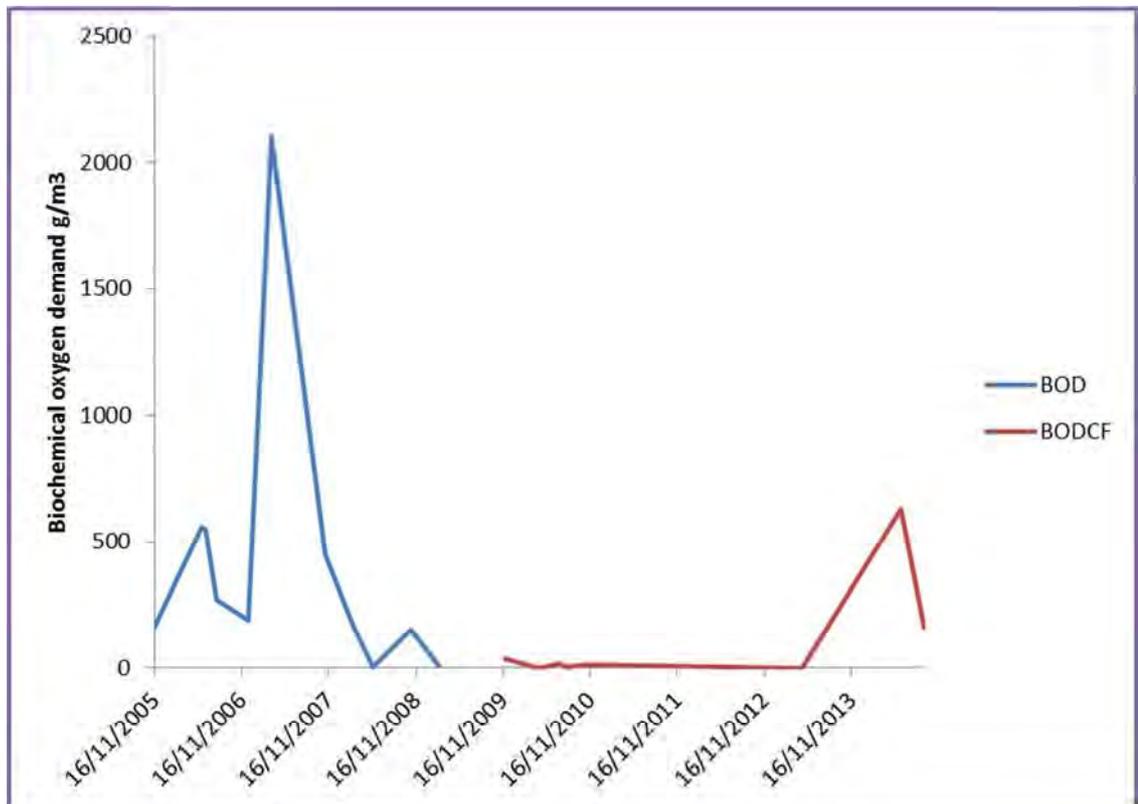


Figure 3 Graph showing recent increase in biochemical oxygen demand at site IND001055

2.2.1.2 Sampling of discharged material

Wood waste sampling was undertaken on 16 September 2014. Sub-samples were taken from random places and depths in the piles of wood waste located above the fill area and then composited. The composite sample was analysed for copper, chromium, arsenic and boron (CCAB). The results are given in Table 5.

Table 5 Results of CCAB analysis of wood waste sample, 16 September 2014

Parameter	Unit	Result
Total recoverable arsenic	mg/kg dry weight	28
Total recoverable Boron		<40
Total recoverable chromium		43
Total recoverable copper		34

The results showed that there was no CCA or boron treated wood waste in the wood waste.

A composite sample was also collected from dried sludge and/or drain cleanings found at inspection on 16 September 2014, which was also analysed for CCAB. The results of these analyses are given in Table 6.

Table 6 Results of CCAB analysis of wood waste sample, 16 September 2014

Parameter	Unit	Result
Total recoverable arsenic	mg/kg dry weight	21
Total recoverable Boron		21
Total recoverable chromium		37
Total recoverable copper		19

The Council had been informed, post inspection, that the stockpiled sludge was material that had been removed from the log yard, and that this was to be spread under the cap. The results confirmed that the material did not contain any CCA or boron treatment chemicals, and was therefore acceptable for spreading under the cap.

2.2.2 Village Settlement Road Site

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

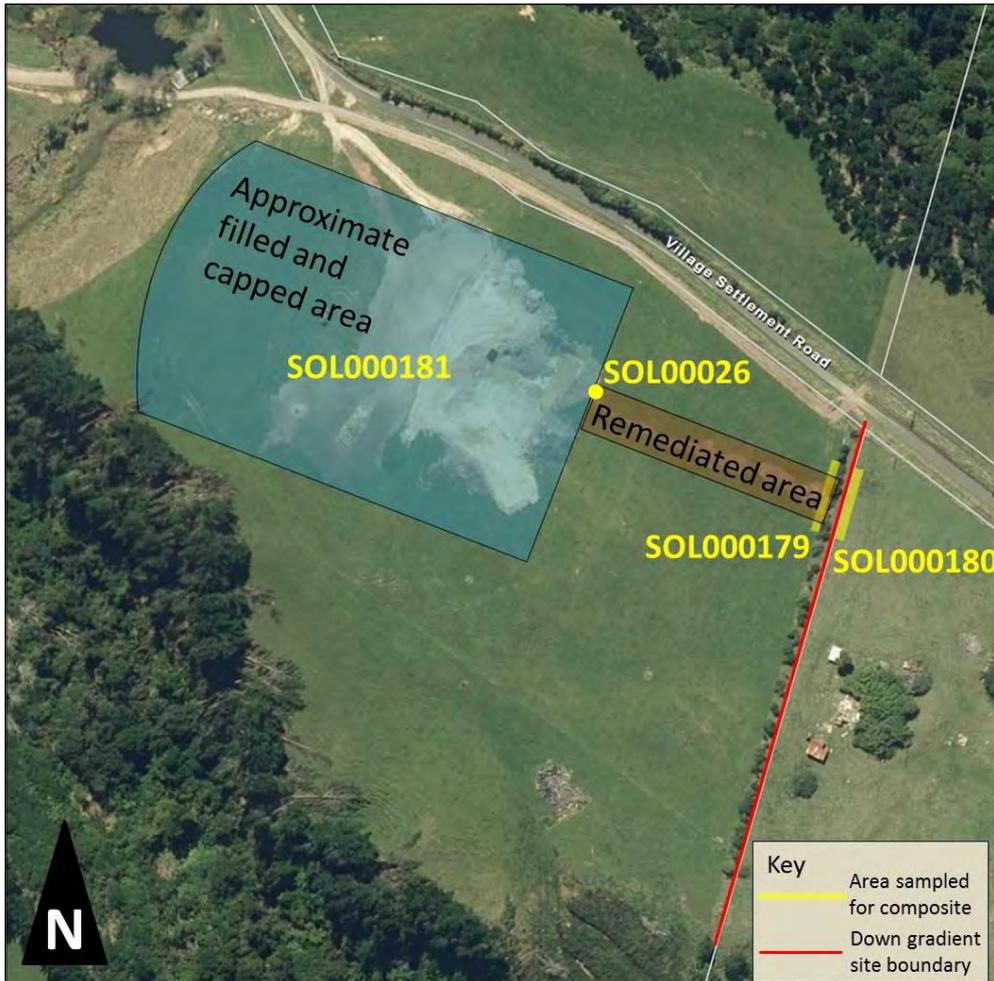


Figure 4 Aerial view of the discharge site and sampling sites at Waverley Sawmills Limited's Village Settlement Road site

2.2.2.1 Capped area –site SOL000181

Twenty cores were taken along a north west 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 and boron). The results are given in Table 7. These results show that the capped areas were compliant with consent conditions in regards to CCA and boron concentrations.

Table 7 Composite soil sample test results taken on the capped areas at the Village Settlement Road, Waverley -2 April 2015

Parameter	Unit	SOL000181	6528-2 Consent limit
Arsenic	mg/kg dry weight	6	30
Boron		<20	380
Chromium		25	76
Copper		31	40

2.2.2.2 Outside landfill footprint – site SOL000179

On 8 December 2014 10 cores were taken across a 15 m transect running parallel to and about 3 m inside the southern boundary fence. These cores were made into a composite

sample and analysed for CCAB, as consent 6528-2 contains limits for these components and require the area to be remediated should CCAB levels exceed those limits once filling operations have been completed.

Sample results (given in the table below) show the component concentrations in the soil inside the down gradient boundary complied with the post closure limits contained in consent 6528-2

Table 8 Results of soil sampling at site SOL000179 – 8 December 2014

Parameter	Units	SOL000179 3 m above south boundary	
		Result	6528-2 Consent limit (post closure)
Arsenic	mg/kg dry weight	28	38
Boron		<20	160
Chromium		40	76
Copper		52	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 post closure limits set out by the consent.

Table 9 Results of soil sampling at site SOL000180 – 8 December 2014

Parameter	Units	SOL000180 3 m below south boundary	
		Results	6528-2 Consent limit (post closure)
Arsenic	mg/kg dry weight	7	30
Boron		<20	20
Chromium		15	76
Copper		37	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 (IR) includes

events where the Company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

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

In the 2014-2015 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in resource consents or provisions in Regional Plans.

2.4 Discussion of site performance

2.4.1 Monk Road site

In regards to the discharge of wood waste the site was well managed. 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 remained functional and sufficient length of the spring channel on the floor of the fill area was piped to ensure separation of the spring water from the wood waste as required by consent conditions.

2.4.2 Village Road site

The cap was found to be in a satisfactory condition, with vegetative cover becoming well established during the period under review. There was no evidence of cracking, slumping, ponding or over grazing found during the 2014-2015 year, and soil sampling found that the limited component concentrations were being complied with.

2.5 Environmental effects of exercise of consents

2.5.1 Monk Road site

The discharge of leachate from the site was still having an effect on the environment immediately downstream of the discharge, and it was noted that contaminant levels in the discharge were elevated during the 2014-2015 year. The exact cause of the elevation is not known, however the receiving water quality conditions were met at the compliance point.

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

2.5.2 Village Settlement Road site

Sampling by the Council showed that the remediation works undertaken in the 2013-2014 year have continued to have been successful and the site remained compliant with consent conditions for the cap, buffer strip and beyond the site boundary during the 2014-2015 year.

It is noted that the site must remain compliant with the post closure component concentrations for at least five years prior to consideration being given to allowing the consent being surrendered.

It should also be noted that the consent conditions were designed to reduce risk to the neighbour's property rather than being 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 10-14.

Table 10 Summary of performance for Monk Road culvert consent 6412-1

<i>Purpose: To erect, place and maintain a culvert in an unnamed tributary of the Kohi Stream in the Whenuakura catchment</i>		
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	Inspection and liaison with consent holder	Yes
2. The consent shall be exercised generally in accordance with the information provided in the application	Inspection and liaison with consent holder and review of Council records	Yes
3. The consent holder shall inform the Council of the culvert installation and completion of works within 48 hrs	Inspection and liaison with consent holder and review of Council records	Yes
4. The exercise of the consent shall not cause flooding of upstream property	Site inspection and review of incident register. No complaints received	Yes
5. The consent shall lapse after 5 years if not exercised	Consent has been exercised	N/A
6. Optional review provision	Opportunity for review June 2016	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 11 Summary of performance for Monk Road untreated wood waste discharge consent 6413-2

<i>Purpose: To discharge untreated wood waste from sawmill operations onto and into land</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall supply a management plan for the activity	Review of Council records	Yes
2. Only untreated wood waste shall be discharged to the site	Inspection and liaison with consent holder, gas sampling	Yes

Purpose: <i>To discharge untreated wood waste from sawmill operations onto and into land</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
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	Inspection and liaison with consent holder	Yes
5. Discharged material not to enter water	Inspection and liaison with consent holder	Yes
6. The consent holder shall adopt the best practicable option when exercising the consent	Inspection and liaison with consent holder	Yes
7. Specifications for capping and reinstatement	Inspection	Yes
8. Optional review provision	Opportunity for review June 2016	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 12 Summary of performance for treated wood waste discharge consent 6528-2

Purpose: <i>To discharge treated and untreated wood waste and associated leachate onto and into land</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspection and liaison with consent holder	Yes
2. The consent holder shall supply a management plan for the activity	Review of Council records	Yes
3. Only wood waste shall be discharged to the site	Inspection and liaison with consent holder	Yes
4. No wood treatment chemicals or sludges shall be discharged to the site	Inspection and liaison with consent holder	Yes
5. The consent holder shall be the sole discharger to the site	Inspection and liaison with consent holder	Yes
6. The consent holder shall minimise storm water movement across the site	Inspection and liaison with consent holder	Yes
7. Fill capped top certain specifications	Inspection and soil sampling	Yes
8. Capped areas not to exceed certain contaminant limits	Inspection and soil sampling	Yes
9. Non capped areas not to exceed certain contaminant limits prior to closure	Inspection and soil sampling	Yes
10. Final toe of cap to meet certain specifications	inspection	Yes

Purpose: <i>To discharge treated and untreated wood waste and associated leachate onto and into land</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
11. Maintenance of capped areas	Inspection	Yes
12. The consent holder shall notify Council 20 days prior to final capping	Review of Council records	Yes
13. The consent holder shall notify Council 7 days after final capping is complete	Inspection and liaison with consent holder	No
14. The consent holder to retain consent for monitoring purposes for a minimum of five years after closure	Inspection and liaison with consent holder	Yes
15. Entire filled are must be capped and reinstated by June 2017	Inspection. Condition previously met	N/A
16. Optional review provision	Opportunity for review June 2016	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 13 Summary of performance for Monk Road leachate and stormwater consent 7342-2

Purpose: <i>To discharge leachate and stormwater from a sawmill-waste disposal site into an unnamed tributary of the Kahi Stream</i>		
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	Inspection and liaison with consent holder	Yes
2. Certain effects not to be present 50 m downstream of the discharge	Visual assessment and receiving water sampling	Yes
3. Certain parameters no tot be exceeded at site KOI000130	Receiving water sampling	Yes
4. Records to be supplied	Review of Council records	N/A
5. A review condition	Next opportunity for review June 2018	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 year, the Company demonstrated a high level of environmental and a high level of administrative performance with the resource consents as defined in Section 1.1.4.

2.7 Recommendation from the 2013-2014 Annual Report

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

THAT monitoring of discharges from Waverley Sawmills Limited sites on Monk Road and Village Settlement Road in the 2014-2015 year continues at the same level as in 2013-2014.

This recommendation was implemented.

2.8 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 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 and discharging to the environment.

It is proposed that for 2015-2016 the programme remains unchanged.

2.9 Exercise of optional review of consent

Resource consents 6412-1, 6413- 2 and 7342-2 all provide for an optional review of the conditions of the consent in June 2016. Conditions 6, 8 and 16 respectively allow the Council to review the consent conditions, for the purpose of ensuring that the conditions on the consent are adequate to deal with any potential adverse effects on the environment.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

3. Recommendations

1. THAT monitoring of discharges from Waverley Sawmills Limited sites on Monk Road and Village Settlement Road in the 2015-2016 year continue at the same level as in 2014-2015.
2. THAT the options for review of resource consents 6412-1, 6413- 2 and 7342-2 in June 2016, as set out in conditions 6, 8 and 16 of the respective consents, not be exercised, on the grounds that the current conditions are adequate to deal with any potential adverse effects.

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.
BODFC	Carbonaceous 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.
IR	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.
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 numbers 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.
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 1991</i> including all subsequent amendments.
UI	Unauthorised Incident.

*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

- Taranaki Regional Council (2014): *Waverley Sawmills Limited 2013-2014 Annual Compliance Monitoring Report*. Technical Report 14-82
- Taranaki Regional Council (2013): *Waverley Sawmills Limited 2012-2013 Annual Compliance Monitoring Report*. Technical Report 13-41
- Taranaki Regional Council (2012): *Waverley Sawmills Limited 2011-2012 Annual Compliance Monitoring Report*. Technical Report 12-30
- Taranaki Regional Council (2011): *Waverley Sawmills Limited 2010-2011 Annual Compliance Monitoring Report*. Technical Report 2011-57
- Taranaki Regional Council (2010): *Waverley Sawmills Limited 2009-2010 Annual Compliance Monitoring Report*. Technical Report 2010-92
- Taranaki Regional Council (2009): *Waverley Sawmills Limited 2008-2009 Annual Compliance Monitoring Report*. Technical Report 2009-72
- Taranaki Regional Council (2008): *Waverley Sawmills Limited 2007-2008 Annual Compliance Monitoring Report*. Technical Report 2007-86
- Taranaki Regional Council (2007): *Waverley Sawmills Limited 2005 -2007 Biennial Compliance Monitoring Report*. Technical Report 2006-77
- Taranaki Regional Council (2001). *Regional Fresh Water Plan for Taranaki, 2001*. Taranaki. Taranaki Regional Council.
- 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.
- Ministry of Health. *Drinking-water Standards for New Zealand*. Wellington. Ministry of Health.

Appendix I

Resource consents held by Waverley Sawmills

Consent 6412-1



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
Date: 4 March 2005

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



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: 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

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

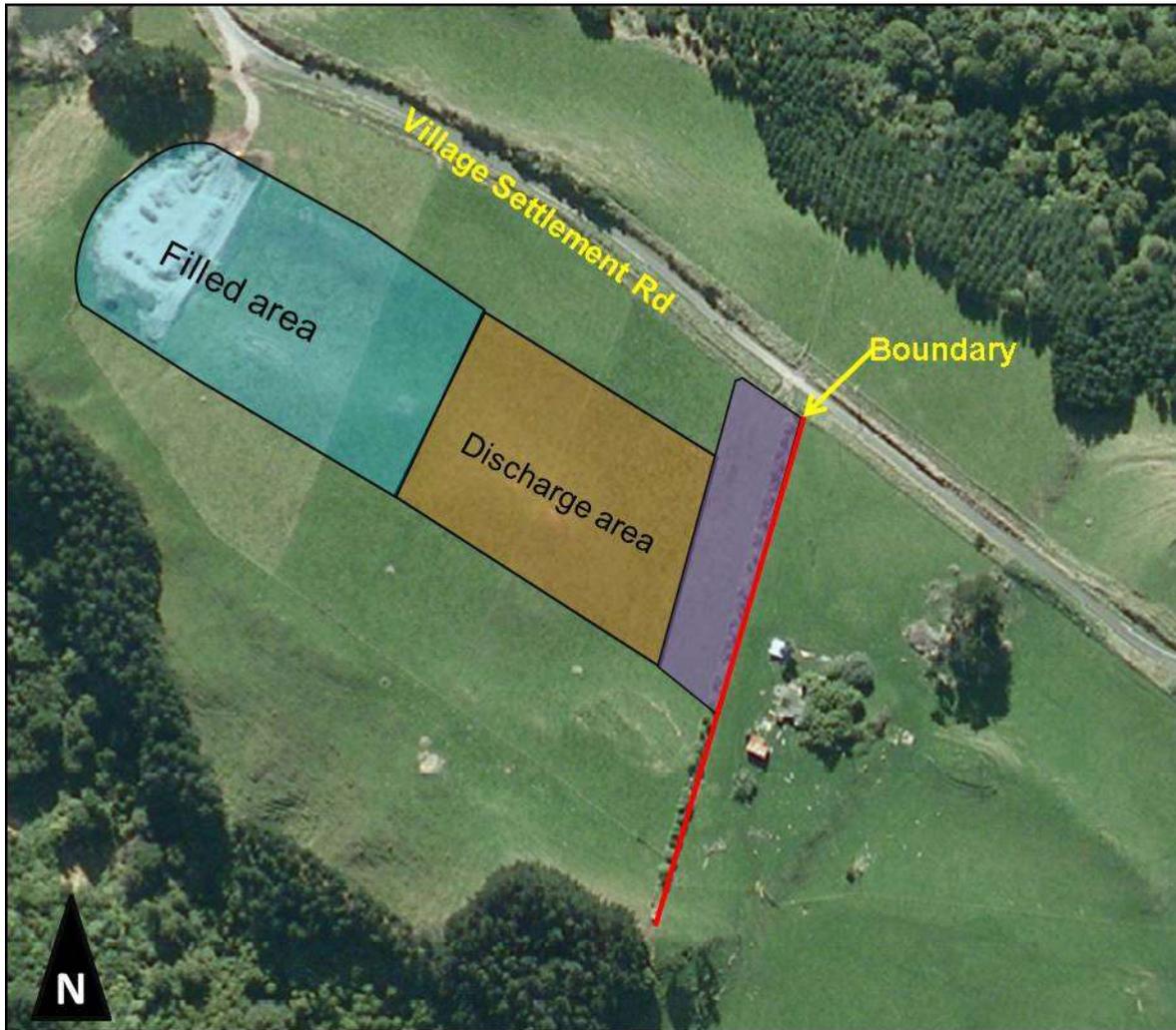


Figure 1 Discharge area at Waverley Sawmills Village Settlement Rd site

Appendix II

Soil analysis results



ANALYSIS REPORT Page 1 of 1

Client: Taranaki Regional Council		Lab No: 1361750		SPv1
Contact: Scott Cowperthwaite		Date Registered: 09-Dec-2014		
C/- Taranaki Regional Council		Date Reported: 16-Dec-2014		
Private Bag 713		Quote No: 49397		
STRATFORD 4352		Order No: 48439		
18 DEC 2014		Client Reference: Waverley Sawmills 6528-2		
Document No of Reply:		Submitted By: L Smith		

Sample Type: Soil					
Sample Name:	SOL000179	SOL000180			
	1412190	1412191			
	08-Dec-2014	08-Dec-2014			
	12:20 pm	12:40 pm			
Lab Number:	1361750.1	1361750.2			
CCAB, screen level					
Total Recoverable Arsenic	mg/kg dry wt	28	7	-	-
Total Recoverable Boron	mg/kg dry wt	< 20	< 20	-	-
Total Recoverable Chromium	mg/kg dry wt	40	15	-	-
Total Recoverable Copper	mg/kg dry wt	52	37	-	-

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%.	-	1-2
CCAB, screen level	Total recoverable digestion, ICP-MS, screen level	2 - 20 mg/kg dry wt	1-2
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1-2

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.

This report must not be reproduced, except in full, without the written consent of the signatory.

Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental Division



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

ANALYSIS REPORT

Page 1 of 1

Client:	Taranaki Regional Council	Lab No:	1326692	SPV1
Contact:	Scott Cowperthwaite C/- Taranaki Regional Council Private Bag 713 STRATFORD 4352	Date Registered:	17-Sep-2014	
		Date Reported:	23-Sep-2014	
		Quote No:	49397	
		Order No:	46923	
		Client Reference:	Waverley Sawmills 6528-2	
		Submitted By:	Scott Cowperthwaite	

Sample Type: Soil						
Sample Name:	WSM #2 16-Sep-2014 10:35 am					
Lab Number:	1326692.2					
CCAB, screen level						
Total Recoverable Arsenic	mg/kg dry wt	21	-	-	-	-
Total Recoverable Boron	mg/kg dry wt	21	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	37	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	19	-	-	-	-

Sample Type: Miscellaneous						
Sample Name:	WSM #1 16-Sep-2014 10:35 am					
Lab Number:	1326692.1					
CCAB, screen level						
Total Recoverable Arsenic	mg/kg dry wt	28	-	-	-	-
Total Recoverable Boron	mg/kg dry wt	< 40	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	43	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	34	-	-	-	-

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: Miscellaneous			
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%.	-	1-2
CCAB, screen level	Total recoverable digestion, ICP-MS. screen level	2 - 20 mg/kg dry wt	1-2
Total Recoverable digestion*	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1-2

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.

This report must not be reproduced, except in full, without the written consent of the signatory.



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



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.

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

ANALYSIS REPORT

Page 1 of 1

Client:	Taranaki Regional Council	Lab No:	1408124	SPV1
Contact:	Scott Cowperthwaite C/- Taranaki Regional Council Private Bag 713 STRATFORD 4352	Date Registered:	04-Apr-2015	
		Date Reported:	13-Apr-2015	
		Quote No:	49397	
		Order No:	50090	
		Client Reference:	Waverley Sawmills 6528-2	
		Submitted By:	Scott Cowperthwaite	

Sample Type: Soil						
Sample Name:	151357 Waverly S/Mill SOL000181 02-Apr-2015 10:45 am					
Lab Number:	1408124.1					
CCAB, screen level						
Total Recoverable Arsenic	mg/kg dry wt	6	-	-	-	-
Total Recoverable Boron	mg/kg dry wt	< 20	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	25	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	31	-	-	-	-

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.

This report must not be reproduced, except in full, without the written consent of the signatory.



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

