

Quality Consult

Promoting environmental quality



2012 QC Programme

Quality Consult is a company that supports both public and private laboratories in controlling their analytical data quality.

The activities of the company are carried out both at national and international level, supported by an international Scientific Committee of experts in the field of analytical quality control and environmental chemistry.

Quality Consult offers a wide range of services: Proficiency Testing schemes, internal quality control tools, training on quality of analytical data and others. These services are included in a standing annual programme, the "QC Programme".

Quality Consult is also involved as partner and/or coordinator in International environmental Projects, promoted by European Commission. It is also the founding member of the European Network "Proficiency Testing for the Water Framework Directive" (PT-WFD), created in 2008 to support the implementation of the Water Framework Directive (WFD).



Quality Consult

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QC Programme: General Information

Who is Quality Consult?

Quality Consult was established in 2002 as non-profit association and became a limited liability company in July 2009. The previous President of non-profit association, Dr. Angelo Bortoli, a chemist with several years of experience in the field of analytical data quality, assumed the current position of Sole Director.

Quality Consult activities are focused on development and implementation of tools to assess and improve the quality of analytical measurements, also finalized to guarantee the environmental quality.

The activities of the company are conducted by a group of highly qualified young professionals specialized in analytical quality control. The group carries out the continuous development of the company with the assistance of the Scientific Committee, an international group of expert chemists with decades of experience in different fields of analytical chemistry.

Which are the activities of Quality Consult?

The Quality Consult main activities are the participation in projects funded by the European Union in the environmental field, as well as supply the Italian, foreign, private and public analytical laboratories, with a wide range of services for the internal and external quality control; these services are included in the QC Programme. In the 2012, it includes:

1. Proficiency Testing
2. Reference Materials for Quality Control Chart, External Control, and Corrective Actions
3. Virtual Institute for Reference Material (VIRM)
4. QC Training courses

1. Proficiency Testing

Quality Consult organizes different types of Proficiency Testing schemes, as follow:



- a. QC Proficiency Testing
- b. PT-WFD Proficiency Testing
- c. Pilot Proficiency Testing
- d. Proficiency Testing upon request

a) QC Proficiency Testing

Since 2004, Quality Consult organizes a standing programme of proficiency testing schemes, named "QC Proficiency Testing", which yearly provides with the organization of a range of proficiency testing on the analytical performances of laboratories on different environmental matrices. Since 2004, 169 QC Proficiency Testing have been organized on the determination of trace elements, major components and organic compounds (PAHs, pesticides, PCBs and organic contaminants) in different environmental matrices (drinking, river and spring water, wastewater, groundwater, sewage sludge, sediment and soil) with the participation of more than 300 public and private laboratories.





b) PT-WFD Proficiency Testing



Quality Consult is a founding member of the PT-WFD Network "Proficiency Testing for the Water Framework Directive" supporting the implementation of the Water Framework Directive (WFD) in EU Member States, in the field of the EAQC-WISE project activities funded by European Commission with contract No. 022603.

The "PT-WFD (Proficiency Testing for the Water Framework Directive)" Network was founded the 8 October 2008, with the official signature of the technical agreement document by Quality Consult, as well as by AQS-BW (DE), BIPEA (FR), Institute Pasteur de Lille (FR), IWW Water Centre (DE), LGC Standards (UK), National Institute of Chemistry (SI), QUASIMEME (NL). Throughout these years also AGLAE (FR), IELAB (ES), NIVA (NO), SYKE (FI), VITUKI (HU) Tallin Univ. of Technology (ET) and Gesundheit und Verbraucherschutz Hamburg (DE) have asked to join the PT-WFD Network. The Network activities are supervised by external advisors of AQUAREF (FR), ENEA (IT), IFA Tulln (AT), IRMM (EC), RWS (NL).

All members of the Network are committed to follow common rules in the organization of Proficiency Testing schemes related to the WFD, as established during the general meetings by the Network meetings. The aim is to provide harmonised evaluations of the PT schemes, regardless of the organizer that evaluated the tests. In case of environmental analysis with particular analytical difficulties, because of type of matrix, analytes or concentration levels, the Network will organize joint proficiency testing schemes. Quality Consult will provide the full information to all its costumers. The PT-WFD schemes will be usually held in autumn, thus allowing the customers to use these proficiency testing schemes also for eventual corrective actions.

c) Pilot Proficiency Testing

Each year Quality Consult may organize particular proficiency testing schemes on emerging contaminants, as Pilot Proficiency Testing, to meet specific needs expressed by laboratories and/or required by new legislation and/or proposed by the scientific community. The permanent inclusion of such Pilot Proficiency Testing in the QC Programme will depend on their success in terms of laboratories participation and comparability of their results.

d) Proficiency Testing upon request

Upon request of a sufficient number of laboratories, Quality Consult organizes dedicated proficiency testing that meet the needs of those laboratories with specific requirements in terms of matrices, analytes and concentration levels. Specific requests should be addressed to qualityconsult@agc.it.



The Proficiency Testing are recommended by the ISO/IEC 17025:2005 as External Control quality tool.



Quality Consult approach to the QC Proficiency Testing

Aims and organization

The proficiency testing represents an essential tool for the external evaluation of reliability in analytical results and for the improvement of laboratory performances.

Quality Consult organizes proficiency testing (QC Proficiency Testing) in order to meet the needs of laboratories in terms of time schedule and type of test. In particular, setting of matrices, analytes and concentration ranges is based on specific needs of groups of laboratories and on the requirements stated by the monitoring environmental rules (e.g.: D.Lgs 31/2001, D.Lgs 152/2006, D.Lgs 30/2009 of Italian legislation; Water Framework Directive 60/2000, etc.).

The QC Proficiency Testing comply with the international rules for the organization and management of proficiency testing, or rather the guidelines ISO/IEC43-1:1997 and ILAC G1-3:2007. The procedure to comply with the new regulation UNI CEI EN ISO/IEC 17043:2010 is in progress.

Time Schedule

QC Proficiency Testing follow a specific time schedule, where each type of proficiency testing is permanently offered 1 or 2 times a year, in order to allow an evaluation of analytical performances over time, as required by international regulations and guidelines.

Reference Materials

The Reference Materials used in the QC Proficiency Testing are prepared and characterized by qualified producers, according to the international guidelines (ISO Guide 34:2009) and with the required features of homogeneity and stability that it can be used in proficiency testing schemes. Full details of the producer and characterization of the material are included in the final report of every QC Proficiency Testing.

Final discussion meeting

Each year, at the end of the QC Programme, Quality Consult organizes a technical discussion meeting on the results of QC Proficiency Testing with the participant laboratories and experts. These meetings allow to identify analytical problems and provide a good framework to improve analytical performance of laboratories. Normally, these meetings involve external experts invited for specific seminars and/or support in the technical discussion of the results.

Customer Helpdesk

Communication between Quality Consult and participant laboratories to the QC Programme represents a priority for our Company. Quality Consult provides customers with different communication systems (e-mail, phone, fax, website), that allow us to provide an immediate and effective exchange of information.

The Scientific "helpdesk" provides support to the QC Proficiency Testing, from Monday to Friday, via e-mail or phone, for advice on QC Proficiency Testing and for general information.

Privacy

In order to guarantee the privacy, each participant is assigned with a laboratory code (alpha numeric) applied only to the ongoing QC Programme, and it changes every year. The code identifies the laboratory within the final report(s) about the QC Proficiency Testing, and ensures the confidentiality of the results. The laboratory code is strictly confidential, it is communicated only to the manager(s)/representative(s) indicated in the Registration Form.



Participation to QC Proficiency Testing

Registration

The laboratories registered to one or more QC Proficiency Testing will be able to access the Reserved Area of our website: <http://www.aqc.it/en>.

By accessing this area, they will be able to:

- Know, at any time, the status of different QC Proficiency Testing
- Download and read the guidelines, with the information required to carry out the analysis
- Send, through a data entry online system, the results of their analysis
- Be able, at any time, to check the results they sent
- Download and read the Final Report(s) of QC Proficiency Testing

Shipment of proficiency test items

Proficiency test items are dispatched to the participant laboratories by courier services according to the time schedule of the ongoing QC Programme. The same day of delivery, laboratories will receive communication via e-mail from Quality Consult of the dispatch date. Each laboratory is required to confirm to Quality Consult the receipt of test material and any problem occurred, by the document CONFIRMATION OF SAMPLE RECEIPT, sent in the package with the samples.

Analysis of proficiency test items

Each laboratory has a month and a half to perform the analysis requested in the QC Proficiency Testing. Normally, the results will be required for three independent analytical results. Guidelines will be provided for each QC Proficiency Testing to perform the analysis. Registration enables the laboratory, if interested, to send more data sets (e.g.: results of two or more operators, results obtained with two or more testing methods). It is not required to give results for all the analytes in the QC Proficiency Testing.

Results submission

QC Proficiency Testing participants will send the test results by a simple and easy online submission system, in the RESERVED AREA of our Web site. The system allows to enter/edit results until the date shown in the time schedule of the ongoing QC Programme.

Data analysis and evaluation of results

The statistical data processing is carried out according to ISO 13528:2005 and laboratory performances are determined by calculation of Z-score. As expected by the regulation, the Assigned Value is defined by statistical data of the population and the Standard Deviation defined by the criteria of "fitness for purpose" according to analyte, matrix, and concentration level, based on the state of art of the analysis evaluated.

Participant laboratories will be asked to submit the results within a fixed date set in the time schedule of the ongoing QC Programme.

Final Reports

At the end of each QC Proficiency Testing, usually a month from the result submission deadline, the technical evaluation report is published on the Web site. It contains:

- Detailed information on the organization of the QC Proficiency Testing
- Criteria and method about the statistical evaluation and data presentation
- Results submitted by laboratories
- Results of statistical evaluation
- Performance evaluation of laboratories by Z-scores
- Technical Report on preparation and characterization of the test sample



2. Reference Materials (QCMs) for Control Chart, External Control, and Corrective Actions.

a) QC Control Charts



Reference materials (Quality Control Materials - QCMs) analysed within proficiency testing schemes, organized by Quality Consult, represent a valuable tool that can be used for building and maintenance of Control Charts. Since 2006, Quality Consult offers a consultancy service for analytical quality control charts by sending QC Programme Reference Materials and providing an electronic format for control chart building and related technical advice. Reference Materials analyzed within QC Programme (2004-2011) proficiency testing schemes are available for this service.



The QCMs analyzed in the QC Proficiency Testing represent an optimal choice for Internal Quality Control.

b) QC External Control

The QC External Control service allows laboratory to receive in a short time an external evaluation of their analytical performance without following the scheduled timetable of the QC Proficiency Testing in the ongoing QC Programme.

To evaluate the laboratory performance will be used Reference Materials (concentration levels of analytes unknown to the customers) that were analyzed in previous QC Proficiency Testing exercises.

In three days, from the submission of results, Quality Consult provides the External Evaluation Certificate for each analyte through the Z-score calculated with Assigned Values and Standard Deviation in the QC Proficiency Testing.

c) QC Corrective Actions

Quality Consult supplies participants to the QC Proficiency Testing that didn't obtain a satisfactory evaluation of their analytical performances with the opportunity to ask the same Reference Material for corrective actions.



3. Virtual Institute for Reference Material (VIRM).



The Virtual Institute for Reference Materials VIRM was founded in 2004 with the support of European Commission and, from 2008, belongs to the Quality Consult, which is responsible for the management. Aim of the Virtual Institute for Reference Materials is to facilitate dissemination of information, knowledge, advice and support in the recruitment and use of reference materials and related themes, providing advanced search engine online, regularly updated.

It involves a consortium of experts from all over Europe, covering R&D organizations, governmental and private laboratories, RM producers and industry. Aim of the Virtual Institute for Reference Materials (VIRM) is to provide an indispensable tool for the Quality Control of analytical and physical measurements. The VIRM also acts as a training center, harmonization and discussion on topics of QA / QC of analytical measurements. The innovative character of VIRM consists in its virtual structure, combining a minimal logistic infrastructure with the maximal effectiveness of a Worldwide ICT network.

VIRM offers a broad range of useful tools in the field of Reference Materials and Quality Control:

- Database of Reference Materials
- Information on events and bibliography
- Scientific and Technical helpdesk
- And more

The database of reference materials (certified or not) now contains more than 4400 (C)RMs (from environmental, food, pharmaceutical and other) with more than 27000 records of information (analytes, certified value, etc).



VIRM, Database of Reference Materials, with more than 4.400 (C)MR in environmental, food, pharmaceutical field and other.

4. Training courses



Within the frame of projects supported by the European Commission, Quality Consult has organized in recent years a series of training courses devoted to operators from public, private and research laboratories, both from European and extra-European countries. The Courses focused on quality of environmental measurements and were performed with a series of theoretical lessons and practical computer exercises held by lecturers of international fame.

Since 2010, Quality Consult, with the experience of a format tested at international level, organizes training courses on analytical quality of measurements at national and international level, called QC Courses, held only at the request of the laboratories. Any requests for 2012 should be directed to qualityconsult@aqc.it



2012 QC Programme: Services, schedule and costs

Proficiency Testing

a) QC Proficiency Testing - 2012



The QC 2012 Programme includes 6 proficiency testing campaigns on the following environmental matrices: contaminated soil, sewage sludge, wastewater, drinking water and groundwater.

The detail of the scheduling of proficiency testing for 2012 in the table below.



QC Proficiency Testing: Time Schedule

Campaign	Matrix	Registration Deadline	Dispatch of samples	Result Submission	Report Publication
1st Campaign	Contaminated Soil	17-Feb-2012	24-Feb-2012	6-Apr-2012	4-May-2012
2nd Campaign	Drinking Water	17-Feb-2012	23-Mar-2012	4-May-2012	1-Jun-2012
3rd Campaign	Sewage Sludge	20-Apr-2012	27-Apr-2012	1-Jun-2012	28-Jun-2012
4th Campaign	Waste Water	20-Apr-2012	1-Jun-2012	28-Jun-2012	27-Jul-2012
5th Campaign	Groundwater	11-May-2012	28-Jun-2012	7-Sep-2012	5-Oct-2012
6th Campaign	Contaminated Soil and Drinking Water	7-Sep-2012	19-Oct-2012	30-Nov-2012	21-Dec-2012

QC Proficiency Testing Details (matrices, analytes, concentration levels, etc.)

1st Campaign (Contaminated Soil)			
Code	Class of analytes	Detailed Analytes	Indicative Concentration Level
12CS1	Trace Elements (1)	As, Be, Cd, Co, Total Cr, Cu, Hg, Mn, Ni, Pb, Sb, Se, Sn, Tl, V, Zn	0,50 - 500 (mg/Kg)
12CS2	Polycyclic Aromatic Hydrocarbons (PAH)	Anthracene, Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[ghi]perylene, Benzo[k]fluoranthene, Chrysene, Dibenzo[a,h]anthracene, Phenanthrene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Pyrene	0,10 - 10,0 (mg/Kg)
12CS3	Polychlorinated Biphenyls (PCB)	PCB 28, PCB 52, PCB 101, PCB 118, PCB 138, PCB 153, PCB 180	0,01 - 5,00 (mg/Kg)
	Organochloride Pesticides	Alachlor, Aldrin, Atrazine, Chlordane (cis), Chlordane (trans), Chlordane (cis+trans), alpha-HCH, beta-HCH, gamma-HCH, 2,4'-DDD, 4,4'-DDD, 2,4'-DDE, 4,4'-DDE, 2,4'-DDT, 4,4'-DDT, Dieldrin, Endrin	0,01 - 5,00 (mg/Kg)

(1) "Pseudo total" concentration determination (ex. ISO 11466, EPA 3051a, EPA 3050b or other equivalent methods).



2nd Campaign (Soft Drinking Water)			
Code	Class of analytes	Detailed Analytes	Indicative Concentration Level
12DW1	Trace Elements	Al, As, B, Ba, Be, Cd, Co, Total Cr, Cu, Fe, Hg, Mn, Ni, Pb, Sb, Se, V, Zn	0,1 - 150 (microg/L)
12DW2	Major Components	Ammonium, Calcium, Chloride, Dry residue at 180 °C, Electrical Conductivity, Fluoride, Magnesium, Nitrate, Nitrite, pH, Potassium, Sodium, Sulphates, Total hardness	0,20 - 20,0 (mg/L)
12DW3	Halogenated Solvents (Level I) new!	Bromodichloromethane, Bromoform, Chloroform, Dibromochloromethane, 1,2 Dichloroethane, Dichloromethane, Hexachlorobutadiene, Tetrachloroethylene, Tetrachloromethane, 1,2,4 Trichlorobenzene, Trichloroethylene	0,50 - 20,0 (microg/L)
	Halogenated Solvents (Level II) new!		0,02 - 4,00 (mg/L)
12DW4	Organochloride Pesticides (Level I) new!	Alachlor, Aldrin, Atrazine, 2,4'-DDE, 4,4'-DDE, 2,4'-DDT, 4,4'-DDT, Dieldrin, Diuron, alpha-Endosulfan, Endrin, Heptachlor, Heptachlorepoxyde-A, Heptachlorepoxyde-B, Hexachlorobenzene, Lindane, Simazine, Pentachlorobenzene, Trifluralin	0,01 - 1,00 (microg/L)
	Organochloride Pesticides (Level II) new!		0,50 - 20,0 (microg/L)
12DW5	Polycyclic Aromatic Hydrocarbons (PAH) (Level I) new!	Acenaphthene, Acenaphthylene, Anthracene, Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[g,h,i]perylene, Chrysene, Phenantrene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphtalene, Perylene, Pyrene	0,01 - 1,00 (microg/L)
	Polycyclic Aromatic Hydrocarbons (PAH) (Level II) new!		0,50 - 20,0 (microg/L)
12DW6	Aromatic Solvents (Level I) new!	Benzene, Ethylbenzene, Styrene, Toluene, o-Xylene, m-Xylene, p-Xylene, Xylenes (m+p), Xylenes (o+m+p)	0,05 - 5,00 (microg/L)
	Aromatic Solvents (Livello II) new!		0,50 - 50,0 (microg/L)

3rd Campaign (Sewage Sludge)			
Code	Class of analytes	Detailed Analytes	Indicative Concentration Level
12SS1	Trace Elements	As, Be, Cd, Co, Total Cr, Cu, Hg, Mn, Ni, Pb, Sb, Se, Sn, V, Zn	0,50 - 500 (mg/Kg)
	Major Components	Total Nitrogen, Total Organic Carbon (TOC), Total Phosphorus	0,50 - 50,0 (g/Kg)
12SS4	Trace Elements (2)	As, Cd, Total Cr, Cu, Hg, Ni, Pb, V, Zn	0,05 - 50,0 (mg/Kg)
	Major Components (2)	Chloride, Electrical Conductivity, COD, pH, Sulphate, Total Nitrogen	0,50 - 50,0 (g/Kg)

(2) "Leaching test" according to the EN 12457-2 standard.

Please note: In case of tests in which the analytical methods are explicitly mentioned in brochures and guidelines (ex. 12CS1, 12SS4, 12GW3 and 12CS4), the organizers have the right to exclude from the final evaluation the results with an analytical methods that was unexpected or not in accordance with the standards.





4th Campaign (Wastewater - Treatment Plant Outlet)			
Code	Class of analytes	Detailed Analytes	Indicative Concentration Level
12WW1	Trace Elements	Al, As, B, Ba, Be, Cd, Co, Total Cr, Cu, Fe, Mn, Ni, Pb, Se, V, Zn	0,50 - 500 (microg/L)
12WW2	Major Components	Ammoniacal Nitrogen, Chloride, COD, Kjeldahl Nitrogen (3), Electrical Conductivity, Fluoride, Nitric Nitrogen, pH, Sulphate, Total Nitrogen (4), Total Phosphorus	Outlet (mg/L)
12WW3	Aromatic Solvents	Benzene, Ethylbenzene, Styrene, Toluene, o-Xylene, m-Xylene, p-Xylene, Xylenes (m+p), Xylenes (o+m+p)	1,00 - 100 (microg/L)
12WW4	Halogenated Solvents	Bromodichloromethane, Bromoform, Chloroform, Dibromochloromethane, 1,2-Dichloroethane, Dichloromethane, Hexachlorobutadiene, Tetrachloroethylene, Tetrachloromethane, 1,2,4-Trichlorobenzene, Trichloroethylene	0,05 - 5,00 (mg/L)

5th Campaign (Groundwater)			
Code	Class of analytes	Detailed Analytes	Indicative Concentration Level
12GW1	Trace Elements	Al, As, B, Be, Cd, Co, Total Cr, Cu, Fe, Hg, Mn, Ni, Pb, Sb, Se, V, Zn	0,10 - 150 (microg/L)
12GW2	Major Components	Ammonium, Calcium, Chloride, Dry residue at 180 °C, Electrical Conductivity, Fluoride, Magnesium, Nitrate, Nitrite, pH, Potassium, Sodium, Sulphates, Total hardness, Total Nitrogen (4), Total Phosphorus	0,10 - 100 (mg/L)
12GW3	Total Hydrocarbons (5)	Total Hydrocarbons	0,05 – 1,00 (mg/L)
12GW4	Phenols (Level I) new!	2-Chlorophenol, 4-Chloro-3-Methylphenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, o-Methylphenol, m-Methylphenol, p-Methylphenol, Methylphenols (o+m+p), Phenol, Pentachlorophenol, 2,4,6-Trichlorophenol	0,05 – 20,0 (microg/L)
	Phenols (Level II) new!		1,00 – 200 (microg/L)

6th Campaign (Contaminated Soil and Hard Drinking Water)			
Code	Class of analytes	Detailed Analytes	Indicative Concentration Level
12CS4	Trace Elements in Contaminated Soil (6)	As, Be, Cd, Co, Total Cr, Cu, Hg, Mn, Ni, Pb, Sb, Se, Sn, Tl, V, Zn	0,50 - 500 (mg/Kg)
12DW7	Trace Elements in Hard Drinking Water	Al, As, B, Ba, Be, Cd, Co, Total Cr, Cu, Fe, Hg, Mn, Ni, Pb, Sb, Se, V, Zn	1,00 - 1000 (microg/L)
12DW8	Major Components in Hard Drinking Water	Ammonium, Calcium, Chloride, Dry residue at 180 °C, Electrical Conductivity, Fluoride, Magnesium, Nitrate, Nitrite, pH, Potassium, Sodium, Sulphates, Total hardness	2,00 - 200 (mg/L)

(3) Kjeldahl Nitrogen determination according to standard EN 25663:1993 (ISO 5663:1984) or equivalent methods. **new!**

(4) Total Nitrogen determination according to the standard APAT CNR IRSA 4060 Man 29 2003 or equivalent methods. **new!**

(5) Total Hydrocarbons determination according to the APAT CNR IRSA 5160 B2 Man 29 2003.

(6) "Pseudo total" concentration determination (ex. method XI DM 185 del 1999, ISO 11466, EPA 3051a, EPA 3050b or other equivalent methods).



2012 QC Proficiency Testing — What's New?

This year, Quality Consult offers a freshly updated Programme for QC Proficiency Testing in Drinking Water and Groundwater. There will be different matrices, in respect to the hardness (soft and hard) and different concentration levels of analytes, providing the laboratories with the opportunity to evaluate their performances in a larger range of analytical situations.

Moreover, the list of analytes to analyze have been changed in some QC Proficiency Testing according to the rules of environmental monitoring regulation (e.g.: Italian Legislative Decrees 31/2001, 152/2006, 30/2009, Water Framework Directive 60/2000, etc.), as well as to meet the received demands of the laboratories during this last years.

This year, Quality Consult provides participants with 6 or more 2012 QC Proficiency Testing with services of the Virtual Institute for Reference Materials (VIRM) without additional cost.

2012 QC Proficiency Testing Participation Fees

Code	Costs (VAT excl.)	Code	Costs (VAT excl.)	Code	Costs (VAT excl.)
1st Campaign		3rd Campaign		5th Campaign	
12CS1	425,00 €	12SS1	425,00 €	12GW1	380,00 €
12CS2	450,00 €	12SS4	550,00 €	12GW2	400,00 €
12CS3	450,00 €			12GW3	510,00 €
				12GW4	600,00 €
2nd Campaign		4th Campaign		6th Campaign	
12DW1	380,00 €	12WW1	380,00 €	12CS4	425,00 €
12DW2	400,00 €	12WW2	410,00 €	12DW7	380,00 €
12DW3	600,00 €	12WW3	510,00 €	12DW8	400,00 €
12DW4	600,00 €	12WW4	510,00 €		
12DW5	600,00 €				
12DW6	600,00 €				

The participation fee comprises the followings:

- Proficiency test items
- Access to the 'Reserved Area' of the website <http://www.aqc.it/en/>
- Proficiency testing guidelines
- Support of the 'Scientific Helpdesk'
- Final Report of QC Proficiency Testing

In case of fewer than 10 subscriptions, Quality Consult retains the right to call the exercise off. The organizers will communicate any change to registered laboratories within 10 working days after registration date expires.

Shipping expenses and conditions



An additional cost is calculated for the shipment of samples by courier service. The shipping expenses may vary in function of countries of destination and weight of the dispatch package. Quotation of shipping expenses will be provided case by case upon request.



2012 QC Proficiency Testing Discounts

A discount will be applied according to the date of registration and the number of QC Proficiency Testing. The participants to the 2011 QC Proficiency Testing are eligible for an extra discount of 5%. Participants to 6 or more 2012 QC Proficiency Testing can use the VIRM services without additional costs. **new!**

Discount applied		
N° of QC PTs	Registration before 31/12/2011	Registration after 31/12/2011
1 - 5	5%	-
6 - 10	10%	5%
11 or +	15%	10%

Note: transportation fees do not apply the discount for proficiency testing

b) PT-WFD Proficiency Testing

Since 2009, The European Network "PT-WFD" has organized 12 PT-WFD Proficiency Testing ("Joint PT-WFD exercises") in collaboration among several members, including Quality Consult.

Through the organization, the production of test materials, and statistical data processing at centralized level and dissemination of the initiative in various EU countries by members of the Network, PT-WFD makes possible the participation of a considerable number of laboratories, and the comparison between different laboratories.

Network members will be the interface with the participating laboratories of their country, by providing technical and scientific helpdesk support during the exercises and by translating the final reports in different languages.

Quality Consult offers the participation in PT-WFD Proficiency Testing exclusively to laboratories enrolled in the 2012 permanent programme, that want to increase the frequency of participation or take corrective actions in response to unsatisfactory results in the permanent programme exercises.

PT-WFD will take place in autumn 2012 and detailed information on timings and costs will be provided by Quality Consult in spring 2012.



PT-WFD Proficiency Testing allow the participation of a large number of laboratories in case of "critical" analysis.

c) Pilot Proficiency Testing

Details on any Pilot Proficiency Testing activated in 2012 by Quality Consult will be available on the Company website <http://www.aqc.it/en>. The information will be distributed via e-mail to all customers of Quality Consult.

d) Proficiency Testing upon request

Requests for the organization of dedicated Proficiency Testing should be addressed to qualityconsult@aqc.it.



Reference Materials for Control Charts, External Control and Corrective Actions



Reference Materials analyzed in the QC PT schemes could appropriately be used as tools for internal and external quality control and for possible corrective actions. In particular, Quality Consult offers three types of services with Reference Materials:

a) QC Control Chart b) QC External Control c) QC Corrective Actions

Reference materials of contaminated soil, sewage sludge and sediment analyzed in the QC Proficiency testing of the QC Programme (2004-2011) are available for these services. For QC Corrective Actions are also available all the solid materials of 2012 QC Proficiency Testing.

a) QC Control Charts

Quality Consult provides a consultancy service for analytical quality control charts that includes:

- Reference materials and related characterization report
- Guidelines and an electronic format for the construction of control charts
- Scientific and technical Helpdesk service for 3 months

2012 QC Control Chart Fees		
Analytes	Material	Costs *
Trace Elements and Major Components	1 bottle 20/30 g	260,00 €
Polycyclic Aromatic Hydrocarbons (PAH)	2 bottles 35/40 g	430,00 €
Polychlorinated Biphenyls (PCB) + Organochloride Pesticides	2 bottles 35/40 g	430,00 €

* **Note:** VAT and Shipping costs excluded

More details about the service and the complete list of control materials are available at <http://www.aqc.it/en/2012-qc-programme/reference-materials/qc-control-chart>

In case of simultaneous application to the 2012 QC Proficiency Testing and to the service of Control charts, the QC Proficiency Testing discount will be applied also to the Control Chart service, according to the discount list.

For more information or to request an offer please contact the Helpdesk (helpdesk@aqc.it).



b) QC External Control

QC External Control is an additional service that includes:

- Reference material and guidelines
- Scientific and technical Helpdesk services
- Z-score certificate and Final Report of the related QC Proficiency Testing

2012 QC External Control Fees				
Code	QCM Matrix	Class of analytes	Quantity of material	Costs (VAT excl.)
EC-CS1	Contaminated Soil	Trace Elements + Major Components	1 bottle 20/30 g	425,00 €
EC-CS2	Contaminated Soil	Polycyclic Aromatic Hydrocarbons (PAH)	1 bottle 35/40 g	450,00 €
EC-CS3	Contaminated Soil	Polychlorinated Biphenyls (PCB) + Organochloride Pesticides	1 bottle 35/40 g	450,00 €
EC-SS1	Sewage Sludge	Trace Elements + Major Components	1 bottle 20/30 g	425,00 €
EC-SS2	Sewage Sludge	Polycyclic Aromatic Hydrocarbons (PAH)	1 bottle 35/40 g	450,00 €
EC-SS3	Sewage Sludge	Polychlorinated Biphenyls (PCB)	1 bottle 35/40 g	450,00 €
EC-SS4 (new!)	Sewage Sludge	Trace Elements + Major Components (1)	1 bottle 100 g	550,00 €
EC-RS1	Sediment	Trace Elements + Major Components	1 bottle 20/30 g	425,00 €
EC-RS2	Sediment	Polycyclic Aromatic Hydrocarbons (PAH)	1 bottle 35/40 g	450,00 €
EC-RS3	Sediment	Polychlorinated Biphenyls (PCB) + Organochloride Pesticides	1 bottle 35/40 g	450,00 €

Note: (1) "Leaching test" according to the EN 12457-2 standard.

More details about the service, and the complete list of materials for external control, are available at:

<http://www.aqc.it/en/2012-qc-programme/reference-materials/qc-external-control>

For more information, please contact the Helpdesk (helpdesk@aqc.it).

c) QC Corrective Actions

QC Corrective Actions is addressed to the participants of QC Proficiency Testing that obtained unsatisfactory evaluations of their analytical performance and need to perform corrective actions. The cost is the same as in the corresponding 2012 QC Proficiency Testing, with the application of a special rate discount of 50% (shipping charges not included), and includes:

- Reference material and guidelines
- Scientific and technical Helpdesk service
- Z-score certificate

For more information, please contact the Helpdesk (helpdesk@aqc.it).



Virtual Institute for Reference Material (VIRM)



VIRM offers a broad range of useful tools in the field of Reference Materials and Quality Control of analytical measures:

- Reference Material Database
- Information on events and bibliography
- Scientific and technical Helpdesk
- And more...

The annual subscription allows unlimited access to the Reference Materials database and all other services offered by VIRM.

Fees	
Individual Application (allows access just to a single name given by the laboratory)	150,00 € + VAT
Corporate application (allows access to all the personnel listed by the laboratory)	1200,00 € + VAT

For more information, contact the Helpdesk (helpdesk@aqc.it) and visit <http://www.virm.net> or <http://www.aqc.it/en/general-information/virtual-institute-reference-materials>.

2012 QC Programme Registration

For the registration to the 2012 QC Programme just fill out and send the appropriate "Registration Form", which is different for each service.

The "**registration forms**" for 2012 QC Proficiency Testing and the other services are available at:

<http://www.aqc.it/en/2012-qc-programme/registration>

Steps for registration:

- 1) Download and fill out the Registration Form
- 2) Send the filled Registration Form via fax to **+39 06 97840718** or via e-mail to qualityconsult@aqc.it
- 3) Quality Consult will send back, via e-mail, the form, signed and stamped, as confirmation of registration to the 2012 QC Programme

Contact us:

 Tel.: **+39 06 97840616**
 Cell.: **+39 320 6905464**
 Fax: **+39 06 97840718**
 E-mail: info@aqc.it