STAFF REPORT

TO: Environment & Planning Subcommittee - Special Meeting

FROM: Kathryn Bunting, Compliance Officer

REFERENCE: C653

SUBJECT: **ANNUAL DAIRY EFFLUENT DISCHARGE COMPLIANCE MONITORING REPORT– REPORT EP06/05/17 -** Report Prepared for 30 May 2006 meeting

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1. INTRODUCTION

1.1 Purpose

The purpose of this report is to present results of compliance for the 2005/2006 dairy season with respect to compliance of those farm dairies that hold resource consent to discharge treated dairy effluent to water, in particular compliance with respect to the conditions of the respective consents and Section 15(1)(b) of the RMA 1991.

The results presented in this report come from a comprehensive survey of all farm dairies in Golden Bay, Upper Motueka Catchments, Moutere, and Murchison areas that hold a current resource consent. The survey specifically looked at the collection, containment, and disposal of effluent from the farm dairy and general farm management practices.

This report does not assess compliance of those farm dairies that operate under Permitted Activity status, compliance with respect to these farms is presented in a separate report. Furthermore, no sampling of waterways or soils was undertaken as part of this study, only the point of discharge from the pond systems (as required by the conditions of consent) was sampled, and this report does not assess effects of water quality, amenity, or aquatic ecology.

Background

The district had 155 farm dairies operating during the 2005/2006 season. These farms are located between Puponga, at the base of Farewell Spit to Maruia, located approximately 50 kilometres south of Murchison. The largest concentration of farms is in Golden Bay, particularly within the Takaka Valley and Bainham/Rockville areas.

Of these 157 farms, 23 presently have authorisation in the form of a discharge permit to discharge treated farm dairy effluent to water. Of these farms, 20 are located in Golden Bay and the Murchison, Upper Motueka Catchment, and Moutere areas have one each.

1.2.1 Regulation

Section 15 of the Resource Management Act (1991) (the RMA) prohibits any person from discharging contaminants to water unless the discharge is expressly allowed by a rule of a regional plan or a resource consent. No such rule exists in the Tasman Resource Management Plan that allows effluent to be discharged into water, or onto land in circumstances where it may enter water. Therefore a resource consent is required to undertake such an activity.

1.2.2 History of Poor Compliance

Past history has shown that farm dairy oxidation ponds have not been functioning well in the Tasman District, with the final discharge of treated effluent from most pond systems not meeting their respective quality parameters of Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD_5). This poor rate of compliance is most likely attributed to the absence of a stormwater diversion system and the treatment ponds being to small with respect to the current herd size. Both of these issues and their implications are discussed in Section 2.1 of this report.

1.3 Method

Each farm with a current discharge permit was located on the Council's GIS database from which a map consisting of an aerial photograph of each farm dairy and surrounding land and water-ways was produced. This map was later used during the farm inspections, when it was annotated to show land areas where sludge from the pond system is spread.

Approximately two weeks prior to the first inspection being undertaken, all farm owners were notified by letter that the farm surveys were to occur over the summer months of 2005/2006. All farm owners were then contacted by telephone closer to the time of the survey to make an appointment to meet onsite.

A survey form (Appendix 1) was developed and each farm was assessed against this form to ensure that a common standard was achieved. An element of each farm dairy inspection was to photograph (as a way of documenting) the washdown system, pond system, and final points of discharge, and any potential non-compliance. Also photographed were fully compliant farm dairies, both old and new systems and examples of different measures that have been implemented to prevent run-off of effluent from races or yards into water with the aim to provide future educational tools.

Once each farm inspection had been completed any issues of non-compliance were addressed. This was achieved in two ways. Firstly, if it was concluded that the non-compliance found at a farm presented a minor adverse effect of the environment, a Farm Management Plan (FMP) was drawn up for the farm. This Plan detailed the works that needed to be completed to fully comply with the conditions of consent and the RMA, and a date by which these works were to be completed. If it was concluded that the non-compliance presented a moderate adverse effect and/or past history showed that the farm owner had not responded to requests by Council to remedy a problem that was found to still exist, or there was a significant environmental adverse effect, the FMP was formalised in an Abatement Notice.

All sample results of the final discharge from the pond systems were forwarded onto the respective farm owners.

1.4 Structure of Report

A general discussion with respect to common issues found during the farm inspections is presented in Part Two of this report.

Part Three presents a breakdown of compliance with respect to conditions of an individual's consent and Section 15 (1)(b) of the RMA 1991, with enforcement actions detailed in Part Four.

Farm improvements that have been achieved since the initial compliance visits together with what will be achieved by the start of the 2006/2007 season is presented in Part Five.

Typical costs involved with the monitoring of each farm dairy discharge permit have been kept by Compliance this season. These costs with respect to the annual monitoring charge set by Council is discussed in Part Six.

Part Seven concludes the report with an overall summary of compliance with respect to conditions of consent and the RMA. Recommendations from the findings of this report are put forward in Part Eight.

2. WHAT WAS FOUND – COMMON ISSUES

Four common issues arose from the farm visits, each are discussed in turn below.

2.1 Undersized Pond System Relative to Herd Size

It was established that the majority of the pond systems in Tasman District are inadequately sized with respect to size of the herd presently being milked. This is likely to be one of the main factors contributing to the poor performance of the farm dairy effluent ponds in the District. This situation has manifested over the years for the following reasons;

- The pond system was built too small in the first place.
- The herd size has increased beyond what the system was originally designed for.
- There are now additional sources of effluent being directed to the system, for example feed pads and standoff pads.
- The lack of storm-water diversion from the farm dairy yard and roof areas, and surrounding land.

All four factors, whether considered separately or collectively impact on the effectiveness of the effluent treatment system mainly through a reduction in the retention time of the effluent held within the pond system. The end result is that the effluent is not being retained within the system for an optimal length of time to enable adequate settling out of solids in the Anaerobic Pond and disinfection by sunlight in the Aerobic Pond(s).

Table 1: RECOMMENDED ANAEROBIC POND SIZE

No. of Cows	Recommended Volume	Required Depth	Batter of Slope On interior Bank	Freeboard
100	550m^3	3 to 4m	2:1	500mm
150	800 m^3	3 to 4m	2:1	500mm
200	1060 m^3	3 to 4m	2:1	500mm
250	1310 m^3	3 to 4m	2:1	500mm
300	1620 m^3	3 to 4m	2:1	500mm
350	1870 m^3	3 to 4m	2:1	500mm
400	2130 m^3	3 to 4m	2:1	500mm
450	2380 m^3	3 to 4m	2:1	500mm
500	2640 m^3	3 to 4m	2:1	500mm

Table 2: RECOMMENDED AEROBIC POND SIZE

No. of Cows	Recommended Surface Area	Required Depth	Batter of Slope On interior Bank	Freeboard
100	480 m^2	1.2m	2:1	500mm
150	720 m^2	1.2m	2:1	500mm
200	950 m^2	1.2m	2:1	500mm
250	1190 m^2	1.2m	2:1	500mm
300	1420 m^2	1.2m	2:1	500mm
350	1660 m^2	1.2m	2:1	500mm
400	1900 m^2	1.2m	2:1	500mm
450	2140 m^2	1.2m	2:1	500mm
500	2370 m^2	1.2m	2:1	500mm

NB addition surface area will need to be added to the pond if stormwater from farm dairy roof and yard areas and feed pads will also be entering the treatment pond system.

Pond design can play a major role in treatment performance. The ponds need to be sized correctly for the loading rate (herd size, percentage of effluent entering the pond, volume of washdown water used, addition sources such as feed pads, and general farm management practices), and any future increases in herd size. Guidelines recently produced by Dexcel (2005) for pond sizing specifically for the Tasman/Marlborough regions are presented above in Tables 1 and 2.

In this district a total of 16 (70%) pond systems were found to be undersized with respect to herd numbers. Effluent samples of the final discharge from all 16 pond systems have failed to meet their consent limit with respect to TSS for the past 5 years with seven systems not meeting both the BOD_5 and TSS limits. This is in contrast to pond systems that are correctly sized and properly maintained (regularly

desludged), all of which have a history of full compliance. As a result of Compliance intervention eleven pond systems will be resized by the beginning of the 2006/2007 to the specifications presented above, the remaining five will be managed for the rest of the 2005/2006 season by being thoroughly desludged and emptied, as these systems will no longer serve a dairy herd next season, or the farm is down sizing and the ponds will be of adequate size for the herd. At the time of writing this report, seven of the eleven pond systems that are required to be resized have been modified and are now adequately sized for present herd numbers and any predicted future increases in herd size. The other four farm owners are presently undertaking the required works.

2.2 Poor Maintenance of Pond Systems

All discharge permits for the discharge of farm dairy effluent to water have a condition of consent that requires that the pond system be maintained so that is *"operates efficiently and effectively at all times"* this is to include regular desludging of the anaerobic pond, with some permits having a requirement to undertake desludging each year.

This compliance round established that regular desludging to remove surface crusting and the bottom sludge layer from the anaerobic pond is not common practice, even though it is a condition of consent. Regular desludging is an important maintenance procedure as it maintains the treatment capacity of the anaerobic pond and thus retention and time for solids to settle-out. Regular cleaning also reduces solid transfer from the Anaerobic pond through to the secondary ponds. Of the 23 ponds systems in Tasman District, 15 were instructed to clean and desludge their ponds. Four of these systems had not being cleaned for at least five years with one not being cleaned for more and ten years.

2.3 Absences of Stormwater Diversion Systems

All discharge permits for the discharge of farm dairy effluent to water have a condition of consent that requires that all clean stormwater generated from the farm dairy yard and roof areas to be diverted away from the pond system when these areas are not in use.

A concerning trend that has been noted from this survey is the absence of an adequate system to divert clean stormwater away from the effluent ponds. Stormwater diversion is a fundamental aspect of protecting our waterways from contamination from dairy effluent 'flushed' through systems. Without diverting clean rainwater from the farm dairy roof and yard, partially treated effluent is displaced from the ponds and discharged into waterways. As a result the lack of retention time in the system provides less time to kill disease-causing organisms (e.g. *E.coli*) and less time for solids to settle out. In a rainfall event, even medium intensity for a short period, the decreased quality and increased quantity of effluent discharged to the waterway can be very significant.

The lack of stormwater diversions has been identified as being one of the main contributing factors for high concentrations of disease-causing organisms delivered to coastal environment of Golden Bay during and shortly after many rainfall events. Bathing beaches and shellfish-gathering waters are particularly affected (Young *et al*. 2005).

Obviously it is imperative that the system of switching between the treatment ponds to the diversion and back again for each milking is failsafe and a robust switching system is a necessity. Effluent produced from the yard and milking pit during milking and washdown must be directed to the treatment ponds.

This compliance round established that of the 23 farm dairies that currently hold a discharge permit, twelve (52%) did not have a stormwater diversion system in place for some or all of the farm dairy. At the time of the writing of this report, seven of these twelve farm dairies have diverted stormwater generated on the roof area away from the ponds, and four have diverted all of their stormwater from both the roof and yard areas. The remaining farms are required to have all their stormwater diverted by the start of the 2006/2007 season.

2.4 Run-off of effluent from Raceways/Feed-pads/Stand-off Pads into Water

Run-off of effluent from race-ways, feed/stand-off pads into water-ways was found on three farms. In one case the farm owner had already identified this as a problem and was undertaking remedial and mitigation measures at the time of the farm inspection. The other two farm owners were required to immediately cease the discharge and implement a long-term solution to prevent any run-off entering water in the future. In both cases the race-ways, feed/stand-off pads concerned have been bunded along their sides with any run-off directed to a collection point from where it is then directed to the pond treatment system.

3. COMPLIANCE

Compliance with respect to an individual's consent conditions and Section 15(1)(b) of the RMA 1991 as assessed from the initial farm inspection is presented in Figure 1. Compliance following any remedial actions that were required as a result of these inspections cannot be presented in this report as not all due dates for these works have expired at the time of its writing.

Figure 1 shows that 30% (seven) of all farm dairies that have a discharge permit fully complied with all of their consent conditions and Section 15(1)(b) of the RMA 1991.

Six (27%) of the farms presented non-compliance which caused a minor adverse effect on the environment. Such non-compliance included:

- Not utilising a stormwater diversion system that was in place
- Not having a proper discharge pipe from which a representative sample of the final discharge from the pond system can be obtained.
- Not annually desludging the ponds (as prescribed in the consent conditions).
- The final treated effluent exceeded the quality parameters (BOD_5 and TSS) by less than 20% of the respective consent limit.

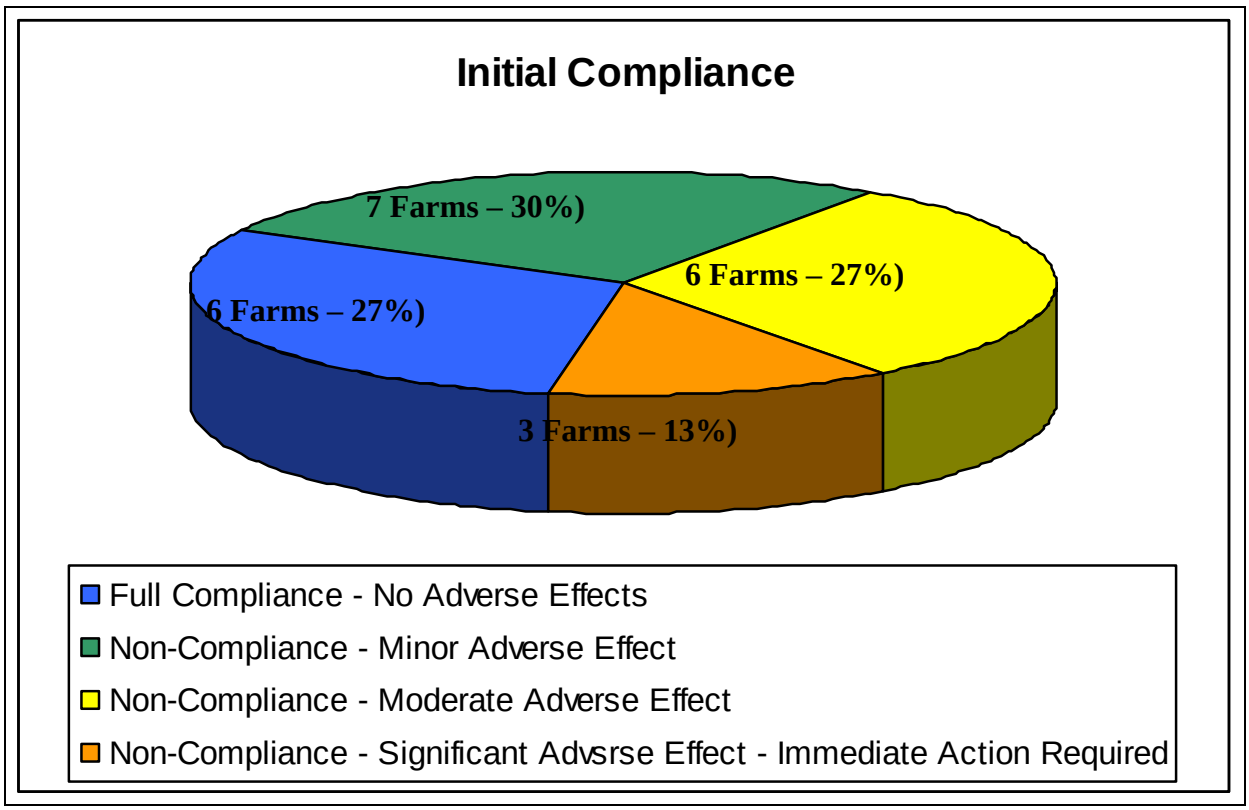

Figure 1: Compliance with respect to Consent Conditions and Section 15(1)(b) of the RMA 1991 following initial farm inspections

Seven (30%) of the farm dairies presented non-compliance which resulted in a moderate adverse effect on the environment. Such non-compliance included:

- Stormwater from the roof or yard areas not diverted away from the pond system.
- The final treated effluent exceeding the quality parameters (BOD_5 and TSS) by between 21% and 100% of the respective consent limit.

A total of three farms (13%) presented non-compliance that resulted in a significant and immediate adverse effect on the environment. Such non-compliance included:

- Direct run-off of raw effluent from raceways into water
- Direct run-off from feed pads/stand off pads into water
- Direct discharge of raw effluent from the farm dairy to water.
- Not maintaining the pond system in a manner that it operates effectively at all times. All farms that presented this type of non-compliance had a thick crusted layer covering the Anaerobic pond which was infested with weeds. In all cases the ponds had not been clean for more than five years and have never met their consent conditions relating to the treatment quality standard of the final discharge (measured in BOD_5 and TSS).
- Stormwater from the roof and yard areas not diverted away from the pond system.

- The final treated effluent exceeding the quality parameters (BOD_5 and TSS) by more than 100% of the respective consent limit.

4. ENFORCEMENT ACTION

Three methods of enforcement action were employed by Council's Compliance Section including the issuing of 'Farm Management Plans' (FMPs), Abatement Notices, and Infringement Fines. FMPs were an informal written directive given to the farm owner where non-compliance was found to be minor and the effect on the environment was considered to be minor. There were three exceptions to this where the non-compliance was considered to cause a moderate effect on the environment, but the farm owner had already identified the issues and was in the process of remedying the problem at the time of the farm inspection. In these cases a completion date was agreed upon and put in a FMP. In circumstances where there were a number of minor to moderate matters on non-compliance these FMPs were formalised in an Abatement Notice. An Abatement Notice was also used when a matter of non-compliance had been noted on file from previous inspections and the farm owner had in the past been directed informally by Compliance to remedy the problem and had not done so. Finally, an Infringement Fine (an instant fine of $750) was used in circumstances where the non-compliance resulted in a significant and immediate adverse effect and/or was the result of continual non-compliance.

4.1 Farm Management Plans (FMP's)

These plans were an informal written request to the farm owner to remedy the problem(s) found and listed any works that were required to undertaken to fully comply with their resource consent and the Resource Management Act (1991) and a date by which the works were to be completed by.

Ten FMPs were issued during the 2005/2006 season. Common issues that these FMPs addressed were:

- To install a proper discharge pipe from the treatment system.
- Divert stormwater from the farm dairy roof away from the treatment pond.
- Divert stormwater from the farm dairy yard away from the treatment pond system.
- Reposition the inflow and outflow pipes of the anaerobic pond so that they are located as far away from each other as possible (to reduce the probability of short circuiting the treatment system and therefore reducing the treatment potential).
- Desludge the Anaerobic pond.
- Correctly size the pond system to provide adequate treatment of effluent produced by current herd size and any planned future increases to the herd size.

It was made clear to each farm owner who received a FMP that Compliance will formalise any works that failed to be completed by the required due dates in a formal Abatement Notice. At the time of writing this report such enforcement action has not been needed, with all farmers being willing to work with Council in order to comply with their respective consent condition and the RMA 1991. Compliance is making regular contact with the farm owners concerned in order to keep up-to-date on their progress and any problems they may be incurring.

4.2 Abatement Notices

A total of six Abatement Notices were issued following the initial compliance inspections. Notices were issued in circumstances where the environmental effects were moderate or significant, or where past informal requests to remedy the same problem had not been heeded. Common issues that Abatement Notices addressed were:

- Run-off of effluent from raceways feed/stand-off pads entering water.
- Cleaning and desludging the pond system.
- To comply with all conditions of the respective discharge permit.

4.3 Infringement Fines

One infringement fine has been issued to date and related to several direct discharges of untreated effluent to water from the farm dairy, in breach of the RMA. This was an issue the farm owner had been made fully aware of in the past yet failed to act. This fine was also issued with an Abatement Notice that required that the discharge cease immediately.

It has been general policy in recent years that all farm owners who received an Abatement Notice are made aware in writing that failure to comply with the Notice will result in further enforcement action being taken which may include an Infringement Fine.

5. FARM IMPROVEMENTS TO DATE – ISSUES AND FURTHER ACTIONS: WHERE TO FROM HERE

To date, as a result of the 2005/2006 compliance round all three cases where effluent was allowed to run-off race ways, feed/stand-off pads and enter water have been remedied. Furthermore, the eleven pond systems that were found to be undersized with respect to herd number will be resized to the specifications recommended in Tables 1 and 2 by the beginning of the 2006/2007 season. To date, works have been completed on seven of these systems, with the remaining four to be completed by 31 July 2006.

The number of farm dairies that hold a resource consent to discharge treated effluent to water has decreased over recent years, a continuing trend during the 2005/2006 season with four farms surrendering their consents. This trend has resulted in a decrease from 27 discharge permits held by farmers during the 2004/2005 season to 23 permits for this season. Two of these farms no longer operate as dairy units, converting instead to beef. Another farm has been taken over by a neighbouring farm and the farm dairy is no longer to be used. The fourth farm is now operating under the Permitted Actively Rules (Rule 36.1.3 of the TRMP) and are discharging

the effluent from the farm dairy to land. As recommended by Council this farm is keeping the ponds as a back-up and storage facility and has removed the discharge pipe. Further to this Council has been advised that another three farms will no-long be operating as dairy units next season and may surrender their consents. If this does occur this will reduce the number of discharge permits in Tasman District to discharge dairy effluent to water to 20.

In respect to compliance, the 2006/2007 season it is envisioned that Compliance will continue to work with farm owners to ensure that all pond systems are correctly sized and all stormwater is diverted from the systems. Samples will continue to be taken of the final discharge from these pond systems as required by the conditions of consent to monitor on-going performance of these systems.

6. COSTS

Presently the annual monitoring fee placed on all farm dairy discharge permits is $300. This fee is set to cover Compliance costs including sample analysis of the final discharge, staff time, and administration of the consent files.

During the current season a running total of costs relating to each farm dairy discharge permit was maintained by Compliance to determine true cost associated with compliance monitoring of dairy effluent discharge permits against the annual charge. The record showed that the annual $300 fee barely covers the annual compliance costs of a fully compliant farm dairy. Table 3 presents a typical break-down of costs involved in compliance monitoring of farm dairies with discharge permits, and the maintenance of the consent files in given year for a fully compliant farm.

Table 3: Typical costs incurred by a fully compliant farm dairy

DETAILS	HOURS ($80/hr)	COSTS
Administration (mail out advising farmers or farm inspections)	0.5	$40
Farm Inspection	1	$80
Sample analysis (BOD_5 and TSS)		$60
Administration (summary report to consent holder)	0.5	$40
Administration (filing of correspondence)	0.5	$40
Miscellaneous (advise given/phone calls/ information posted/etc)	0.5	$40
	TOTAL	**$300**

From the above table it is apparent that a fully compliant farm dairy with a discharge permit barely remains under the present fee of $300. If laboratory costs for sample analyses was to increase or sampling requirements became more stringent and/or more quality parameters were monitored, the $300 fee would not cover the compliance costs for a fully compliant farm dairy.

During the 2005/2006 those farms who did not fully comply and their monitoring costs exceeded the annual fee were subsequently invoiced for any outstanding costs over and beyond the annual fee. This practice was employed to ensure Compliance was covering all reasonable costs involved in the ongoing monitoring of non-compliance and that the farm owners concerned were held responsible and accountable for this non-compliance and the costs involved.

7. CONCLUSION

The 2005/2006 season was one where much progress has been made with respect to compliance of resource consent conditions and Section 15(1)(b) of the RMA 1991. This success can largely be attributed to the general willingness of the farmers to adopt best farms management practises, and a genuine willingness to comply with the requirements of their respective consents and the principles of the RMA 1991.

Although the 2005/2006 season may be seen as one that presented a high rate of non-compliance, it is in fact a season not to dissimilar from most previous years. The difference is that Compliance is now enforcing the conditions of the individual's consent which may have been over looked in the past, the most common being stormwater diversions.

8. RECOMMENDATIONS

From the findings of this report it is recommended that

- Report to be received
- Recover all reasonable costs above and beyond the annual monitoring fee – including costs for repeated sampling and the staff time involved.

9. REFERENCES

Dexcel 2005. ***A Guide to Managing Farm Dairy Effluent. Tasman/Marlborough.*** Version #1.

Young, R; James, T; Hay, J. 2005. *State of the Environment Report: State of Surface Water Quality in Tasman District*. TDC ref RO5007.

Kathryn Bunting
Compliance Officer

APPENDIX 1

SURVEY FORM
Farm Dairy Oxidation Ponds

Tasman District Council

Bag 4
RICHMOND 7031
Telephone: (03) 543 8400
Facsimile: (03) 543 9524

Date of inspection _____

FARM DAIRY INSPECTION 2005/2006
(DISCHARGE PERMITS)

1. PROPERTY DETAILS

Farm Name _____

Supply Number		**Valuation Number**	
Easting		**Zone**	
Northing		**Herd numbers**	
Stocking Rate		**Friesians/Jersey/Mix**	

Farm Address _____

_____

_____

_____

Postal Address

Farm Owner _____

_____

_____

Phone:

Share-milker _____

_____

_____

Phone:

2. MANAGEMENT OF EFFLUENT FROM FARM DAIRY

Description of effluent collection _____

_____

_____

_____

_____

Description of stormwater controls _____

_____

_____

Anaerobic Pond (First Pond)

Age of Pond System [ ]

Length		Width		Depth			(accounts for a 2:1 batter slope)		Anaerobic Pond Volume
[ ] m	x	[ ] m	x	[ ] m	=	[ ] m^3	x 0.5	=	[ ] m^3

Recommended Anaerobic Pond Sizes

No. of cows	Recommended Volume	No. of cows	Recommended Volume
100	550m^3	350	1870m^3
150	800m^3	400	2130m^3
200	1060m^3	450	2380m^3
250	1310m^3	500	2640m^3
300	1620m^3		

	YES	NO
Does the Anaerobic Pond meet the recommended volume for the size of herd	[ ]	[ ]
Are the solids retained in the Anaerobic Pond by an effective baffle or 'T' pipe	[ ]	[ ]
Is stormwater from the farm dairy and surrounding land diverted away from ponds	[ ]	[ ]

FEED PADS **Description of effluent collection and disposal:** _____

_____

_____

_____

Size [ ] m^2 **Frequency of Use** [ ]

Length of time used		**Volume of washdown water**	m^3

Aerobic Pond(s) (Second/Third/Fourth Ponds)

Depth of Aerobic Pond(s)	m	m	m

	Northing	**Easting**
Location of Point of Discharge		

		Width		**Length**		**Surface Area**
Aerobic Pond #1	=	m	x	m	=	m^2
+ Aerobic Pond #2 (if relevant)	=	m	x	m	=	m^2
+ Aerobic Pond #3 (if relevant)	=	m	x	m	=	m^2
Total Surface Area of Aerobic Ponds					=	**m^2**

Recommended Aerobic Pond Sizes

No. of cows	Recommended Surface Area	No. of cows	Recommended Surface Area
100	$480m^2$	350	$1660m^2$
150	$720m^2$	400	$1900m^2$
200	$950m^2$	450	$2140m^2$
250	$1190m^2$	500	$2370m^2$
300	$1420m^2$		

	NO	YES
Does the aerobic pond(s) meet the recommended surface area for the size of herd		
Is the pond system designed to cater for additional effluent from stand-off/feed pad areas		
Are all ponds within the treatment system sealed to prevent contamination of groundwater by seepage		
Is the effluent periodically discharged to land		*

* Complete Section 4 - LAND APPICATION OF EFFLUENT (RULE 36.1.3 of the TRMP)

Description of how the ponds are desludged, how the sludge is disposed of, where, and area (ha) over which the sludge is spread	

How often are the ponds desludged		**When were the ponds last desludged**	
Soil Type		**Source of water for farm dairy**	
Quantity of artificial fertiliser (kgN/ha/yr)		**Name of nutrient budget model/programme**	
Number and Percent of un-bridged stream crossings		**Percentage of fenced water-ways**	

3. CONSENT CONDITIONS

Condition No.	Description of Condition	Compliant NO	Compliant YES

Sample results *Point of Discharge:* **BOD_5** **TSS**

Upstream

TSS	BOD_5	E. coli	Faecal C.	D.O	Nitrate N	N. Ammonia

Downstream

TSS	BOD_5	E. coli	Faecal C.	D.O	Nitrate N	N. Ammonia

Description of receiving waters - colour, slime, smell, aquatic flora and fauna

4. LAND APPICATION OF EFFLUENT (RULE 36.1.3 of the TRMP)

Method of effluent application to land

Total discharge area (ha)		**Frequency of discharge**	
Volume of discharge/application		**Area of discharge\application**	

PERMITTED ACTIVITY RULES

YES	NO		COMPLIANT	NON-COMPLIANT
		Is the discharge in the Waimea Plains aquifer Protection Area		
		Does the discharge result in run-off into any water way or river bed		
		Are there contingency measures in place to avoid discharge into water in the event of system failure		
		Is the discharge more than 20 meters from a surface waterbody or the coastal marine area		
		Is the discharge more than 20 meters from any bore for domestic water supply		
		Is the discharge more than 10 meters from any adjoining property		
		Is the discharge more than 50 meters from any dwelling on an adjoining property		
		Are the effluent storage facilities sealed		
		Is the nitrogen loading rate less than 200kgN/ha/yr		

		when considering with any other applied fertiliser		
		Does the discharge area have more than 90% vegetative cover		
		Does the discharge create an offence or objectionable odour beyond the property boundary		
		Does the discharge resulting in ponding for more than one hour		

Compliance issues

NO **YES**

Follow-up Inspection Required

Date of follow-up inspection

Notes

***Pond Health*: i.e. Bubbling in anaerobic pond, crusting, weeds, odour…**

Enforcement Action