

Consent Compliance Summary

Prepared for

AFFCO New Zealand Limited

Prepared by

L E W E
Environmental
I m p a c t

October 2016



Consent Compliance Summary

AFFCO New Zealand Limited

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Ref: RE-10146-ANZ-Compliance_Summary-161025.docx

Job No.: 10146

Date: October 2016

Revision Status			
Version	Date	Author	What Changed and Why
2	10/08/2016	PH	June 2016 audit added
1	08/07/2016	PH	Initial draft



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1 EXECUTIVE SUMMARY

AFFCO New Zealand Limited ("ANZ") operates an export meat processing plant near Feilding. Several activities at ANZ require to be authorised by resource consents granted by Horizons Regional Council ("HRC"). Some of these activities were re-consented in 2010/2011, but five activities have consent applications currently being processed and awaiting determination. These five activities are as follows:

- Condenser and defrost discharge to water;
- Backwash and blowdown discharge to water;
- Wastewater discharge to water;
- Pond seepage; and
- Wastewater discharge to land.

ANZ has tasked Lowe Environmental Impact ("LEI") to prepare a brief summary of its recent compliance record for the 5 consents that, while expired, remain lawful with replacement consents having been lodged within the necessary timeframe to allow for continued operation of the activities involved.

HRC's formal compliance reports for the 5 discharge consents involved, for the period between 3 March 2011 and 7 June 2016, have been tabulated and their findings briefly analysed. With the exception of an episode in December 2012 that involved a discharge of treated wastewater to the Oroua River in breach of consent conditions, all other consent conditions were either found to be compliant with consent conditions or were not assessed.

An example is provided of the monthly consent compliance monitoring and reporting that ANZ undertakes, to demonstrate whether and to what extent compliance is being achieved.

In conclusion, this report demonstrates the manner in which ANZ compliance with Horizons consents has been managed over the last 5 years, and that with the exception of the December 2012 episode, consent condition compliance has been achieved where it has been assessed.



2 INTRODUCTION

2.1 Purpose

This report is for the purpose of summarising the compliance of AFFCO New Zealand Limited's Manawatu plant's compliance with resource consent conditions over recent years.

2.2 Background

AFFCO New Zealand's ("ANZ") Manawatu plant at Feilding has a number of activities which are authorised by resource consents granted by Horizons Regional Council ("HRC"). Eleven such consents expired in May 2011, with some new applications (for previously unconsented activities) and applications to re-consent the activities involved all lodged in time to enable those activities to continue under the expired consent conditions until such time as the respective consent applications were determined. Between 2010 and mid-2011, ten of the consents that had been applied for had been granted. Those that had not been granted were to authorise the following activities:

- Condenser and defrost discharge to water;
- Backwash and blowdown discharge to water;
- Wastewater discharge to water;
- Pond seepage; and
- Wastewater discharge to land.

Of these five activities, the Condenser and Backwash discharges had s92 requests for further information that were responded to some years ago, but further processing of those applications by HRC was held over to be considered with the other three applications, because of the possibility of cumulative effects of the combined activities on water quality in the Oroua River.

Since 2011, revised applications with supporting information were lodged for the two wastewater discharges and the pond seepage, and these have been notified, submissions received, and a pre-hearing meeting held. In order to provide a structured response to a possible question at the pending hearing, this report is to describe the record of compliance with the existing consents that are to be replaced by those now under application.

2.3 Scope

This report is to assess compliance with current consent conditions, summarising the findings of compliance inspection reports prepared by Horizons Regional Council since 2011. This report lists whether or not compliance was found to be achieved, against each respective consent.

The report also provides an example of the consent monitoring and compliance reporting received monthly by ANZ's Plant Manager, as a demonstration of the extent to which "self-monitoring" is being undertaken to ensure that consent requirements are met on a continuing and ongoing basis.



3 CONSENT 4219

3.1 General

This consent authorises the discharge of treated wastewater from the ANZ wastewater treatment plant ("WWTP") to the Oroua River.

3.2 Consent Compliance Record

Since 2011 the compliance of the operation authorised by this consent has been recorded by HRC, following site inspections, as shown in Table 3.1 below.

Table 3.1: Compliance with Consent Conditions: Wastewater discharge to river

Condition No	Detail	Date	Compliance
1	Discharge flow rate	3 March 2011	Yes
		14 February 2012	Yes
		12 December 2012	Significant non-comply
		30 April 2013	Yes
		4 June 2014	Yes
		23 January 2015	Yes
		7 June 2016	Yes
2	Pay fees	-	Not assessed
3	Defines mixing zone	-	Not assessed
4	Receiving water quality limits (s107, colour, odour, ammonia, BOD)	3 March 2011	Yes
		14 February 2012	Yes
		12 December 2012	Yes
		30 April 2013	Yes, and not ass'ed
		4 June 2014	Yes, and not ass'ed
		23 January 2015	Yes, and not ass'ed
		7 June 2016	Yes, and not ass'ed
5	Receiving water quality limits (receiving water clarity and slime growths)	3 March 2011	Yes
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Yes, and not ass'ed
		4 June 2014	Yes
		23 January 2015	Yes, and not ass'ed
		7 June 2016	Yes
6	Receiving water quality limits (POM, enterococci)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Yes
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Yes, and not ass'ed
		7 June 2016	Yes, and not ass'ed
7	Receiving water quality limits (periphyton, DRP)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Biomass comply; DRP significant non comply
		30 April 2013	Not assessed



		4 June 2014	Yes, and not ass'ed
		23 January 2015	Yes, and not ass'ed
		7 June 2016	Yes, and not ass'ed
8	No human waste	3 March 2011	Yes
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Yes
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
9	No outfall erosion	3 March 2011	Not assessed
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Yes
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
10	No change to discharge contents	3 March 2011	Yes
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Not assessed
		7 June 2016	Yes
11	Notify Horizons of breaches	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Significant non comply
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Not assessed
		7 June 2016	Not assessed

3.3 Discussion

The inspection of compliance for the discharge of treated wastewater to the Oroua River that took place on 12 December 2012 found a significant non-compliance, in that wastewater was being discharged to the river when river flow was less than a limit below which such a discharge was not authorised, in breach of Condition 1. Further, the dissolved reactive phosphorus (DRP) concentration in the receiving water exceeded specified limits as a result of this discharge, in breach of Condition 7. Further, ANZ omitted to notify Horizons of the breach of consent conditions, in breach of Condition 11.

This single episode arose as a result of the ANZ wastewater treatment ponds being full, in turn as a result of insufficient wastewater having been irrigated to land in the weeks leading up to the episode.

ANZ was prosecuted by Horizons for this episode, which spoilt an otherwise clear record of compliance with consent conditions.

ANZ has improved certain operating procedures as a result of this episode. Horizons has checked compliance, and particularly that relating to effects of the discharge on receiving



waters, regularly since that time, and since that episode every specified detail that has been checked has been found to be compliant with consent requirements.



4 CONSENT 4220

4.1 General

This consent authorises the discharge of condenser water and roof stormwater from the ANZ plant to the Oroua River.

4.2 Consent Compliance Record

Since 2011 the compliance of the operation authorised by this consent has been recorded by HRC, following site inspections, as shown in Table 4.1 below.

Table 4.1: Compliance with Consent Conditions: Condenser and stormwater discharge

Condition No	Detail	Date	Compliance
1	Discharge flow rate	3 March 2011	Yes
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Yes
		7 June 2016	Yes
2	Pay fees	-	Not assessed
3	Defines mixing zone	-	Not assessed
4	Receiving water quality limits (s107, colour, odour, ammonia, BOD)	3 March 2011	Not assessed
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes, and not ass'ed
		23 January 2015	Yes, and not ass'ed
		7 June 2016	Yes
5	Receiving water quality limits (receiving water clarity and slime growths)	3 March 2011	Not assessed
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
6	Receiving water quality limits (POM, enterococci)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
7	Receiving water quality limits (periphyton, DRP)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed



		4 June 2014	Yes, and not ass'ed
		23 January 2015	Not assessed
		7 June 2016	Yes
8	Management plan	3 March 2011	Yes
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
9	Stormwater valve	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
10	No bank erosion	7 June 2016	Yes
		3 March 2011	Not assessed
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
11	Notify Horizons of breaches	23 January 2015	Not assessed
		7 June 2016	Yes
		3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Not assessed
		7 June 2016	Not assessed

4.3 Discussion

Compliance with this consent can be seen in Table 4.1 above to have been achieved on each occasion that it was assessed by Horizons compliance staff. Not every condition has been assessed on every inspection, for a variety of reasons including that the discharge was not operative at the times of some of the inspections.

Nevertheless, during the 7 opportunities between 6 March 2011 and 7 June 2016 when compliance inspections were undertaken, **no** case of non-compliance has been detected.



5 CONSENT 4223

5.1 General

This consent authorises the discharge of Backwash and Blowdown water from the ANZ plant to the Oroua River.

5.2 Consent Compliance Record

Since 2011 the compliance of the operation authorised by this consent has been recorded by HRC, following site inspections, as shown in Table 5.1 below.

Table 5.1: Compliance with Consent Conditions: Backwash and Blowdown

Condition No	Detail	Date	Compliance
1	Discharge flow rate	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
2	Pay fees	-	Not assessed
3	Defines mixing zone	-	Not assessed
4	Receiving water quality limits (s107, colour, odour, ammonia, BOD)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes, and not ass'ed
		23 January 2015	Not assessed
		7 June 2016	Yes
5	Receiving water quality limits (receiving water clarity and slime growths)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
6	Receiving water quality limits (POM, enterococci)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
7	Receiving water quality limits (periphyton, DRP)	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes, and not ass'ed



		23 January 2015	Not assessed
		7 June 2016	Yes
8	Management plan	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Not assessed
9	Stormwater valve	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
10	Settling pond	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
11	No bank erosion	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Yes
		23 January 2015	Not assessed
		7 June 2016	Yes
12	Notify Horizons of breaches	3 March 2011	Yes
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Not assessed
		7 June 2016	Not assessed

5.3 Discussion

Compliance with this consent can be seen in Table 5.1 above to have been achieved on each occasion that it was assessed by Horizons compliance staff. Not every condition has been assessed on every inspection, for a variety of reasons including that the discharge was not operative at the times of some of the inspections.

Nevertheless, during the 7 opportunities between 6 March 2011 and 7 June 2016 when compliance inspections were undertaken, **no** case of non-compliance has been detected.





6 CONSENT 6191

6.1 General

This consent authorises the discharge of processing effluent to ground soakage through the ANZ effluent ponds.

6.2 Consent Compliance Record

Since 2011 the compliance of the operation authorised by this consent has been recorded by HRC on only one occasion, being 14 February 2012, with details as shown in Table 6.1 below.

Table 6.1: Compliance with Consent Conditions: Pond seepage

Condition No	Detail	Date	Compliance
1	Discharge into ground by seepage from anaerobic, aerobic and solids ponds are authorised.	3 March 2011	Not assessed
		14 February 2012	Yes
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Not assessed
		7 June 2016	Not assessed

6.3 Discussion

The terms and conditions of this consent are such that there are no specified requirements for ongoing measurement, and accordingly compliance is achieved simply by virtue of an unspecified rate of seepage being presumed to take place. This was the case on the single occasion in 2012 when compliance was assessed by Horizons' compliance staff.



7 CONSENT 4226

7.1 General

This consent authorises the discharge of treated effluent to land.

7.2 Consent Compliance Record

Since 2011 the compliance of the operation authorised by this consent has been recorded by HRC on only two occasions, being 23 January 2015 and 7 June 2016, with details as shown in Table 7.1 below.

Table 5.1: Compliance with Consent Conditions: Backwash and Blowdown

Condition No	Detail	Date	Compliance
1	Land area and daily volume limits	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Yes
		7 June 2016	Yes
3	Irrigation area map	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2016	Not assessed
		7 June 2016	Yes
4a(i)	Keep an irrigation register of specified details.	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Yes
		7 June 2016	Yes
4a(ii)	Provide irrigation register monthly to Horizons.	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Not assessed
		7 June 2016	Yes
4b	Effluent and groundwater quality monitoring; SAR; report results to Horizons; soil monitoring.	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Yes
		7 June 2016	Yes



5	Nitrogen application rate limit.	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 2012	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Yes
		7 June 2016	Yes
6	Size of irrigation blocks		Not assessed
7	Hydraulic application rate limit	3 March 2011	Not assessed
		14 February 2012	Not assessed
		12 December 202	Not assessed
		30 April 2013	Not assessed
		4 June 2014	Not assessed
		23 January 2015	Not assessed
		7 June 2016	Yes
8, 9, 10	Rainfall, buffers, and traffic		Not assessed

7.3 Discussion

On the two occasions since 3 March 2011 that compliance with this consent has been assessed, ANZ's records of monitoring results showed that every specified requirement was being met. No instances of non-compliance were detected.





8 ONGOING MONITORING AND COMPLIANCE PROGRAM

8.1 General

This section of this report is to demonstrate the monitoring and reporting commissioned by ANZ, by providing an example of the reporting received monthly by ANZ's Plant Manager.

8.2 Monitoring and Compliance Program

ANZ retains the services of Albert van Oostrom & Associates, waste minimisation and treatment specialists of Hamilton, to manage the monthly gathering and reporting of compliance data. This data relates to all the consents that authorise the ANZ operation, and not just those that are due for renewal.

8.3 Report for April 2016

Copied below is the compliance report for the month of April 2016, as provided to the ANZ Plant Manager on 13 May 2016.

"Details are given in the monitoring spreadsheet..."

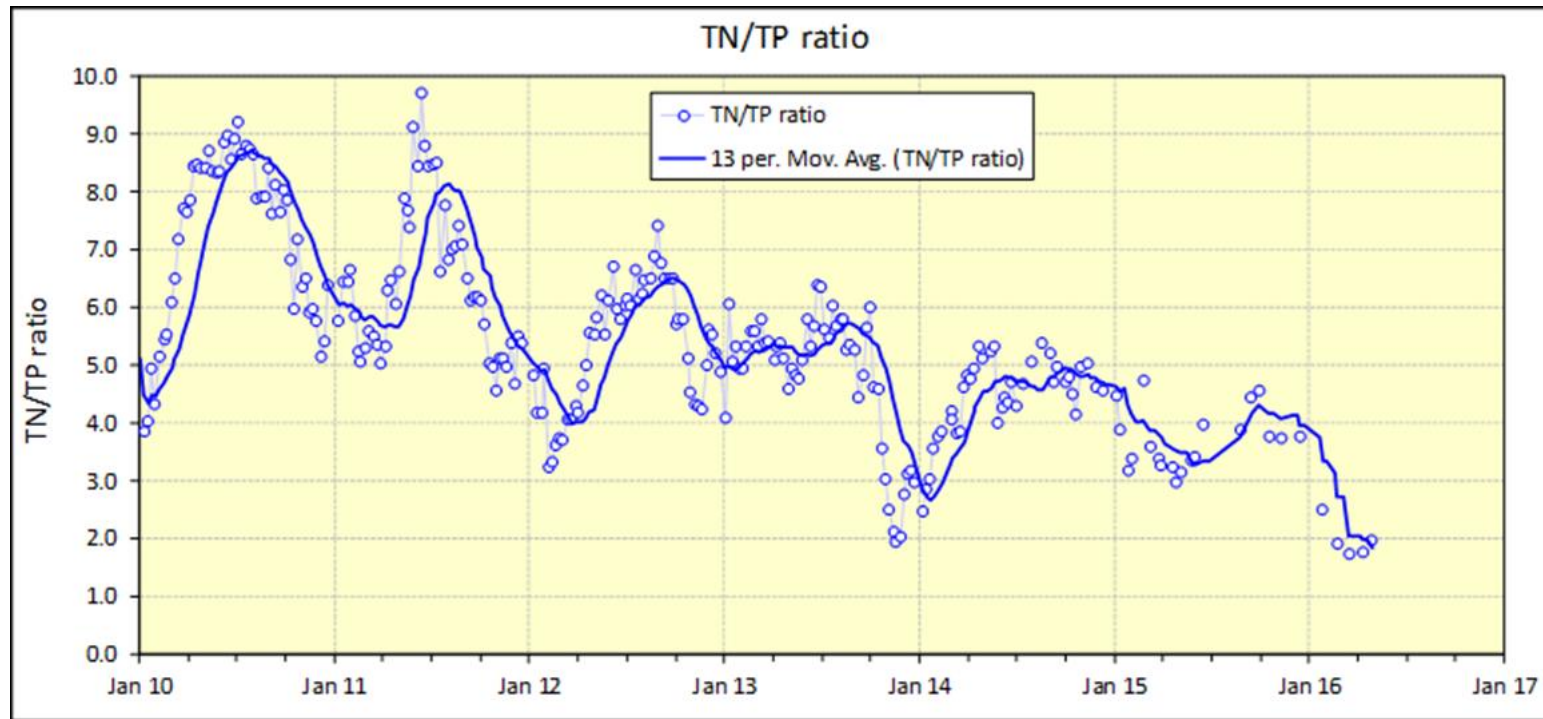
The spreadsheet file contains a new worksheet for the monitoring data associated with the reservoir discharge.

I've verified that the irrigation flow volumes (estimated from irrigation duration and flow rate) agree reasonably well with irrigation flowmeter totaliser volumes.

The minor consent exceedance for the river water take occurred on 15 April for one hour.

Some interesting observations:

- The total volume of wastewater discharged to land and river for the 12 months to 2 April 2016 was 328,000 m³ or 2.5 m³/head. This volume per head is exactly the volume used in the modelling work for the discharge consents – although kill numbers are higher than had been anticipated.*
- The TN/TP ratio in the final effluent has declined significantly in recent years, despite the increase in kill numbers. As TP is not significantly removed by the treatment process, the reduction in TN/TP ratio suggests an improvement in nitrogen removal – probably due to the WWTP modifications and increased aeration capacity. The trend may also partly reflect an increase in the proportion of cows processed and an associated increase in P-rich paunch contents."*





AFFCO Manawatu Consent Compliance Summary

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Parameter	Limit Type	Limit	Units	Result	Complied	Comment
Bore Water Take (RC 106205)						
Volume	Maximum daily volume	4,800	m ³	4,129	Yes	
	Maximum annual volume (last 12 months)	1,752,000	m ³	1,310,502	Yes	
River Water Take (RC 105670)						
Volume	Max. daily volume (River >1030 L/s)	6,819	m ³	6,488	Yes	
Rate	Maximum rate (River >1030 L/s)	80	L/s	81	No	
Volume	Max. daily volume (River ≤1030 L/s)	1,350	m ³	0	Yes	
Rate	Maximum rate (River ≤1030 L/s)	21	L/s	0.0	Yes	
Condenser Water, Defrost Water & Stormwater Discharge (RC 4220)						
Condenser volume	Maximum daily volume	4,800	m ³	3,893	Yes	
Defrost volume	Maximum daily volume	300	m ³	-	-	<i>No data</i>
Stormwater volume	Maximum daily volume	3,300	m ³	-	-	<i>No data</i>
Water Treatment Backwash, Blowdown & Stormwater Discharge (RC 4223)						
Backwash volume	Maximum daily volume	120	m ³	-	-	<i>No data</i>
Blowdown volume	Maximum daily volume	10	m ³	-	-	<i>No data</i>
Stormwater volume	Maximum daily volume	1,365	m ³	-	-	<i>No data</i>
Effluent Discharge to Land (RC 4226)						
Volume	Maximum daily volume	2,000	m ³	1,458	Yes	
Rate	Maximum rate	100	m ³ /h	58	Yes	
Nitrogen load	Maximum annual N application rate	400	kg/ha	223	Yes	<i>Highest loading rate for a block for current process date</i>
Final Effluent Discharge (RC 4219)						
Volume	Max. daily vol. (31 Mar-1 Dec, >4000 L/s)	2,000	m ³	0	Yes	
	Max. daily vol. (31 Mar-1 Dec, 3000-4000 L/s)	1,000	m ³	0	Yes	



	Max. daily vol. (31 Mar-1 Dec, <3000 L/s)	0	m ³	0	Yes	
	Max. daily vol. (2 Dec-30 Mar, >20913 L/s)	2000	m ³	0	Yes	
	Max. daily vol. (2 Dec-30 Mar, ≤20913 L/s)	0	m ³	0	Yes	
Oroua River Downstream (RC 4219) (calculated maximum downstream concentration increase)						
Ammoniacal N	Max. conc. due to discharge (River >15°C)	0.8	g/m ³	0.000	Yes	
Ammoniacal N	Max. conc. due to discharge (River ≤15°C)	1.1	g/m ³	0.000	Yes	
cBOD ₅	Max. conc. due to discharge	2.0	g/m ³	0.000	Yes	
POM (TSS)	Max. conc. due to discharge (River <3485 L/s)	5	g/m ³	0.000	Yes	<i>River flow >3485 L/s. TSS used as an estimate of P</i>
Enterococci	Max. conc. due to dis. (1 Nov-1 May, <3485 L/s)	107	/100 mL	0.000	Yes	<i>River flow >3485 L/s. Outside 1 Nov-1 May.</i>
DRP	Max. conc. due to discharge (River <3485 L/s)	0.015	g/m ³	0.000	Yes	<i>River flow >3485 L/s</i>
Human Wastewater Discharge (RC 105671)						
Volume	Maximum daily volume	16	m ³	-	-	<i>No data</i>

8.4 Discussion

- It can be noted from the report above that as well as tables of numbers, advice is given on system management implications and data trends.
- It can be seen from the TN/TP ratio graph that there are a great number of data points between January 2010 and April 2016, and these provide a much more reliable indication of the extent of variability than would be possible with only one or two sample analyses per year.
- The consent compliance summary table lays out the actual measurements against the specific consent condition limits, to clearly demonstrate whether and to what extent compliance is being achieved.

9 CONCLUSIONS

This report has considered the record of compliance by ANZ with the conditions of the 5 consents that are currently under application for renewal. It has been compiled from Horizons' compliance reports.

It can be seen that in the period between 3 March 2011 and 7 June 2016, with the exception of a single episode in December 2012, each condition of each consent was found either to be in compliance with consent requirements, or was not assessed.

The December 2012 episode involved a discharge of treated wastewater to the Oroua River in circumstances that breached consent conditions, and ANZ was prosecuted by Horizons for this episode. The discharge to the river occurred because the treatment ponds were full, in turn because inadequate wastewater had been irrigated to land in the weeks leading up to that episode. Systems have been revised to prevent any recurrence of this episode.

An example of ANZ's internal monthly consent compliance reporting is included in this report, to demonstrate the type of data collected and the clarity of its comparison with consent condition limits.

In conclusion, this report demonstrates the manner in which ANZ compliance with Horizons consents has been managed over the last 5 years, and that with the exception of the December 2012 episode, consent condition compliance has been achieved where it has been assessed.

10 REFERENCES

None cited.

11APPENDICES

No appendices.

