



# Paracel's Quality System

Paracel Laboratories Ltd. understands our clients' greatest challenge when choosing a laboratory is based upon their requirement for reliable, traceable and legally defensible data. Paracel's Quality System provides a mechanism for monitoring the overall performance of the analytical laboratory which completely satisfies these requirements.

Paracel's Quality Management System is accredited to the International Standard ISO/IEC 17025:2005. Accreditation to this standard ensures that the laboratory has both industry-accepted practices in management of the company; and demonstrates the competence of the technical abilities of the laboratory to produce accurate, reliable results. As well, components of the Quality System meet requirements specified in provincial and federal regulations. The management and staff of Paracel are committed to good professional practice, quality of its service and compliance with accreditation and regulatory requirements.

## Accreditation, Licenses & Audits

Paracel holds accreditation with two internationally recognized accreditation bodies; and a testing license with one regulatory agency. These organizations provide regularly scheduled audits of our Quality System.

Paracel holds ISO/IEC 17025:2005 accreditation with the following:

- CALA; first laboratory in Canada to be accredited by CALA for mold and fungi
- NIST/NVLAP

Paracel is licensed to perform the following:

- MOE Drinking Water Testing – categories include microbiological, inorganic, organic and physical/other properties

Paracel also frequently participates in less formal audits and laboratory inspections including:

- Private sector environmental consulting companies
- Ontario Ministry of the Environment (MOE) – MISA, O.Reg. 153/04 as amended 179/11, ODSWA
- Environment Canada – ongoing research projects
- Public Works and Government Services – IAQ microbial analyses

A copy of Paracel's CALA Scope of Accredited Tests can be downloaded at <http://www.cala.ca/scopes/1262.pdf>. Copies of Paracel's NIST/NVLAP Scopes can be downloaded from <http://ts.nist.gov/standards/scopes/2008120.htm> (Ottawa) and <http://ts.nist.gov/standards/scopes/2008630.htm> (Mississauga). Audits of Paracel's Quality System are available for review at any time by our clients.

## Proficiency Testing

Paracel has external proficiency testing (PT) programs in place for all applicable parameters in our scope, including:

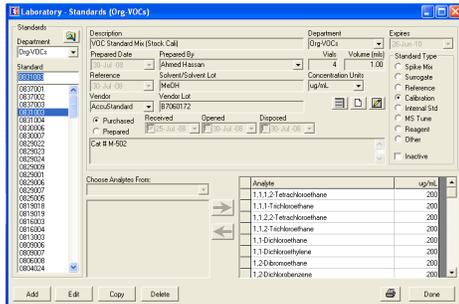
- CALA – since 1992
- NIST/NVLAP
- American Industrial Hygiene Association (AIHA) Environmental Microbiology Proficiency Testing (EMPAT) Program – since 1999, one of its longest standing participants

In addition to the external PT programs, Paracel also maintains an internal training program for our analysts to determine competency prior to performing any analysis and annually monitors analyst proficiency performance.





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## Data Management

Element, Paracel's Laboratory Information Management System (LIMS), is used to manage all the data generated by the laboratory. Element helps to limit transcription errors, document QC data points and provide real time QC information. Samples are fully traceable throughout the entire analytical process by Element. Information pertaining to the standards and reagents used to analyse each batch of samples are entered into Element, enabling Paracel to track these reagents from time of purchase to time of analysis. This system easily allows the tracking of your sample submissions and the associated QC.

## Analysis and Reporting

Each sample and analytical run on our state of the art instrumentation is subjected to strict QA/QC procedures. A summary of the protocol for sample handling and analysis for routine sample submissions, as a minimum, is as follows:

- Sample containers provided to our clients are pre-cleaned to EPA specifications
- Travel and field blanks are provided upon request for field QC samples
- All standards and reagents utilized by the laboratory are purchased from approved suppliers and the specific information pertaining to each reagent is entered into our LIMS system
- Strict adherence to method specific limits and SOPs
- All instruments are calibrated using standards prepared from traceable, certified stock standards and verified using traceable certified standard reference materials
- QC samples are analysed with each analytical run, including method blanks, method reference materials, duplicates and matrix spikes
- All QC data is analysed, logged and charted
- Data is reviewed by the Laboratory Manager prior to reporting
- Analytical and QC data are provided to clients in PDF format reports with electronic signatures

## QA/QC Officer

The QA/QC Officer is responsible for the overall design and implementation of Paracel's Quality System and laboratory QA/QC components and routinely performs internal audits of the Quality System to ensure all analytical testing is performed in accordance with ISO/IEC 17025:2005 requirements. In regards to analytical and QC data, the Officer's responsibilities include:

- Performs trend analysis by examination of control charts and pertinent QC data for drift and other irregularities over time
- Involvement when required, where issues with data are encountered
- Ensures investigations into client inquiries are completed and findings are provided to the client



Paracel has incorporated these procedures for analysis, reporting and investigation into our Quality System to ensure our clients are receiving not only reliable, traceable and legally defensible data but also have an avenue available to them for investigations into data integrity. The management and staff at Paracel are committed to providing our clients with data they can rely on.

**ENVIRONMENTAL AND INDOOR AIR QUALITY TESTING SERVICES**