



Complete Laboratory Solutions



## ●●● Environmental Monitoring



*integrity without compromise*

CLS is the leading provider of **sampling and analysis** to the food, environmental, pharmaceutical and medical device industries. Founded in 1994, CLS has developed a reputation for delivering high quality laboratory data with a customer focused service in a timely manner.

**Clients & Quality** The CLS group of laboratories has the accreditations and approvals required to allow us work in partnership with our clients.

**Staff** We view our staff as our most valuable asset. We have a complimenting mix of highly qualified laboratory analysts, supported by CLS staff recruited from the environmental, food, medical device and pharmaceutical industries.

**Sample collection** We have focused on being the best in the market in the areas of collection, turnaround of results and responsiveness. To ensure this position, we have a fleet of refrigerated vehicles nationwide and CLS staff based in Galway, Dublin and Cork.

**Reporting** At CLS we have developed a bespoke in-house Laboratory Information Management System (LIMS) and an Enterprise Resource Planning System (ERP). Results of tests are available online. Clients can securely download their results and trend their data and or apply limits for compliance. The system complies with GAMP guidelines and FDA 21 CFR part 11.

**Sampling and analysis at CLS or Client sites:** We can provide clients with an option to outsource their testing requirements to CLS state of the art laboratories & technology or CLS's analysts can work from client sites on contract and conduct the sampling and or testing there.

Our centres of excellence include the following:

#### Water / Environmental

Microbiological  
Chemistry  
Sampling / Training  
Supply Analysts on Contract  
Pipe & Tank Sterilisation  
Noise / Vibration

#### Pharmaceutical/ Medical Devices

Microbiological  
Analytical / Stability  
Sampling / Training  
Supply Analysts on Contract  
Cleanroom Validation /  
Environmental Monitoring  
Healthscreening

#### Food/Beverages

Microbiological  
Food Chemistry  
Sampling / Training  
Pipe & Tank Sterilisation  
Cleanroom Validation /  
Environmental Monitoring

Experienced



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# CLS Environmental Monitoring

CLS performs an extensive range of environmental sampling followed by chemical and microbiological analysis in our INAB accredited testing laboratory Reg. No. 108T. The company has a successful track record as a provider of customer centered services in all aspects of environmental monitoring. This includes compliance monitoring of drinking water sources, ground water, surface water and waste water. The company also specialises in IPPC license monitoring, landfill and waste facility monitoring nationwide. Our comprehensive services include air and noise monitoring as well as flow and load surveys. CLS's state of the art laboratories are fully equipped with all necessary infra-structure to store, handle and analyse large numbers of samples. Each project is based on an approved set of management processes that provides structure to our organisations and enables us to control the quality of our products and services.



## Our Clients

- Government Agencies, Local Authorities
- License Holders (IPPC, Waste, Discharge)
- Environmental Consultants
- Construction Industry
- Engineering Companies
- Treatment Plants

## Sampling

CLS's experienced sampling personnel carry out large scale environmental sampling, in accordance with ISO 5667 requirements and European legislation, nationwide. All sampling and analysis will follow written procedures and will be carried out in accordance with the requirements of our ISO 17025 and ISO 9001-2000 certified Quality Management System.

## Waste Water Sampling

Sampling based on Regulatory Requirements e.g.

- IPPC License Monitoring
- Landfill and Waste facility Monitoring
- Discharge License Monitoring
- Urban Waste Water Monitoring
- Flow & Load Surveys, Composite Sampling
- Microscopic Sludge Analysis

## Surface Water Sampling

- Lake Sampling (Water & Sediment)
- River Sampling
- Compliance Monitoring
- Environmental Baseline Studies

## Ground Water Sampling

- Borehole Sampling
- Well Sampling
- Leachates Sampling
- Compliance Monitoring
- Environmental Baseline Studies

## Drinking Water Sampling

- Well Sampling
- Mains Water Sampling
- Surface Water Sampling
- Raw and Treated Waters
- Compliance Monitoring
- Validation and Commissioning

***Sampling scheduled as per regulatory requirements***



CLS's Environmental team sampling Ireland's lakes and rivers as part of the Water frame work directive



Chemistry analysts performing Heavy Metal Analysis at CLS

# Results

The analytical services are supported by the CLS Laboratory Information Management System (LIMS). This is a bespoke system for enterprise-wide tracking of laboratory samples, calculation of test results, production of reports and trending of data. Customers can access their results via the CLS website.

In addition to this service, reports can be provided in electronic and/or hard copy format, customised reporting is available on request. CLS has also developed EDEN compatible reporting formats.

Sample types	
Drinking Water, potable water	Discharges
Surface Water	Trade Effluents
Groundwater / Boreholes	Leachates
Spring wells	Process Water
Air	Soil
Microscopic Sludge Analysis	Dust fall
Range of Analysis using state of the art technology:	
Major Cations & Anions	PAH 16
Heavy Metals, Nutrients, Minerals	Total Petroleum Hydrocarbons (DRO, PRO, BTEX, MTBE),
All wet chemistry parameters, OFG	Mineral Oil
Detergents, pH, Dissolved Oxygen, Conductivity	Dustfall Analysis, Noise Monitoring
TOC, COD, BOD, Total Nitrogen, suspended solids	Quality approved analysis of PCBs, VOCs and Pesticides available in our INAB accredited testing laboratory Reg. No. 108T
Quality Systems	Customer Service
ISO 17025	<ul style="list-style-type: none"> <li>• Quick response - interactive web</li> </ul>
ISO 9001:2000 approved	<ul style="list-style-type: none"> <li>• Technical support and interpretation</li> </ul>
Dept. of Agriculture approved	<ul style="list-style-type: none"> <li>• Tailored packages or Standard suites to meet client requirements</li> </ul>
Dept. of Marine approved	<ul style="list-style-type: none"> <li>• Collection &amp; dedicated sampling service</li> </ul>
Members of EPA and LGC/Aquacheck	<ul style="list-style-type: none"> <li>• Free sampling containers</li> </ul>
Proficiency schemes	<ul style="list-style-type: none"> <li>• Reports are available online, via email, fax or hard copy</li> </ul>

# Case Study

## CLS Working with the Environmental Protection Agency

The primary challenge that Ireland faces over the next decade is to achieve 'good water status' for all waters by 2015 as set out in the Water Framework Directive (WFD) 2000/60/EC. Monitoring programmes are an integral part of the new management strategy for water to meet this objective.

Complete Laboratory Solutions was successful in its bid to support the EPA with this largest surface water monitoring project of its kind in Ireland. It is an ongoing project where in the region of 300 lakes and river sites are being monitored per calendar month, countrywide.

CLS has created a database, which contains the analytical results obtained per sampling site, methodologies applied and detailed geographical and environmental information on each sampling location. On completion of this project the information contained in this database will become the bench mark for the standard of Irish surface water.

Complete Laboratory Solutions is responsible for all the sampling involved in this project. The company carries out part of the analysis of this project, namely Physico-Chemical Parameters and also handles the logistics involved in the sampling and testing of all sites. Monthly reports are issued to the EPA in excel and xml (EDEN) formats that allow easy data transfer between the Agency and their European counterparts.



Chemistry analysts performing PAH analysis on a HPLC instrument at CLS



Nutrient Analysis on a Konelab system at CLS



## Caecilia Terloh Head of Environmental Department

Caecilia is the head of the Environmental Department and has over fifteen years of experience. She is a master's graduate with a distinction from Ruhr University Germany where she investigated the presence of pesticides in soil and air by GC/MS, GC/NPD & HPLC.

Caecilia continued her studies in a distinguished postgraduate programme, which she completed to achieve the qualification European Environmental Manager.

Caecilia has worked with Limerick Corporation in the drinking water section of the water laboratory. Subsequently she worked with the Salmon Research Agency in County Mayo, where she was involved in experimental salmonid rearing & environmental monitoring.

Caecilia has worked with CLS in the field of environmental monitoring and quality control for over 11 years.

Under her leadership ISO17025 was achieved for the Environmental Department in 1999. The scope of accredited methodologies continues to grow year on year, meeting customers' needs.

Caecilia has been responsible for a number of projects including:

- Coordination of the surface water monitoring campaign as required by the EPA Ireland in relation to WFD requirements since 2007.
- Managing of water monitoring projects from application process to sampling, analysis and reporting, for Local Authorities, Government Agencies and industrial clients.
- Environmental monitoring and baseline studies for National Development Projects.
- Business Planning and Development.



## Contact Details:

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