

# Comhairle Contae Chorcaí Cork County Council

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16<sup>th</sup> March 2009.

Subject: WWDL Application For Mitchelstown REF NO.D0202-01

Response to Notice issued by EPA in accordance with Regulation 18(3)(b) of the Waste Water Discharge (Authorisation) Regulations 2007 – dated 14th January 2009

Dear Ms O'Callaghan,

I refer to your letter of the 14th January 2009 concerning above. The following is our reply to your request for further information in accordance with Regulation 18(3) (b) dealing in sequence with the points raised:

*The content of the electronic files is a true copy of the original hard copy submitted to the EPA.*

I trust the above answers the queries you have raised

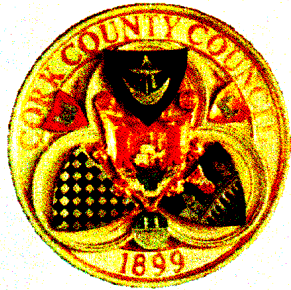
Yours sincerely,

Valerie Hannon  
A/Senior Executive Scientist  
Cork County Council

Regulation 18(3)(b)Reponse to EPA for mitchelstown D0202-01

16<sup>th</sup> March 2009





# CORK COUNTY COUNCIL

Mitchelstown Agglomeration

Regulation 18 Compliance – March 2009

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**MITCHELSTOWN WASTE WATER DISCHARGE  
LICENSE**

**APPLICATION REF NO: D0202-01**

**NOTICE IN ACCORDANCE WITH REGULATION  
18(3)(B) OF THE WASTE WATER DISCHARGE  
(AUTHORISATION) REGULATIONS 2007**

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## Section A: Non-Technical Summary

***“(i) Provide the name of the agglomeration to which the application relates”.***

The name of the agglomeration to which the application relates is Mitchelstown. This is illustrated in Section B.1 of the original application and in the revised non technical summary which is appended to this document. The extent of the agglomeration is outlined on Drawing Number Mitchelstown B1-05 Revision A which was also included in the original application.

## Section B: General

***“(i) Provide an estimate of the existing and the maximum proposed Population Equivalent (p.e.) contribution from (1) domestic, (2) commercial and (3) trade effluent sources. »***

Mitchelstown Wastewater Treatment Plant (WWTP) accepts and treats domestic and commercial (other than those generated by Dairygold Co-Operative Society Limited) flows from within the Mitchelstown agglomeration. Mitchelstown WWTP has been designed to cater for a population equivalent of 6000 persons based on a hydraulic loading of 270 litres/person /day (1620m<sup>3</sup>/day). The recorded quantity of the final effluent flow from Mitchelstown WWTP to the River Funshion was detailed in Attachment E4 of the original application and is outlined below:

<b>Date of Flow Measurement</b>	<b>Treated Effluent Flow from WWTP to Outfall (m<sup>3</sup>/day)</b>
17/01/2007	3269
21/02/2007	6061
15/03/2007	2277
12/04/2007	1477
03/05/2007	1013
28/06/2007	1446
27/09/2007	1129
03/10/2007	963

24/10/2007	1456
22/11/2007	916
02/07/2008	3178
26/03/2008	1482
04/03/2008	1930
28/05/2008	965
12/06/2008	822
17/07/2008	1030

The population of Mitchelstown (existing domestic) according to the 2006 Census of Population is 3,365 persons whilst it is estimated that the commercial (other than those generated by Dairygold Co-Operative Society Limited) flow from Mitchelstown agglomeration is between 500 and 1000PE.

The only trade effluent source in the Mitchelstown agglomeration is the Dairygold Co-Operative Society Limited facility ("Dairygold"). "Dairygold" operate a milk processing and treatment facility which receives quantities of milk in excess of 200 tonnes per day. The "Dairygold" facility has its own WWTP which is located within their own property adjacent to the municipal WWTP. "Dairygold" hold an IPPC (Integrate Prevention Pollution Control) License (Reference Number P0404-02) from the Environmental Protection Agency with respect to their facility.

The "Dairygold" WWTP has a separate outfall pipe which runs adjacent to the municipal WWTP outfall pipe. The "Dairygold" WWTP outfall pipeline discharges to the municipal WWTP outfall pipeline close to the confluence point of the Rivers Gradoge and Funshion. The combined outfall pipe then discharges to the River Funshion at the primary discharge point (SW01-MITC) on the River Funshion.

The license permits Dairygold to discharge a volume of 10,000m<sup>3</sup> /day of treated effluent from the Dairygold facility to the River Funshion. The license parameters with respect to BOD, COD, Suspended Solids, Ammonia, Total Phosphorus, Sulphates and Orthophosphate are detailed below:

Parameter	mg/l	Kg/day
BOD	15	110
COD	80	530
Suspended Solids	15	150
Ammonia	2	17
Total Phosphorus	2	17
Sulphates	600	
Orthophosphate	0.45	4.45

The IPPC license for the "Dairygold" facility permits a discharge of 110 Kg/day of BOD. At a BOD of 60g/PE/day this equates to a maximum contributing flow from the "Dairygold" facility in terms of population equivalent of 1833 persons. The total request from Cork County Council with reference to the wastewater discharge license is 9000PE.

### Section C: Infrastructure & Operation

***"In relation to the designated secondary discharges from the storm water holding tanks at WWTP and pumping station on Clonmel Rd and Ballynamona, please provide updated details, where available, on the frequency, duration and volumes of effluent released from these secondary discharge points. Justify the classification as a secondary discharge."***

No detail is available on the frequency, duration and volumes of effluent released from the secondary discharge points from the Clonmel Road (SW03-MITC) and Ballynamona (SW04-MITC) pumping station.

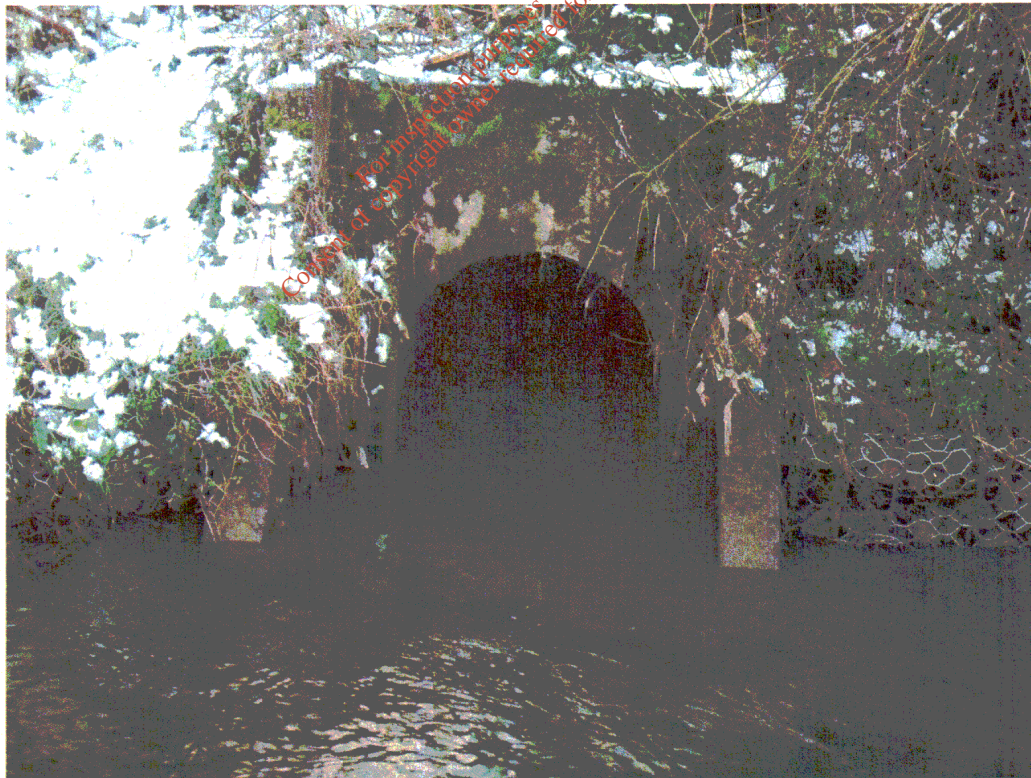
No detail is available on the frequency, duration and volumes of effluent released to the secondary discharge point at Mitchelstown Wastewater Treatment Plant (SW 02-MITC) from the storm water holding tanks at Mitchelstown WWTP.

***"(i) Provide an assessment of the identified storm water overflows having regard to the requirements of the DoEHLG guidance."***

In assessing the operation of an existing storm water overflows the DOEHLG guidelines "Procedures and Criteria in relation to Storm water Overflows- UWWTD 91/271/EEC" states that one must determine if the storm water overflow:

- 1 Causes significant visual or aesthetic impact and public complaints
- 2 Causes deterioration in water quality in the receiving water
- 3 Gives rise to failure in meeting the requirements of national requirements on foot of EU Directives (Bathing Waters etc.)
- 4 Operates in dry weather.

The only identified stormwater overflow point is SW05-MITC (refer to Drawing Number MITCHELSTOWN\_B5\_12, Revision A). The storm water overflow is reported to cause occasional visual impact and occasional public complaints when operating. It is unknown whether the storm water overflow causes deterioration in water quality in the receiving water or gives rise to failure in meeting the requirements of national requirements on foot of EU Directives. The storm water overflow does not operate in dry weather. A photograph of the storm water overflow point SW05-MITC is included below.



**Storm Water Overflow Point SW05-MITC**

**“(ii) Provide details of the storage volume and storage time, in hours, of both the storm water holding tanks at (SW2-MITC) and all pumping stations on Clonmel Road (SW3-MITC) and Ballynamona (SW4-MITC) Pumping Station. Confirm the number of pumping stations on Clonmel Road.”**

**“(iii) Provide details of the pump configuration (e.g. duty, assist, standby) at all identified pumping stations. For any pumping station that does not have a standby pump fitted, justification for this.”**

**“(iv) Please clarify as to whether the emergency overflow from any pumping station has been known to activate in the last 12 months. If so, provide the reason for the activation and details of the frequency, duration and discharge volume.”**

#### SW2-MITC Storm water overflow at WWTP

The storm water holding tanks at Mitchelstown Wastewater Treatment Plant (WWTP) have a volume of 450m<sup>3</sup>.

Mitchelstown WWTP has been designed to cater for a population equivalent of 6,000 persons based on a hydraulic flow of 270 litres/head/day. At 6 DWF, the storm water holding tanks provide approximately 2.2 hours of storage.

#### SW3-MITC Clonmel Road Pumping Station

The storm water holding tank at the Clonmel Road Pumping Station has a capacity of 36m<sup>3</sup>. It is not known what flow the Clonmel Road Pumping Station has been designed to cater for or what flow the pumps are capable of delivering.

The Clonmel Road Pumping Station operates on a duty/standby basis

It is unknown whether the emergency overflow from the Clonmel Road Pumping Station to the River Gradoge has been activated in the last 12 months.



### SW3-MITC Ballynamona Pumping Station

There is no stormwater holding tank at the Ballynamona Pumping Station.

The Ballynamona Road Pumping Station operates on a duty/standby basis.

It is unknown whether the emergency overflow from the Ballynamona Pumping Station to the River Gradoge has been activated in the last 12 months.

***“(v) Reassess the information provided for storm water overflows provided on Drawing Number Mitchelstown-A1-03 and section B.5”.***

The storm water overflows indicated on Drawing Number Mitchelstown-A1-03 are not designated storm water overflow discharge points for the purpose of the wastewater discharge license application. They are a number of locations where the existing combined sewer collection system can overflow to the existing surface water sewer system. The storm water sewer system ultimately outfalls to the existing watercourse (Gradoge River) during a storm event at storm water overflow point SWS-MITC.

### **Section E: Laboratory Monitoring and Analysis**

***“Provide additional information in relation to monitoring, sampling and analysis. The response should include:***

***(i) Reassess the data submitted in attachment E.4 of the application form, to include the monitoring carried out, the analytical methods used and any accreditation obtained by the laboratory.***

***(ii) Indicate if composite sampling or continuous flow monitoring is in place on the primary discharge. Detail any plans and timescales for the provision of composite sampling and continuous flow meters on any of the discharges from the agglomeration, if applicable.”***

- Three laboratories from Cork County Council carry out sampling and testing regimes in Mitchelstown. These are the Cork County Council Wastewater Laboratory, the Water Services Laboratory (Northern Division) of Cork County Council and the Cork County Council Environment Directorate Water Laboratory.
- Wastewater monitoring for pH, BOD, COD, Suspended Solids, Ammonia, Total phosphate, Ortho phosphate and Sulphate following is performed by the Wastewater Laboratory which is INAB accredited (Register Number 016T). The INAB accreditation for the Wastewater Laboratory is appended. Monitoring is also carried out by the Water Services Laboratory (Northern Division) but this laboratory is not INAB accredited for these parameters. This laboratory however successfully participates in the EPA inter-calibration scheme.
- Monitoring of the River Funshion upstream and downstream of the primary discharge locations is performed by all three laboratories. The Environment Directorate Laboratory is not INAB accredited for the tests carried out however the laboratory successfully participates in the LEAP& EPA inter-calibration scheme. The Environment Directorate Laboratory also analyses wastewaters for Fluoride, Nitrate and Nitrite on behalf of the Wastewater Laboratory.
- The Wastewater Laboratory is not accredited for metal analysis but the laboratory has a successful performance in both the EPA and Aquacheck proficiency testing schemes.
- Cork County Council subcontracted analysis for dangerous substances testing for dangerous substances to two outside laboratories, Chemical Testing Laboratory and Euro Environmental Services. The two laboratories that were used were INAB accredited in one case and UKAS accredited in the other case. The scopes, detection limits and INAB accreditation for Euro Environmental Services and the INAB accreditation for Chemical Testing Laboratory are appended to this document.
- The Water Services Laboratory (Northern Division) visits Mitchelstown WWTP on a quarterly basis and assesses the WWTP from an operational point of view. This assessment involves the collection and testing of both influent and effluent samples.
- The Wastewater Laboratory have scheduled 10 visits to Mitchelstown WWTP for 2009 as the WWTP did not meet all the requirements of the Urban Wastewater Directive in 2008.
- The Environment Directorate Laboratory are also scheduled to sample the River Funshion as part of the Water Framework monitoring programme. This is operational monitoring under the Water Framework Directive and is scheduled on a quarterly basis.

The specific locations are Ballaghaderg Bridge for upstream and both Kilee Bridge and 500 metres downstream of combined discharges to River Funshion at downstream locations.

- We have detailed the location of composite samplers and flowmeters in the vicinity of the primary discharge point below:
  - A composite sampler is in place to sample influent to the WWTP.
  - A composite sampler is in place to sample discharge from the WWTP.
  - An inlet flowmeter is in place to record influent flow to the WWTP
  - An outlet flowmeter is in place to record discharge flow from the WWTP.
  - A Composite sampling and flow meter are in place to sample effluent and record flow from of the Dairygold Co-Operative Society Limited WWTP.

The outfall pipelines from the Mitchelstown WWTP and the "Dairygold" WWTP combine at a manhole immediately adjacent to the River Funshion. However there are no composite samplers or flow meters in place at this location as it is an isolated location, in excess of 1500metres from both WWTP's, and no electrical power source is available.

#### **Section F: Existing Environment & Impact of the Discharges**

***Provide a further description of the existing environment in terms of water quality with particular reference to environmental quality standards or other legislative standards.***

***The response should include:***

***“(i) A copy of the most recent water quality management and/or catchment plan in place for the receiving water body. Provide an evaluation of the discharge in relation to the objectives of the water quality management or catchment plan.”***

In order to achieve the requirements of the Water Framework Directive, Ireland has been divided into a number of River Basin Districts or management units. The South Western River Basin District comprises substantially the counties of Cork and Kerry, all of Cork City, and also parts of counties Limerick, South Tipperary and Waterford. The project is led by Cork County Council. All 6 Local Authorities whose counties lie within the South Western River Basin District are actively participating in the project. Relevant state

agencies are also playing an important role. The South Western River Basin District Project is funded by the Department of the Environment, Heritage and Local Government through the National Development Plan. The River Blackwater and its tributaries the River Funshion and the River Gradoge form part of the South Western River Basin District. A draft management plan for the South Western River Basin District was published in December 2008. The draft management plan sets out specific proposed measures for the Gradoge and the Funshion.

The reports with respect to the Gradoge and the Funshion are appended to this document. Cork County Council are complying with the measures detailed in these reports with respect to the Mitchelstown agglomeration.

***(ii) Confirmation that, where applicable, assessments of the impact of discharges from waste water treatment works are based on the maximum p.e., of the agglomeration to which the application relates. Submit revised assessments where applicable.***

We have revised the assimilative capacity calculations with regard to phosphorus, BOD and suspended solids to include discharge from the "Dairygold" facility and these are appended to this document.

***(iii) Details of any correspondence engaged in with the National Parks and Wildlife Service in relation to a determination as to the likelihood of discharges from the waste water works having a significant effect on a European site. If the discharges are deemed likely to have a significant effect an appropriate assessment of the implications for the designated site in view of the sites conservation objectives must be carried out. Any assessment, should it be deemed necessary, shall be submitted as part of the reasoned response to this notice.***

Consultations between Cork County Council Environmental Services Department and the National Parks and Wildlife Services are ongoing and Cork County Council are awaiting a formal response from the National Parks & Wildlife Services

## Section G: Programme of Improvements

***“Provide further details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work. The response should include:***

A sum of €221,000 has been included in the Water Services Investment Programme 2007-2009 for a Nutrient Removal Plant and improved screening at Mitchelstown Wastewater Treatment Plant. The nutrient removal plant has been installed. Further improvements at the inlet works have been identified. These works, which are programmed to be carried out during 2009, will include:

- screening of all storm flows;
- grit removal from all storm flows;

***(i). Details of the programme of improvements to ensure that discharges other than the primary and secondary discharges comply with the DoEHLG guidance on storm water overflows.”***

As part of the Serviced Land Initiative of the Water Services Investment Programme 2007-2010 a sum of €3 million has been allocated to Mitchelstown Sewerage scheme. These monies will be expended on improvement works to the collection network including the storm water overflows from the combined to the surface water networks and the storm water overflow discharge point. It is anticipated that a Consulting Engineer will be appointed shortly to prepare a preliminary report for these works.

We trust that we have submitted sufficient data for the Environmental Protection Agency to assess the application for a wastewater discharge license for the Mitchelstown agglomeration.

# REVISED NON- TECHNICAL SUMMARY

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## SECTION A: REVISED NON-TECHNICAL SUMMARY

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The extent of the Mitchelstown agglomeration is detailed on Drawing Number Mitchelstown\_B1\_05 Revision A which was included in the original application. Wastewater from the Mitchelstown agglomeration can be generally divided into two separate categories:

1. Domestic and commercial wastewater flow from the Mitchelstown Town & Environs which is treated at Mitchelstown Municipal Wastewater Treatment Plant (WWTP) before discharging via an outfall pipe to the River Funshion downstream of its confluence with the River Gradoge.
2. Trade effluent flow from the Dairygold Co-Operative Society which is treated at a separate WWTP before it discharges to the municipal WWTP outfall pipeline.

### Mitchelstown Sewerage Scheme

The wastewater in Mitchelstown is collected in a partially combined/ separated foul sewage collection system which discharges to a municipal wastewater treatment plant. The various elements of the collection system are outlined below:

- The main part of the foul/ combined sewage collection network for the town collects foul sewage flows from the area of Mitchelstown west of the N7 National Primary Route. The flows are then discharged via a 450mm pipeline to the inlet works at Mitchelstown Wastewater Treatment Plant (WWTP). In general foul sewage flows east of the N7 national primary route are pumped to this network from foul sewage pumping stations at Clonmel Road and Ballynamona (see below)
- Foul sewage flows from the Kings Square area of Mitchelstown are collected in a combined system that drains via a 300mm diameter to a pumping station located within Mitchelstown WWTP. The flows are then pumped to the inlet works at Mitchelstown WWTP.

- The Clonmel Road Pumping Station collects foul sewage flows from the Clonmel Road and Mulberry Road (part) area of Mitchelstown and pumps them via 150mm rising main to the main collection system at the N7 Bridge over the Gradoge River.
- Ballynamona Pumping Station collects foul sewage flows from the Brigown Road and Mulberry Road (part) areas of Mitchelstown and pumps them via a 150mm diameter rising main to the main collection system at Brigown Road.

Mitchelstown also has a surface water collection network which collects some of the surface water flows from the catchment and discharges them to the Gradoge River. A number of emergency overflow structures incorporated within the combined/ foul network allow excess flows in the combined/foul system to discharge to the surface water networks during storm events. The storm water network ultimately discharges to an outfall on the River Gradoge.

#### Mitchelstown Municipal WWTP

Mitchelstown Wastewater Treatment Plant (WWTP) which is located west of Mitchelstown on the banks of the Gradoge River was built in the late 1950's / early 1960's and refurbished in the 1990's. It has been designed to cater for a domestic population equivalent (P.E.) of 6,000 persons based on a hydraulic loading of 270 litres/P.E. /day. The full flow to treatment (FFT) of the Mitchelstown WWTP is 200m<sup>3</sup>/hour which is 3 \* Dry Weather Flow (3DWF). The maximum hydraulic capacity of Mitchelstown WWTP is 400m<sup>3</sup>/hour (6DWF). Mitchelstown WWTP can accommodate the maximum hydraulic capacity for a period of two hours before the stormwater settlement tanks reach their capacity and then overflow to the adjacent Gradoge River. Mitchelstown WWTP treats all flows that arrive at the plant to secondary standard in accordance with the Urban Wastewater Treatment Regulations, 2001 (S.I. Number 254 of 2001) as shown in the following table;



Parameter	Concentration
Biochemical Oxygen Demand (BOD <sub>5</sub> at 20° C) without nitrification.	25mg/l O <sub>2</sub>
Chemical Oxygen Demand	125mg/l O <sub>2</sub>
Total Suspended Solids	35mg/l

In addition a nutrient (phosphorus) removal plant was installed at the Wastewater Treatment Plant in 2005 to reduce the total phosphorus discharge in the final effluent to 2mg/l (max).

The treated effluent from Mitchelstown WWTP is discharged to the Funshion River, below its confluence with the Gradoge River, via a 300mm diameter outfall pipe along the banks of the Gradoge River. Treated effluent from the Dairygold Creamery WWTP is also discharged at this outfall location via a separate 300mm diameter pipe.

Mitchelstown Wastewater Treatment Plant is currently operated by Cork County Council and consists of inlet works, primary, secondary and sludge treatment. An indicative layout of the treatment plant is detailed on Attachment A1-Drawing Number 2. The plant is manned during the working week 8.00am to 5.00pm by a plant manager. A brief description of the works is outlined below;

## Mitchelstown WWTP- Process Description

Untreated flow enters the WWTP via an inlet works which includes screening, grit removal and flow measuring equipment. From the inlet works the untreated flow discharges by gravity to 3 number primary settlement tanks. During storm events excess flows are diverted to 2 number stormwater settlement tanks from the inlet works. These tanks would normally be kept empty and following storm event liquor in the tanks is pumped back to the inlet works by a pump set located in the main pumping station. There is an overflow incorporated within the storm water tanks that allows the tanks to overflow to the Gradoge River once they have reached their capacity.

The wastewater flow from the primary settlement tanks discharges by gravity to the main pumping station from where it is pumped to the 4 number rotating biological filters. The flow is divided equally between the four filters. The discharge from the biological filters gravitates to the humus tanks from where it in turn discharges by gravity following settlement to the outfall pipeline to the Funshion River.

Mitchelstown WWTP includes an on site sludge treatment facility. The sludge treatment facility consists of a sludge pumping station, a picket fence thickener, a thermophilic accobic sludge digestion plant, sludge dewatering plant and sludge holding tanks.

Dairygold Co-Operative Society Limited ( "Dairygold" )

"Dairygold" operate a milk processing and treatment facility within the Mitchelstown agglomeration which receives quantities of milk in excess of 200 tonnes per day. The "Dairygold" facility has its own WWTP which is located within their own property adjacent to the municipal WWTP. "Dairygold" hold an IPPC (Integrate Prevention Pollution Control) License (Reference Number P0404-02) from the Environmental Protection Agency with respect to their facility.

The "Dairygold" WWTP has a separate outfall pipe which runs adjacent to the municipal WWTP outfall pipe. The "Dairygold" WWTP outfall pipeline discharges to the municipal WWTP outfall pipeline close to the confluence point of the Rivers Gradoge and Funshion. The combined outfall pipe then discharges to the River Funshion downstream of the confluence of the Gradoge and Funshion.

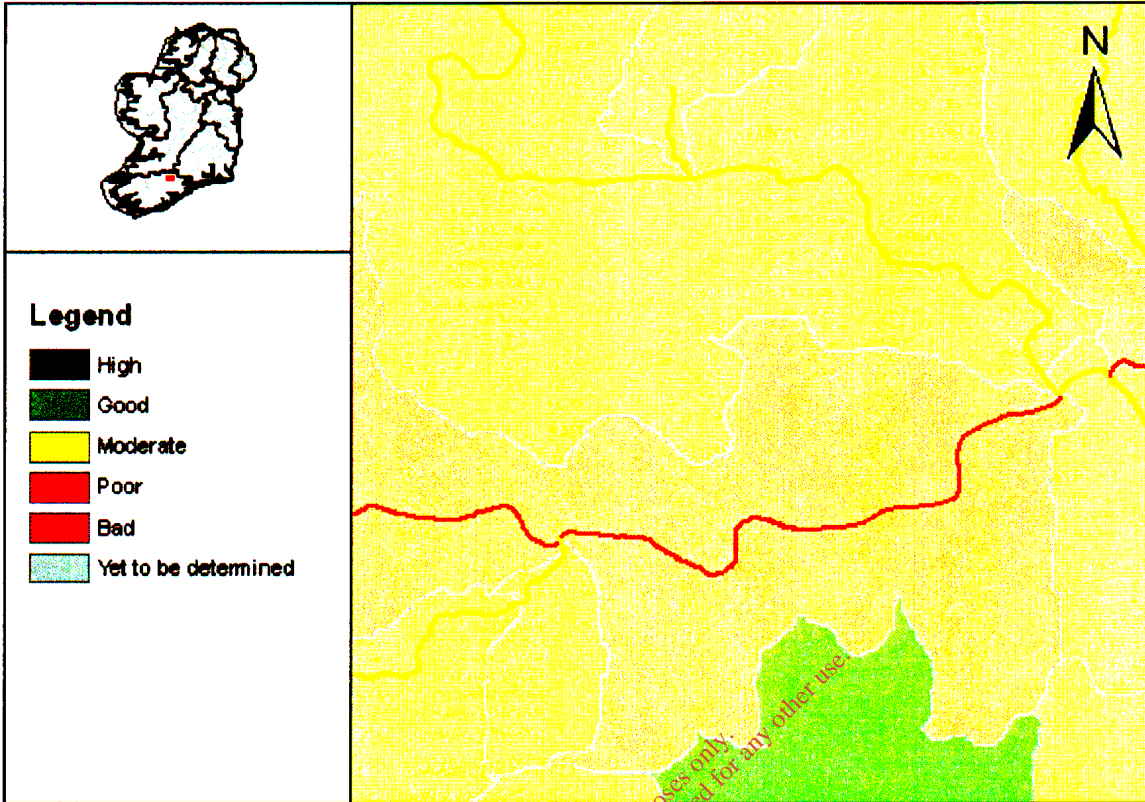
The license permits Dairygold to discharge a maximum volume of 10,000m<sup>3</sup> /day of treated effluent from the Dairygold facility to the River Funshion under certain conditions and limitations with regard to the quality of the discharge.

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**DRAFT SOUTH WESTERN RIVER BASIN  
MANAGEMENT PLAN- REPORTS ON  
GRADOGUE AND FUNSHION.**

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**Full Report for Waterbody SW\_Blackwater190DFunshion\_Funshion\_1Lower**



Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## Ecological and Chemical Waterbody Status

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Funshion\_1Lower  
**WaterBody Code:** IE\_SW\_18\_1836  
**Overall Status Result:** Moderate

	<b>Status Report</b>	<b>Result</b>
	<b>Biological Elements</b>	
DI	Phytobenthos (Diatoms)	n/a
EX	Extrapolated Waterbody	
FI	Fish	n/a
FPM	Status value as determined by Margartifera	moderate
NoS	Waterbodies containing no status	
Q	Macroinvertebrates (Q-Value)	Moderate
	<b>Supporting Elements</b>	
MOR	Hydromorphology	n/a
PAS	Specific Pollutants	n/a
PC	General Physico-Chemical	Fail
	<b>Chemical Status</b>	
SPO	Chemical Status	n/a
	<b>Overall Ecological Status</b>	
O	Overall Ecological Status	Moderate

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## Risk Report

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Funshion\_1Lower  
**WaterBody Code:** IE\_SW\_18\_1836  
**Overall Risk Result:** **1a** At Risk

	<b>Risk Test Description</b>		<b>Result</b>
<b>Point Risk Sources</b>			
RP1	WWTPs	<b>1a</b>	At Risk
RP2	CSOs	<b>1b</b>	Probably At Risk
RP3	IPPCs	2b	Not At Risk
RP4	Section 4s	2b	Not At Risk
RPO	Overall Risk from Point Sources - Worst Case	<b>1a</b>	At Risk
<b>Diffuse Risk Sources</b>			
RD1	EPA diffuse model	<b>1b</b>	Probably At Risk
RD2a	Road Wash - Soluble Copper	2b	Not At Risk
RD2b	Road Wash - Total Zinc	2b	Not At Risk
RD2c	Road Wash - Total Hydrocarbons	2b	Not At Risk
RD3	Railways	2b	Not At Risk
RD4a	Forestry - Acidification	2b	Not At Risk
RD4b	Forestry - Suspended Solids	2b	Not At Risk
RD4c	Forestry - Eutrophication	2a	Probably Not At Risk
RD5a	Unsewered Areas - Pathogens	2a	Probably Not At Risk
RD5b	Unsewered Phosphorus	2b	Not At Risk
RD5	Overall Unsewered	2b	Not At Risk
RD6a	Arable	2a	Probably Not At Risk
RD6b	Sheep Dip	2b	Not At Risk
RD6c	Forestry - Dangerous Substances	2b	Not At Risk
RDO	Diffuse Overall -Worst Case	<b>1b</b>	Probably At Risk

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

<b>Morphological Risk Sources</b>		
RM1	Channelisation	Not at Risk
RM2	Embankments	Not at Risk
RM3	Impoundments	2b Not At Risk
RM4	Water Regulation	2b Not At Risk
RMO	Morphology Overall - Worst Case	Not at Risk
<b>Q/RDI or Point/Diffuse</b>		
QRA	Q class/RDI1 or worst case of Point and Diffuse	1a At Risk
<b>Hydrology</b>		
RHY1	Water balance - Abstraction	2b Not At Risk
<b>Overall Risk</b>		
RA	Rivers Overall - Worst Case	1a At Risk

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009



## WaterBody Objectives Report

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Funshion\_1Lower  
**WaterBody Code:** IE\_SW\_18\_1836  
**Overall Objective:** Restore

Waterbody Objectives		Result
<b>Objectives</b>		
OB1	Objective 1 - Protected Areas	Restore
OB2	Objective 2 - Protect High and Good Status	No Status
OB3	Objective 3 - Restore Less Than Good Status	No Status
OB4	Objective 4 - Reduce Chemical Pollution	No Status
OBO	Overall Objective	Restore
<b>Deadline</b>		
	Default Year by which the objective must be met	2015
EXT	Extended Objective Deadline	Restore - 2015

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## Basic Measures

**WaterBody Category:** River Waterbody

**WaterBody Name:** SW\_Blackwater190DFunshion\_Funshion\_1Lower

**WaterBody Code:** IE\_SW\_18\_1836

	<b>Basic Measures</b>	<b>Applicable</b>
	<b>Key Directives</b>	
BA	Bathing Waters Directive	No
BI	Birds Directive	Yes
HA	Habitats Directive	No
DW	Drinking Waters Directive	Yes
SEV	Major Accidents and Emergencies (Seveso) Directive	Yes
EIA	Environmental Impact Assessment Directive	Yes
SE	Sewage Sludge Directive	Yes
UW	Urban Waste Water Treatment Directive	No
PL	Plant Protection Products Directive	Yes
NI	Nitrates Directive	Yes
IP	Integrated Pollution Prevention Control Directive	Yes
	<b>Other Stipulated Measures</b>	
CR	Cost recovery for water use	Yes
SU	Promotion of efficient and sustainable water use	Yes
DWS	Protection of drinking water sources	Yes
AB	Control of abstraction and impoundments	Yes
PT	Control of point source discharges	Yes
DI	Control of diffuse source discharges	Yes
GWD	Authorisation of discharges to groundwater	No
PS	Control of priority substances	Yes
MOR	Control of physical modifications to surface waters	Yes
OA	Controls on other activities impacting on water status	Yes
AP	Prevention or reduction of the impact of accidental pollution incidents	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## Urban and Industrial Discharges Supplementary Measures

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Funshion\_1Lower  
**WaterBody Code:** IE\_SW\_18\_1836

	<b>Point discharges to waters from municipal and industrial sources</b>	<b>Result</b>
PINDDIS	Is there one or more industrial discharge (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) contained within the water body?	Yes
PINDDISR	Are there industrial discharges (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) that cause the receiving water to be 'At Risk' within the water body?	No
PB1	Basic Measure 1 - Measures for improved management.	Yes
PB2	Basic Measure 2 - Optimise the performance of the waste water treatment plant by the implementation of a performance management system.	Yes
PB3	Basic Measure 3 - Revise existing Section 4 license conditions and reduce allowable pollution load.	Yes
PB4	Basic Measure 4 - Review existing IPPC license conditions and reduce allowable pollution load.	Yes
PB5	Basic Measure 5 - Investigate contributions to the collection system from unlicensed discharges.	Yes
PB6	Basic Measure 6 - Investigate contributions to the collection system of specific substances known to impact ecological status.	Yes
PB7	Basic Measure 7 - Upgrade WWTP to increase capacity.	Yes
PB8	Basic Measure 8 - Upgrade WWTP to provide nutrient removal treatment.	Yes
PS1	Supplementary Measure 1 - Measures intended to reduce loading to the treatment plant.	Yes
PS2	Supplementary Measure 2 - Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants.	Yes
PS3	Supplementary Measure 3 - Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive.	Yes
PS4	Supplementary Measure 4 - Initiate research to verify risk assessment results and determine the impact of the discharge.	Yes
PS5	Supplementary Measure 5 - Use decision making tools in point source discharge management.	Yes
PS6	Supplementary Measure 6 - Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive.	No
PS7	Supplementary Measure 7 - Apply a higher standard of treatment (stricter emission controls) where necessary.	No
PS8	Supplementary Measure 8 - Upgrade the plant to remove specific substances known to impact on water quality status.	Yes
PS9	Supplementary Measure 9 - Install ultra-violet or similar type treatment.	No

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

PS10	Supplementary Measure 10 - Relocate the point of discharge.	Yes
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Date Reported to Europe: 22/12/2008  
Date Report Created 13/03/2009

## Physical Modifications Supplementary Measures

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Funshion\_1Lower  
**WaterBody Code:** IE\_SW\_18\_1836

	<b>Physical Modifications Supplementary Measures</b>	<b>Applicable</b>
	European Code	IE_SW_18_1836
	<b>Reduce</b>	
SM1	Codes of Practice	Yes
SM2	Support for voluntary initiatives	Yes
	<b>Remediate</b>	
SM3	Channelisation impact remediation schemes	No
SM4	Channelisation investigation	No
SM5	Overgrazing remediation	No
SM6	Impassable barriers, impact confirmed, investigation into feasibility of remediation required	No
SM7	Impassable barriers investigation	Yes

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

**Urban and Industrial Discharges Supplementary Measures**

**WaterBody Category:**

**WaterBody Name:**

**WaterBody Code:**

<b>Supplementary Measure</b>	<b>Applicable?</b>
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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

**Forestry Measures**

**WaterBody Category:** River Waterbody

**WaterBody Name:** SW\_Blackwater190DFunshion\_Funshion\_1Lower

**WaterBody Code:** IE\_SW\_18\_1836

**Forestry Measures**

**Applicable**

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Date Report Created 13/03/2009

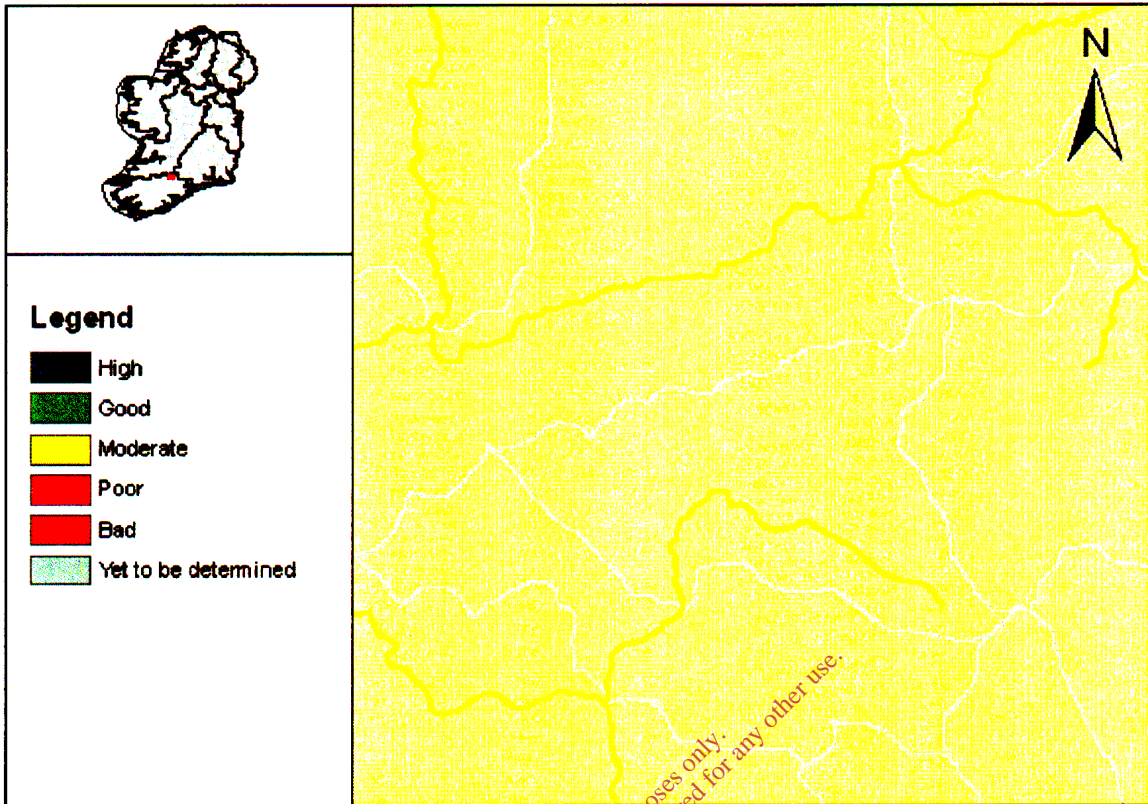
<b>Forestry</b>		
SF1	Management Instruments - Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures	No
SF2	Acidification - Avoid or limit afforestation on 1st and 2nd order stream catchments in acid sensitive areas	No
SF3	Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected and revise boundary conditions for afforestation in acid sensitive areas	No
SF4	Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites	No
SF5	Eutrophication and Sedimentation - Change the tree species mix on replanting	No
SF6	Eutrophication and Sedimentation - Limiting felling coup size	No
SF7	Eutrophication and Sedimentation - Establish new forest structures on older plantation sites	No
SF8	Hydromorphology - Audit existing drainage networks in forest catchments	No
SF9	Pesticide Use - Reduce pesticide usage	No
SF10	Pesticide Use - Pre-dip trees in nurseries prior to planting out	No
SF11	Pesticide Use - Maintain registers of pesticide use	No
SF12	Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves	No
SF13	Acidification - Mitigate acid impacts symptomatically using basic material	No
SF14	Acidification - Manage catchment drainage to increase residence times and soil wetting	No
SF15	Acidification - Implement measures to increase stream production.	No
SF16	Eutrophication - Establish riparian zone management prior to clearfelling	No
SF17	Eutrophication and Sedimentation - Enhance sediment control	No
SF18	Eutrophication - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF19	Sedimentation - Establish riparian zone management prior to clearfelling	No
SF20	Sedimentation - Enhance sediment control	No
SF21	Sedimentation - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF22	Hydromorphology - Enhance drainage network management, minimise drainage in peat soils	No
SF23	Pesticide Use - Develop biological control methods	No

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009



# Full Report for Waterbody SW\_Blackwater190DFunshion\_Gradoge\_1Lower



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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## Ecological and Chemical Waterbody Status

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Gradoge\_1Lower  
**WaterBody Code:** IE\_SW\_18\_2626  
**Overall Status Result:** Moderate

	<b>Status Report</b>	<b>Result</b>
	<b>Biological Elements</b>	
DI	Phytoplankton (Diatoms)	n/a
EX	Extrapolated Waterbody	
FI	Fish	n/a
FPM	Status value as determined by Margartifera	moderate
NoS	Waterbodies containing no status	
Q	Macroinvertebrates (Q-Value)	Moderate
	<b>Supporting Elements</b>	
MOR	Hydromorphology	n/a
PAS	Specific Pollutants	n/a
PC	General Physico-Chemical	Fail
	<b>Chemical Status</b>	
SPO	Chemical Status	n/a
	<b>Overall Ecological Status</b>	
O	Overall Ecological Status	Moderate

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## Risk Report

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Gradoge\_1Lower  
**WaterBody Code:** IE\_SW\_18\_2626  
**Overall Risk Result:** **1a** At Risk

	<b>Risk Test Description</b>		<b>Result</b>
<b>Point Risk Sources</b>			
RP1	WWTPs	2b	Not At Risk
RP2	CSOs	1b	Probably At Risk
RP3	IPPCs	1a	At Risk
RP4	Section 4s	2b	Not At Risk
RPO	Overall Risk from Point Sources - Worst Case	1a	At Risk
<b>Diffuse Risk Sources</b>			
RD1	EPA diffuse model	1a	At Risk
RD2a	Road Wash - Soluble Copper	2b	Not At Risk
RD2b	Road Wash - Total Zinc	2b	Not At Risk
RD2c	Road Wash - Total Hydrocarbons	2b	Not At Risk
RD3	Railways	2b	Not At Risk
RD4a	Forestry - Acidification	2b	Not At Risk
RD4b	Forestry - Suspended Solids	2b	Not At Risk
RD4c	Forestry - Eutrophication	2a	Probably Not At Risk
RD5a	Unsewered Areas - Pathogens	2a	Probably Not At Risk
RD5b	Unsewered Phosphorus	2b	Not At Risk
RD5	Overall Unsewered	2b	Not At Risk
RD6a	Arable	2b	Not At Risk
RD6b	Sheep Dip	2b	Not At Risk
RD6c	Forestry - Dangerous Substances	2b	Not At Risk
RDO	Diffuse Overall -Worst Case	1a	At Risk

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

<b>Morphological Risk Sources</b>		
RM1	Channelisation	Not at Risk
RM2	Embankments	Not at Risk
RM3	Impoundments	2b Not At Risk
RM4	Water Regulation	2b Not At Risk
RMO	Morphology Overall - Worst Case	Not at Risk
<b>Q/RDI or Point/Diffuse</b>		
QRA	Q class/RDI1 or worst case of Point and Diffuse	1a At Risk
<b>Hydrology</b>		
RHY1	Water balance - Abstraction	2b Not At Risk
<b>Overall Risk</b>		
RA	Rivers Overall - Worst Case	1a At Risk

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## WaterBody Objectives Report

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Gradoge\_1Lower  
**WaterBody Code:** IE\_SW\_18\_2626  
**Overall Objective:** Restore

Waterbody Objectives		Result
<b>Objectives</b>		
OB1	Objective 1 - Protected Areas	Restore
OB2	Objective 2 - Protect High and Good Status	No Status
OB3	Objective 3 - Restore Less Than Good Status	No Status
OB4	Objective 4 - Reduce Chemical Pollution	No Status
OBO	Overall Objective	Restore
<b>Deadline</b>		
	Default Year by which the objective must be met	2015
EXT	Extended Objective Deadline	Restore - 2015

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

**Basic Measures****WaterBody Category:** River Waterbody**WaterBody Name:** SW\_Blackwater190DFunshion\_Gradoge\_1Lower**WaterBody Code:** IE\_SW\_18\_2626

<b>Basic Measures</b>		<b>Applicable</b>
<b>Key Directives</b>		
BA	Bathing Waters Directive	No
BI	Birds Directive	No
HA	Habitats Directive	No
DW	Drinking Waters Directive	Yes
SEV	Major Accidents and Emergencies (Seveso) Directive	Yes
EIA	Environmental Impact Assessment Directive	Yes
SE	Sewage Sludge Directive	Yes
UW	Urban Waste Water Treatment Directive	No
PL	Plant Protection Products Directive	Yes
NI	Nitrates Directive	Yes
IP	Integrated Pollution Prevention Control Directive	Yes
<b>Other Stipulated Measures</b>		
CR	Cost recovery for water use	Yes
SU	Promotion of efficient and sustainable water use	Yes
DWS	Protection of drinking water sources	Yes
AB	Control of abstraction and impoundments	Yes
PT	Control of point source discharges	Yes
DI	Control of diffuse source discharges	Yes
GWD	Authorisation of discharges to groundwater	No
PS	Control of priority substances	Yes
MOR	Control of physical modifications to surface waters	Yes
OA	Controls on other activities impacting on water status	Yes
AP	Prevention or reduction of the impact of accidental pollution incidents	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

## Urban and Industrial Discharges Supplementary Measures

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Gradoge\_1Lower  
**WaterBody Code:** IE\_SW\_18\_2626

	<b>Point discharges to waters from municipal and industrial sources</b>	<b>Result</b>
PINDDIS	Is there one or more industrial discharge (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) contained within the water body?	Yes
PINDDISR	Are there industrial discharges (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) that cause the receiving water to be 'At Risk' within the water body?	Yes
PB1	Basic Measure 1 - Measures for improved management.	Yes
PB2	Basic Measure 2 - Optimise the performance of the waste water treatment plant by the implementation of a performance management system.	Yes
PB3	Basic Measure 3 - Revise existing Section 4 license conditions and reduce allowable pollution load.	Yes
PB4	Basic Measure 4 - Review existing IPPC license conditions and reduce allowable pollution load.	Yes
PB5	Basic Measure 5 - Investigate contributions to the collection system from unlicensed discharges.	Yes
PB6	Basic Measure 6 - Investigate contributions to the collection system of specific substances known to impact ecological status.	Yes
PB7	Basic Measure 7 - Upgrade WWTP to increase capacity.	No
PB8	Basic Measure 8 - Upgrade WWTP to provide nutrient removal treatment.	No
PS1	Supplementary Measure 1 - Measures intended to reduce loading to the treatment plant.	No
PS2	Supplementary Measure 2 - Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants.	No
PS3	Supplementary Measure 3 - Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive.	Yes
PS4	Supplementary Measure 4 - Initiate research to verify risk assessment results and determine the impact of the discharge.	Yes
PS5	Supplementary Measure 5 - Use decision making tools in point source discharge management.	No
PS6	Supplementary Measure 6 - Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive.	No
PS7	Supplementary Measure 7 - Apply a higher standard of treatment (stricter emission controls) where necessary.	No
PS8	Supplementary Measure 8 - Upgrade the plant to remove specific substances known to impact on water quality status.	Yes
PS9	Supplementary Measure 9 - Install ultra-violet or similar type treatment.	No

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

PS10	Supplementary Measure 10 - Relocate the point of discharge.	No
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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009



## Physical Modifications Supplementary Measures

**WaterBody Category:** River Waterbody  
**WaterBody Name:** SW\_Blackwater190DFunshion\_Gradoge\_1Lower  
**WaterBody Code:** IE\_SW\_18\_2626

	Physical Modifications Supplementary Measures	Applicable
	European Code	IE_SW_18_2626
	<b>Reduce</b>	
SM1	Codes of Practice	Yes
SM2	Support for voluntary initiatives	Yes
	<b>Remediate</b>	
SM3	Channelisation impact remediation schemes	No
SM4	Channelisation investigation	No
SM5	Overgrazing remediation	No
SM6	Impassable barriers, impact confirmed, investigation into feasibility of remediation required	No
SM7	Impassable barriers investigation	Yes

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Date Report Created 13/03/2009

**Urban and Industrial Discharges Supplementary Measures**

**WaterBody Category:**

**WaterBody Name:**

**WaterBody Code:**

<b>Supplementary Measure</b>	<b>Applicable?</b>
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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

**Forestry Measures**

**WaterBody Category:** River Waterbody

**WaterBody Name:** SW\_Blackwater190DFunshion\_Gradoge\_1Lower

**WaterBody Code:** IE\_SW\_18\_2626

**Forestry Measures**

**Applicable**

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Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

<b>Forestry</b>		
SF1	Management Instruments - Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures	No
SF2	Acidification - Avoid or limit afforestation on 1st and 2nd order stream catchments in acid sensitive areas	No
SF3	Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected and revise boundary conditions for afforestation in acid sensitive areas	No
SF4	Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites	No
SF5	Eutrophication and Sedimentation - Change the tree species mix on replanting	No
SF6	Eutrophication and Sedimentation - Limiting felling coup size	No
SF7	Eutrophication and Sedimentation - Establish new forest structures on older plantation sites	No
SF8	Hydromorphology - Audit existing drainage networks in forest catchments	No
SF9	Pesticide Use - Reduce pesticide usage	No
SF10	Pesticide Use - Pre-dip trees in nurseries prior to planting out	No
SF11	Pesticide Use - Maintain registers of pesticide use	No
SF12	Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves	No
SF13	Acidification - Mitigate acid impacts symptomatically using basic material	No
SF14	Acidification - Manage catchment drainage to increase residence times and soil wetting	No
SF15	Acidification - Implement measures to increase stream production.	No
SF16	Eutrophication - Establish riparian zone management prior to clearfelling	No
SF17	Eutrophication and Sedimentation - Enhance sediment control	No
SF18	Eutrophication - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF19	Sedimentation - Establish riparian zone management prior to clearfelling	No
SF20	Sedimentation - Enhance sediment control	No
SF21	Sedimentation - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF22	Hydromorphology - Enhance drainage network management, minimise drainage in peat soils	No
SF23	Pesticide Use - Develop biological control methods	No

Date Reported to Europe: 22/12/2008

Date Report Created 13/03/2009

# REVISED ASSIMILATIVE CAPACITY CALCULATIONS

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**FUNSHION RIVER- Assimilative capacity calculations -Mitchelstown**

**BOD**

Q95 of River Funshion	1.93m3/s	From original application-Qback
BOD concentration in river	1.6mg/l	From original application-C back

**Mitchelstown WWTP -effluent 1**

Maximum flow Qeff (1)	1620m3/day	6000 persons @ 0.27m3/person
Effluent quality Ceff (1)	25mg/l BOD	Design parameter

**Dairygold -effluent 2**

Maximum flow Qeff (1)	10,000m3/day	From IPPC license
Effluent quality Ceff (1)	15mg/l	From IPPC license

**Assimilative capacity calculations**

For a fully mixed concentration Cfm=

$$= \frac{(C_{eff1})(Q_{eff1}) + (C_{eff2})(Q_{eff2}) + (C_{back})(Q_{back})}{Q_{eff1} + Q_{eff2} + Q_{back}}$$

2.6mg/l

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**FUNSHION RIVER- Assimilative capacity calculations -Mitchelstown**

**Phosphorus**

Qmean of River Funshion	8.59m/s	From original application-Qback
P concentration in river	0.02mg/l	From original application-C back

**Mitchelstown WWTP -effluent 1**

Maximum flow Qeff (1)	1620m3/day	6000 persons @ 0.27m3/person
Effluent quality Ceff (1)	2mg/IP- Total P	Nutrient Removal Plant installed

**Dairygold -effluent 2**

Maximum flow Qeff (1)	10,000m3/day	From IPPC license
Effluent quality Ceff (1)	2mg/IP- Total P	From IPPC license

**Assimilative capacity calculations**

For a fully mixed concentration Cfm= 
$$\frac{(C_{eff1})(Q_{eff1}) + (C_{eff2})(Q_{eff2}) + (C_{back})(Q_{back})}{Q_{eff1} + Q_{eff2} + Q_{back}}$$

= 0.1 mg/l

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# LABORATORY ACCREDITATION

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# Accreditation Certificate

## Cork County Council

Wastewater Testing Laboratory, Inniscarra, Co. Cork

Testing Laboratory

Registration number: **016T**

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard ISO/IEC 17025:2005 2<sup>nd</sup> Edition "General Requirements for the Competence of Testing and Calibration Laboratories"  
**(This Certificate must be read in conjunction with the Annexed Schedule of Accreditation)**

---

Date of award of accreditation: **01:10:2002**

Date of last renewal of accreditation: **20:09:2007**

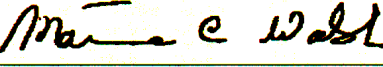
Expiry date of this certificate of accreditation: **01:10:2012**

---

This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: 

Mr Tom Dempsey

Chairperson: 

Dr Máire Walsh

Issued on 23 June 2008

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate, please contact the Irish National Accreditation Board.

The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

# Schedule of Accreditation



(Annex to Accreditation Certificate)

Permanent Laboratory:

Category A

## CORK COUNTY COUNCIL

### Chemistry Testing Laboratory

**Initial Registration Date :** 25-April-1991

**Postal Address:** Waste Water Laboratory  
(Address of other locations as they apply) Inniscarra  
Co. Cork

**Telephone:** +353 (21) 4532700

**Fax:** +353 (21) 4532777

**E-mail:**

**Contact Name:** Ms M Cherry

**Facilities:** Normally not available for Public testing

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# Schedule of Accreditation



Permanent Laboratory:  
**Category A**

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish body for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation involved in testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

## Testing and Calibration Categories:

- Category A:** Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.
- Category B:** Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.
- Category C:** Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.
- Category D:** Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using
- portable test equipment
  - a site laboratory
  - a mobile laboratory or
  - equipment from a mobile or site laboratory

## Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

## Glossary of Terms

### Facilities:

- Public calibration/testing service:** Commercial operations which actively seek work from others.
- Conditionally available for public calibration/testing:** Established for another primary purpose but, more commonly than not, is available for outside work.
- Normally not available for public calibration/testing:** Unavailable for public calibration/testing more often than not.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report. Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will, on request, verify the status and scope.

# Scope of Accreditation

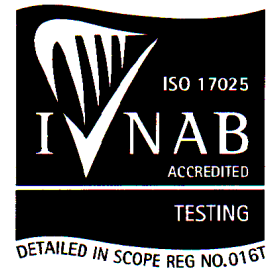


**Cork County Council**  
**Chemical Testing Laboratory**

Permanent Laboratory:  
**Category A**

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters  .01 Waters for domestic purposes <i>Surface and ground waters</i>	<p>Chemical analysis:</p> <p>Biochemical Oxygen Demand 2 - 145,000 mg/l</p> <p>pH 2 - 12</p> <p>Suspended Solids 0.5 - 17,500 mg/l</p> <p>Chemical Oxygen Demand 21 - 135 mg/l 120 - 670,000 mg/l</p> <p>Total phosphorus 0.2 - 5,300 mg/l</p> <p>Ammonia 0.1 - 1,000 mg/l NH<sub>3</sub> - N</p>	<p>Documented in-house methods based on Standard Methods for the Examination of Water &amp; Wastewater 21 st Edition APHA (See Note 1)</p> <p>CP No. 1 Membrane electrode</p> <p>CP No. 5 Electrometry</p> <p>CP No. 3 Gravimetric</p> <p>CP No. 6 Reflux - colourmetric method</p> <p>US-EPA Approved method/HACH Method CP No.20</p> <p>Documented in-house method CP22 by Konelab based on Method for the Examination of Waters and Associated Material HMSO:1981</p>

# Scope of Accreditation



Cork County Council

Permanent Laboratory:

Chemical Testing Laboratory

Category A

INAB Classification number (P9)	Type of test/properties measured	Standard specifications
Materials/products tested	Range of measurement	Equipment/techniques used
766	Waters	
.01	Waters for domestic purposes	CP No. 23 Ascorbic Acid Method
	Surface and ground waters	
	Orthophosphate as P (Konelab) Range: 0.005-1.00 mg O-PO4 P/L High Range: 1000 mg O-PO4 P/L Method Detection Limit: 0.02 mg O-PO4 P/L	
	Chloride (Konelab) Range: 25-250 mg/L Cl- High Range Conc.: 86,000 mg/L Cl- Method Detection Limit: 25 mg/L Cl-	CP No. 24 Ferricyanide Method
	Sulphate (Konelab) Range: 30-250 mg/L SO4/L High Range Conc.: 35,000 mg/L SO4/L Method Detection Limit: 30 mg SO4/L	CP No. 25 Documented in-house method by Konelab based on method for the examination of waters and waste waters and associated material HMSO: 1981

# Scope of Accreditation



**Cork County Council  
Chemical Testing Laboratory**

Permanent Laboratory:  
Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters	Chemical analysis	Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)
.05 Trade Wastes <i>Industrial effluents</i> <i>Urban Wastewater</i> <i>Municipal Wastewater</i>	Biochemical Oxygen Demand 2 - 145,000 mg/l	CP No. 1 Membrane electrode
	pH 2 - 12	CP No. 5 Electrometry
	Suspended Solids 0.5 - 17,500 mg/l	CP No. 3 Gravimetric
	Chemical Oxygen Demand 21 - 135 mg/l 120 - 670,000 mg/l	CP No. 6 Reflux - colourmetric method
	Total phosphorus 0.2 - 5,300 mg/l	US-EPA Approved method/HACH Method CP No.20
	Ammonia 0.1 - 1,000 mg/l NH3-N	Documented in-house method CP22 by Konelab based on Method for the Examination of Waters and Associated Material HMSO: 1981.

Notes  
1. APHA American Public Health Association, USA, 21<sup>st</sup> Edition

# Scope of Accreditation



**Cork County Council**  
**Chemical Testing Laboratory**

Permanent Laboratory:  
**Category A**

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters	Chemical analysis	Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)
.05 Trade Wastes <i>Industrial effluents</i> <i>Urban Wastewater</i> <i>Municipal Wastewater</i>	Orthophosphate as P (Konelab) Range: 0.005 - 1.00 mg O-PO <sub>4</sub> P/L High Range: 1000 mg O-PO <sub>4</sub> P/L Method Detection Limit: 0.02 mg O-PO <sub>4</sub> P/L	CP No. 1 Membrane electrode  CP No. 23 Ascorbic Acid Method
	Chloride (Konelab) Range: 25-250 mg/L Cl- High Range Conc.: 86,600 mg /L Cl- Method Detection Limit: 25mg / L Cl-	CP No. 24 Ferricyanide Method
	Sulphate (Konelab) Range: 30-250 mg/L SO <sub>4</sub> /L High Range Conc.: 35,000 mg/L SO <sub>4</sub> /L Method Detection Limit: 30 mg SO <sub>4</sub> /L	CP No. 25 Documented in-house method by Konelab based on method for the examination of waters and waste waters and associated material HMSO: 1981

Notes  
 1. APHA American Public Health Association, USA, 21<sup>st</sup> Edition

# Accreditation Certificate

## Environmental Laboratory Services Ltd

Acorn Business Campus, Mahon Industrial Park, Blackrock, Cork

### Chemical Testing Laboratory

Registration number: 111T

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard ISO/IEC 17025:2005 2<sup>nd</sup> Edition "General Requirements for the Competence of Testing and Calibration Laboratories"

**(This Certificate must be read in conjunction with the Annexed Schedule of Accreditation)**

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Date of award of accreditation: 21:01:2003

Date of last renewal of accreditation: 09:11:2007

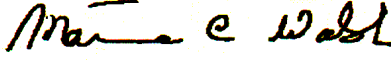
Expiry date of this certificate of accreditation: 09:11:2012

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This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: 

Mr Tom Dempsey

Chairperson: 

Dr Máire Walsh

Issued on 09 Nov 2007

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate, please contact the Irish National Accreditation Board.

The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.



# Schedule of Accreditation



(Annex to Accreditation Certificate)

Permanent Laboratory:

Category A

## ENVIRONMENTAL LABORATORY SERVICES LTD

### Chemical Testing Laboratory

**Initial Registration Date :** 9-December-1999  
**Postal Address:** Acorn Business Campus  
(Address of other locations Mahon Industrial Park  
as they apply) Blackrock  
Cork  
**Telephone:** +353 (0) 214536141  
**Fax:** +353 (0) 214536149  
**E-mail:**  
**Contact Name:** Mr Brendan Murray  
**Facilities:** Public testing service

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# Schedule of Accreditation



Permanent Laboratory:  
**Category A**

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish body for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation involved in testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

## Testing and Calibration Categories:

- Category A:** Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.
- Category B:** Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.
- Category C:** Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.
- Category D:** Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using
- portable test equipment
  - a site laboratory
  - a mobile laboratory or
  - equipment from a mobile or site laboratory

## Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

## Glossary of Terms

### Facilities:

- Public calibration/testing service:** Commercial operations which actively seek work from others.
- Conditionally available for public calibration/testing:** Established for another primary purpose but, more commonly than not, is available for outside work.
- Normally not available for public calibration/testing:** Unavailable for public calibration/testing more often than not.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report. Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will, on request, verify the status and scope.

# Scope of Accreditation



## Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:  
Category A

INAB Classification number (P9)	Materials/products tested	Type of test/properties measured	Range of measurement	Standard specifications Equipment/techniques used
766	Waters			Documented in-house method:
.01	Waters for potable and domestic purposes	COD	8-1500 mg/l	TM 00010, closed Reflux Colorimetric
.99	Other waters	pH	4-10 pH units	EW138 pH Titralab Electrometric Measurement
	Ground water	Orthophosphate	0.009-1.0 mg/l P	EW007 Phosphate by Autoanalyser Spectrophotometry
	Surface water	Ammonia /Ammonium	0.007 - 1mg/l N	EW0C3 Ammonia by Autoanalyser Spectrophotometry
	Waste water	Chloride	2.7-250 mg/l Cl	EW015 Chloride by Autoanalyser Spectrophotometry
		Nitrate	0.12-50 mg/l N	EW034 Nitrate by Autoanalyser Spectrophotometry
		Nitrite	0.013-1 mg/l N	EW035 Nitrite by Autoanalyser Spectrophotometry

# Scope of Accreditation



## Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:  
Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters		
.01 Water for potable and domestic purposes	Total Hardness 3-330 mg/l CaCO <sub>3</sub>	EM099 Determination of Total Hardness
.99 Other waters	Suspended Solids 1-1000 mg/l	EW013 Suspended Solids by Gravimetric Analysis
Ground water	Total Dissolved Solids 1-1000 mg/l	EW046 Total Dissolved Solids at 180C
Surface water	Total Oxidised Nitrogen 0.2 to 51 mg/l N	EW051 Total Oxidised Nitrogen by Calculation
	Colour 2.5-50mg/l Pt/Co	EW021 Colour by Autoanalyser Spectrophotometry
	Conductivity 5 to 5000µ s/cm	EW042 Conductivity Measurement
	Sulphate 1 to 250mg/l SO <sub>4</sub>	EW015 Sulphate by Autoanalyser Spectrometry
	Dissolved Oxygen 1 to 10 mg/l	EW043 Dissolved Oxygen Measurement
	Bromate 1 to 50µg/l BR <sub>O</sub> <sub>3</sub>	EW137 Ion Chromatography

# Scope of Accreditation



**Environmental Laboratory Services Ltd**  
**Chemical Testing Laboratory**

Permanent Laboratory:  
Category A

INAB Classification number (P9)	Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters		
.01	Water for potable and domestic purposes	Total Phosphorous 0.03 - 1 mg/L P	EW 002 Autoanalyser by Spectrometry'
.99	Other waters  <i>Ground water</i> <i>Surface water</i> <i>Wastewater</i>	Total Nitrogen 1.0 - 150 mg/L N	EW 022 Autoanalyser by Spectrometry

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# Scope of Accreditation



## Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:  
Category A

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters		Documented In-house method:
.01	Waters for potable and domestic purposes	Aluminium 5.0-500 µg/l Antimony 0.1-10 µg/l Arsenic 0.2-20 µg/l	EM 130 Metals by ICP-MS
.99	Other waters <i>Ground water</i> <i>Surface water</i>	Boron 0.02-2 mg/l Cadmium 0.1-10 µg/l Chromium 1.0-100 µg/l Copper 3-4000 µg/l Iron 5.0-500 µg/l Lead 0.3-30 µg/l Manganese 1.0-100 µg/l Mercury 0.02-2µg/l Nickel 0.5-50 µg/l Selenium 0.2-20 µg/l Sodium 0.5-50mg/l Barium 1.0-100 µg/l Calcium 1.0-100mg/l Cobalt 1.0-100 µg/l Magnesium 0.3-20mg/l Molybdenum 1.0-100 µg/l Potassium 0.2-20mg/l Strontium 1.0-100 µg/l Tin 1.0-100 µg/l Vanadium 1.0-100 µg/l Zinc 1.0-100 µg/l	

# Scope of Accreditation



## Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:  
Category A

INAB Classification number (P9)	Materials/products tested	Type of test/properties measured	Range of measurement	Standard specifications	Equipment/techniques used
766	Waters	Benzene	0.1-35 µg/l	EO 025 Determination of volatile organic carbons in water by purge and trap	GC/MS
.01	Waters for potable and domestic purposes	1,2-Dichloroethane	0.1-35 µg/l		
		Tetrachloroethene	0.1-35 µg/l		
		Trichloroethene	0.1-35 µg/l		
.99	Other waters	Chloroform	1.0-150 µg/l	EO 025 Determination of volatile organic carbons in water by purge and trap	GC/MS
	Ground water	Bromoform	1.0-35 µg/l		
	Surface water	Dibromochloromethane	1.0-35 µg/l		
		Bromodichloromethane	2.0-35 µg/l		
		Bromomethane	0.5-35 µg/l	EO 025 Determination of volatile organic carbons in water by purge and trap	GC/MS
		Ethyl Ether/Diethyl Ether	0.5-35 µg/l		
		1,1-Dichloroethene	0.5-35 µg/l		
		Iodomethane/Methyl Iodide	0.5-35 µg/l		
		Carbon Disulphide	0.5-35 µg/l		
		Allyl Chloride	0.5-35 µg/l		
		Methylene Chloride/DCM	5.0-35 µg/l		
		2-Propenenitrile/Acrylonitrile	2.0-35 µg/l		
		Chloromethyl			
		Cyanide/Chloroacetonitrile	0.5-35 µg/l		
		Hexachlorobutadiene	0.5-35 µg/l		
		Trans-1,2 Dichloroethene	0.5-35 µg/l		
		MtBE	0.5-35 µg/l		
		1,1-Dichloroethane	0.5-35 µg/l		
		2,2-Dichloropropane	0.5-35 µg/l		
		Cis-1,2 Dichloroethene	0.5-35 µg/l		
		Methyl Acrylate	5.0-35 µg/l		
		Bromochloromethane	0.5-35 µg/l		

# Scope of Accreditation



## Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:  
Category A

INAB Classification number (P9)	Materials/products tested	Type of test/properties measured	Range of measurement	Standard specifications	Equipment/techniques used
766	Waters				Documented In-house method:
.01	Waters for potable and domestic purposes	Tetrahydrofuran	5.0-35 µg/l		EO 025 Determination of volatile organic carbons in water by purge and trap GC/MS
		111 Trichloroethane	0.5-35µg/l		
		1-Chlorobutane	0.5-35 µg/l		
.99	Other waters	Carbon Tetrachloride	0.5-35 µg/l		
	<i>Ground Water</i>	11 Dichloropropene	0.5-35 µg/l		
	<i>Surface Water</i>	12 Dichloropropane	0.5-35 µg/l		
		Dibromomethane	0.5-35 µg/l		
		Methyl Methacrylate	0.5-35 µg/l		
		13 Dichloropropene, cis	2.0-35 µg/l		
		MIBK/ 4 Methyl 2 Pentanone	2.0-35 µg/l		
		Toluene	0.5-35 µg/l		
		13 Dichloropropene, trans	2.0-35 µg/l		
		Ethyl Methacrylate	2.0-35 µg/l		
		112 Trichloroethane	0.5-35 µg/l		
		13 Dichloropropane	0.5-35 µg/l		
		2 Hexanone	1.0-35 µg/l		
		12 Dibromoethane	0.5-35 µg/l		
		Chlorobenzene	0.5-35 µg/l		
		1112 Tetrachloroethane	2.0-35 µg/l		
		Ethyl Benzene	0.5-35 µg/l		
		m & p Xylene	0.5-35 µg/l		
		O Xylene	0.5-35 µg/l		
		Stryene	2.0-35 µg/l		
		Isopropyl Benzene	0.5-35 µg/l		
		Bromobenzene	0.5-35 µg/l		
		1122 Tetrachloroethane	0.5-35 µg/l		



# Scope of Accreditation



## Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:  
Category A

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement		Standard specifications Equipment/techniques used
<b>766</b>	<b>Waters</b>			Documented In-house Methods:
.01	Water for potable and domestic purposes	123 Trichloropropane	2.0-35 µg/l	EO 025 Determination of volatile organic carbons in water by purge and trap GC/MS
		Propyl Benzene	0.5-35 µg/l	
		2-Chlorotoluene	0.5-35 µg/l	
.99	Other waters	4 Chlorotoluene	0.5-35 µg/l	
	<i>Ground water</i>	135 Trimethylbenzene	0.5-35 µg/l	
	<i>Surface water</i>	Tert Butyl Benzene	0.5-35 µg/l	
	<i>Waste water</i>	124 Trimethylbenzene	0.5-35 µg/l	
		Sec Butyl Benzene	0.5-35 µg/l	
		13 Dichlorobenzene	0.5-35 µg/l	
		P Isopropyltoluene	0.5-35 µg/l	
		14 Dichlorobenzene	0.5-35 µg/l	
		12 Dichlorobenzene	0.5-35 µg/l	
		N Butyl Benzene	0.5-35 µg/l	
		Hexachloroethane	5.0-35 µg/l	
		12 Dibromo 3 Chloropropane	2.0-35 µg/l	
		124 Trichlorobenzene	0.5-35 µg/l	
		123 Trichlorobenzene	0.5-35 µg/l	
<b>766</b>	<b>Waters</b>	<b>PAH</b>	<b>Range</b>	Documented In-house method: EO129 SPE, GC-MS
.01	Water for potable and domestic purposes	Acenaphthene	0.01 to .2 µg/l	
		Benzo (a) Anthracene	0.01 to .2 µg/l	
		Benzo (a) Pyrene	0.01 to .2 µg/l	
		Benzo (b) Fluoranthene	0.01 to .2 µg/l	
.99	Other waters	Benzo (ghi) Perylene	0.01 to .2 µg/l	
	<i>Ground water</i>	Benzo (k) Fluoranthene	0.01 to .02µg/l	
	<i>Surface water</i>	Chrysene	0.01 to .2 µg/l	
		Dibenzo (ah) Anthracene	0.01 to .2 µg/l	
		Fluoranthene	0.01 to .2 µg/l	

# Scope of Accreditation



## Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:  
Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters	PAH	Documented In-house method: EO129 SPE, GC-MS
.01 Water for potable and domestic purposes	Fluorene 0.01 to .2 µg/l Indeno (123-cd) Pyrene 0.01 to .2µg/l Phenanthrene 0.01 to .2 µg/l	
.99 Other waters	Pyrene 0.01 to .2 µg/l	
Ground water	<b>Acid Herbicides Range</b> 2,4,5- T H 0.01 to .2 µg/l	
Surface water	2,4 - D H 0.01 to .2 µg/l 2,4 - DB H 0.01 to .2 µg/l MCPA H 0.01 to .2 µg/l Picloram H 0.01 to .2 µg/l	
	<b>Organophosphorus Range</b>	
	<b>Pesticides</b>	
	Famphur OP 0.01 to .2 µg/l	
	Methyl Parathion OP 0.01 to .2 µg/l	
	Parathion OP 0.01 to .2 µg/l	
	Thionazin OP 0.01 to .2 µg/l	
	<b>Organochlorine Range</b>	
	<b>Pesticides</b>	
	Aldrin OC 0.01 to .2 µg/l	
	BHC Alpha isomer OC 0.01 to .2 µg/l	
	BHC Beta isomer OC 0.01 to .2 µg/l	
	BHC Delta isomer OC 0.01 to .2 µg/l	
	Dieldrin OC 0.01 to .2 µg/l	
	Endosulphan Alpha isomer OC 0.01 to .2 µg/l	
	Endosulphan Beta OC 0.01 to .2 µg/l	
	Endosulphan Sulphate OC 0.01 to .2 µg/l	

# Scope of Accreditation



**Environmental Laboratory Services Ltd**  
**Chemical Testing Laboratory**

Permanent Laboratory:  
Category A

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement		Standard specifications Equipment/techniques used
766	Waters	Organochlorine Pesticides	Range	Documented In-house method: EO 129 SPE, GC-MS
.01	Water for potable and domestic purposes	Endrin OC	0.01 to .2 µg/l	
		Heptachlor Epoxide OC	0.01 to .2 µg/l	
		Heptachlor OC	0.01 to .2 µg/l	
.99	Other waters	Lindane OC	0.01 to .2 µg/l	
	Ground water	P,P'DDE OC	0.01 to .2 µg/l	
	Surface water	P,P'DDD OC	0.01 to .2 µg/l	
		P,P'DDT OC	0.01 to .2 µg/l	

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# DETAILS OF EURO ENVIRONMENTAL SERVICES ACCREDITATION

Parameter	Matrix	Prep Method	Units	LOD	Method	Accredited
Atrazine	Water	Solvent Extraction	ug/L	0.01	HPLC	No
Simazine	Water	Solvent Extraction	ug/L	0.01	HPLC	No
Dibromomethane	Water	Headspace	ug/L	1	GC-MS	No
Toluene	Water	Headspace	ug/L	0.2	GC-MS	Yes
Xylene	Water	Headspace	ug/L	0.2	GC-MS	Yes
Metals						
Arsenic	Water		ug/L	0.96	ICP-MS	Yes
Barium	Water		ug/L	12.1	ICP-MS	Yes
Boron	Water		ug/L	4.2	ICP-MS	Yes
Chromium	Water		ug/L	0.93	ICP-MS	Yes
Copper	Water		ug/L	0.2	ICP-MS	Yes
Lead	Water		ug/L	0.38	ICP-MS	Yes
Nickel	Water		ug/L	0.47	ICP-MS	Yes
Zinc	Water		ug/L	4.6	ICP-MS	Yes
Cadmium	Water		ug/L	0.09	ICP-MS	Yes
Mercury	Water		ug/L	0.2	ICP-MS	Yes
Selenium	Water		ug/L	0.74	ICP-MS	Yes
Cyanide	Water		ug/L	5	Colorimetry	No
Fluoride	Water		mg/L	0.09	Colorimetry	Yes
pH	Water		pH Units	0.01	Electrometry	Yes
Conductivity	Water		uscm-1@ 25°C	0.6	Electrometry	Yes
Solids (Total Suspended)	Water	Filtration	mg/L	3	Drying @ 104°C	No
Ammonia	Water		mg/L as N	0.1	Colorimetry	Yes
BOD	Water		mg/L	2	Electrometry	Yes
COD	Water		mg/L	5	Spectrophotometry	Yes
Nitrogen (Total)	Water		mg/L as N		Calculation	No
Nitrite	Water		mg/L as N	0.003	Colorimetry	No
Nitrate	Water		mg/L as N	0.09	Colorimetry	No
Phosphate (Total)	Water	Digestion	mg/L as P	0.005	Colorimetry	Yes
Ortho Phosphate	Water		mg/L as P	0.006	Colorimetry	Yes
Sulphate	Water		mg/L as SO4	2	Colorimetry	Yes
Total Phenols	Water	Solvent Extraction	ug/L	0.1	GC-MS	No