

QUALITY MANAGEMENT SYSTEM ISO 9001:2008 & ISO/IEC 17025:2005

ALS Minerals staff understand the value of quality analytical data to the integrity of exploration and mining companies. Our processes are strategically designed to ensure that our clients receive the best quality assays to assist with corporate decision making. Our on-line Webtrieve™ tools provide client access to this quality information at all times.

NI 43-101 requests that a Qualified Person (QP) supervise all processes involved in obtaining samples and approve all data released to the public. ALS Minerals maintains ISO 9001:2008 and ISO/IEC 17025:2005 certifications, provides clients with all internal quality control data, and maintains a library of detailed laboratory analytical methods required as the necessary documentation for 43-101 reporting.

At ALS Minerals, we believe that data quality is the foremost requirement of our business and as such, the quality function is an integral part of all day-to-day activities and involves all levels of ALS staff.

The ALS Minerals Quality Program consists of a series of checks and balances with monitoring at top management levels. These systems are in place to ensure that our clients receive accurate, precise and quality data, and that clients have ready access to these quality measures. The quality system is composed of:

1. Certified Data Analysis: ISO 9001:2008 and ISO/IEC 17025:2005 accreditations: The ALS Quality Management System (QMS) complies with the requirements of International Standards ISO 9001:2008. It is our goal that every laboratory in North America be individually ISO Certified. In addition, individual procedures at specific labs have undergone more detailed technical audits and are accredited to ISO/IEC 17025:2005.



**ISO 9001:2008 registration
& ISO/IEC 17025:2005
accredited methods
in North America**

- The North Vancouver, BC laboratory is ISO/IEC 17025:2005 accredited for precious and base metal assay methods.
- The Reno, Nevada laboratory is ISO/IEC 17025:2005 accredited for gold assay methods.
- The Val d'Or, Quebec laboratory is ISO/IEC 17025:2005 accredited for gold assay methods.

2. Sample Preparation and Analytical Quality Control: Measurement of quality through sample preparation and analytical processes includes sieve measurements, and the inclusion of blanks, standards and sample preparation and analytical duplicates for every sample batch. This data is available on Webtrieve™ for clients to access directly, or may be reported with sample data.

3. External Round Robin Programs & Proficiency Tests: Programs instituted throughout the industry are participated in with results evaluated internally.

4. Independent Quality Control Group: Our QC group is responsible for monitoring, tracking and resolving quality issues. This group reports outside of Operations Management with a mandate to ensure quality for clients and represents a significant commitment by ALS Management to quality assays. This group provides Weekly and Monthly Quality reporting to ALS Management.

5. Annual Audits: In addition to annual external ISO audits, ALS completes an internal audit of each laboratory in North America once/year. These audits ensure consistent quality across the network of ALS facilities.

6. Quality Control Meetings: Annually, ALS Minerals management reviews and keeps all aspects of the ALS quality systems at each laboratory.



Certified Data Analysis: ISO 9001 and ISO/IEC 17025 Accreditation

The ALS Quality Management System (QMS) complies with the requirements of the International Standard ISO 9001:2008. It is our goal to certify every laboratory in North America through ISO Certification. In addition, core methods are certified under ISO/IEC 17025:2005. To become accredited, ALS laboratories must pass a detailed, on-site technical audit of our analytical methods, review the competence of our personnel, and successfully participate in internationally recognized proficiency test programs. To maintain this accreditation, we must demonstrate that the Quality System continues to meet the ISO standard requirements which is assessed through external audits and proficiency test results.

Our North Vancouver Canada analytical facility has received accreditation to ISO/IEC 17025:2005 from the Standards Council of Canada (SCC) for the following methods:

- Fire Assay Au by Atomic Absorption (AA),
- Fire Assay Au and Ag by Gravimetric finish,
- Fire Assay Au, Pt, and Pd by Inductively Coupled Plasma (ICP),
- Aqua Regia Ag, Cu, Pb, Zn and Mo by AA,
- Four Acid Ag, Cu, Pb, Zn, Ni and Co by AA,
- Aqua Regia Multi-element by ICP and MS,
- Four Acid Multi-element by ICP and MS,
- Peroxide Fusion Multi-element by ICP.

Our Reno USA analytical facility has received accreditation to ISO/IEC 17025:2005 from the Standards Council of Canada (SCC) for the following methods:

- Fire Assay Au by Atomic Absorption (AA).

Our Val d'Or Quebec Canada analytical facility has received accreditation to ISO/IEC 17025:2005 from the Standards Council of Canada (SCC) for the following methods:

- Fire Assay Au by Atomic Absorption (AA) and Au by gravimetric finish.

Sample Preparation Quality Control

Most samples arriving at our analytical facilities start in sample preparation laboratory. Quality at this first stage of the sample processing is particularly important. Procedures and facilities are organized to ensure proper preparation of the sample for analysis to prevent sample mixing, and to minimize dust contamination or sample to sample contamination. Special procedures are recommended in the case of extremely high grade samples or where coarse particles (Au, Ag, Mo) may cause difficulty in obtaining a representative sample for analysis. Standard specifications for sample preparation are clearly defined and monitored. Custom preparation is available where tighter standards are required. Standard preparation packages require the following specifications:

- Crush: > 70% of the crushed sample passes through a 2 mm screen, 250g split in the routine packages. Finer crush criterion may be specified through customized preparation packages with the quality monitored accordingly.
- Pulverize: > 85% of the pulverized sample passes through a 75-micron screen (Tyler 200 mesh).
- Samples Received as Pulps: > 85% of the sample passes through a 75-micron screen (Tyler 200 mesh).

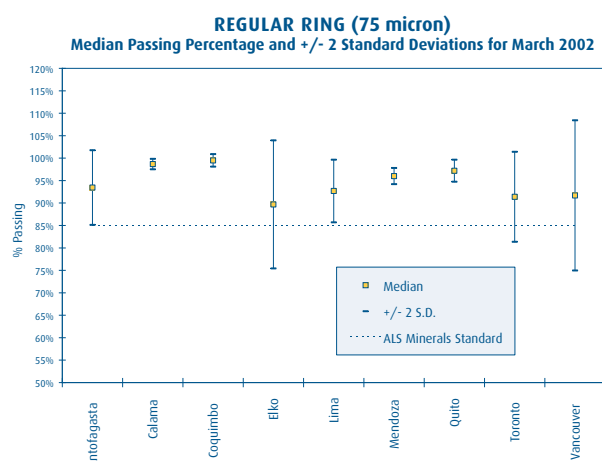


Figure 1: QC results from all sample preparation laboratories are reported to the QC department monthly. Review of the performance of each branch takes place as part of the monthly quality assurance meetings.

These characteristics are measured and results reported and logged to verify the quality of sample preparation. Our standard procedure requires that at least one sample per shift be taken from each sample preparation station. Measurement of sample preparation quality allows the identification of equipment, operators or processes that are not operating within specifications, with corrective actions recorded when necessary. These plots are posted at each laboratory and monitored monthly by management.

Sample Preparation Duplicates

In addition to routine screen tests, sample preparation quality is monitored at ALS Minerals through the insertion of sample preparation duplicates. For every 50 samples prepared, an additional split is taken from the coarse crushed material to create a pulverizing duplicate. The additional split is processed and analyzed in a similar manner to the other samples in the submission. It should be noted that the precision of the preparation duplicate results is

highly dependent on the individual sample mineralogy, analytes of interest and procedures selected for sample preparation. Therefore the data are most relevant at the client project level.

All preparation duplicate data is automatically captured, sorted and retained in the QC Database and available on Webtrieve™ for client review. The data are also available on the QC Data Certificates.

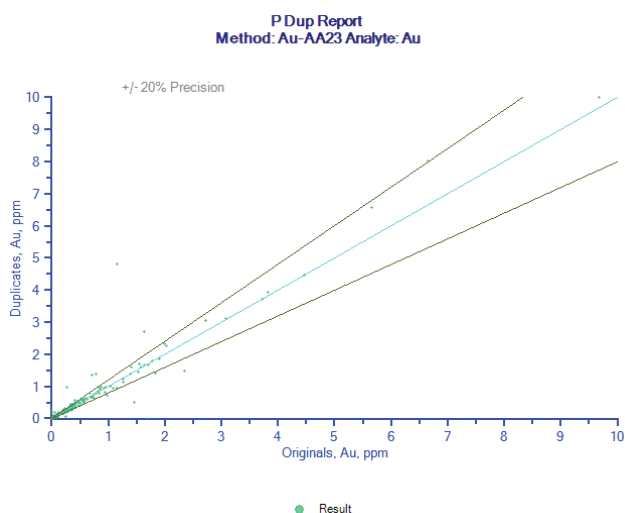


Figure 2: Sample Preparation Duplicate Au Data

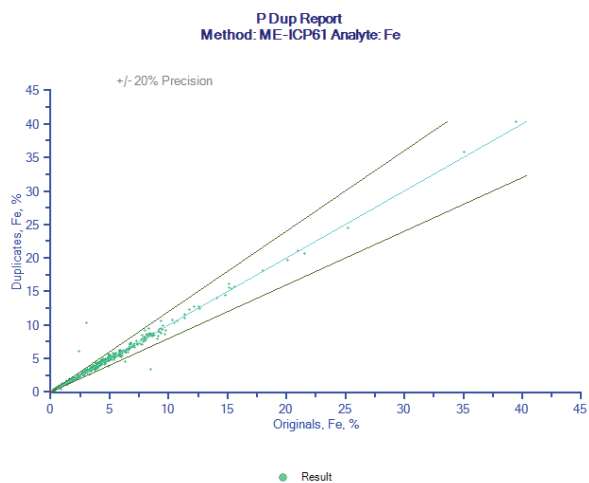


Figure 3: Sample Preparation Duplicate Fe Data



Analytical Quality Control - Blanks, Standards and Duplicates

Quality control samples including certified reference materials, blanks, and duplicates are inserted within each analytical run. The blank is inserted at the beginning, standards are inserted at random intervals, and duplicates are analyzed at the end of the batch. The minimum number of quality control samples required to be inserted are based on the rack size specific to the method. Examples are shown in the following table.

RACK SIZE	METHODS	QUALITY CONTROL SAMPLE ALLOCATION
20	Specialty methods including specific gravity, bulk density, and acid insolubility	2 standards, 1 duplicate, 1 blank
28	Specialty fire assay, assay-grade, umpire and concentrate methods	1 standard, 1 duplicate, 1 blank
39	XRF methods	2 standards, 1 duplicate, 1 blank
40	Regular AAS, ICP-AES and ICP-MS methods	2 standards, 1 duplicate, 1 blank
84	Regular fire assay methods	2 standards, 3 duplicates, 1 blank

If necessary, additional quality control samples can be added. All data gathered for quality control samples is automatically captured, sorted and retained in the QC Database, and is available on Webtrieve™ for client review. This data may also be reported within analytical certificates upon request.

If any data for reference materials, duplicates, or blanks falls beyond the control limits established, it is automatically flagged red by the computer system for serious failures, and yellow for borderline results. The Department Manager conducting the final review of the Certificate is made aware that a problem may exist with the data set.

Every batch of samples analyzed has a dual approval and review process. The individual analytical runs are monitored and approved by the analyst. The final work order has a second and very detailed review prior to final work order approval and certification.

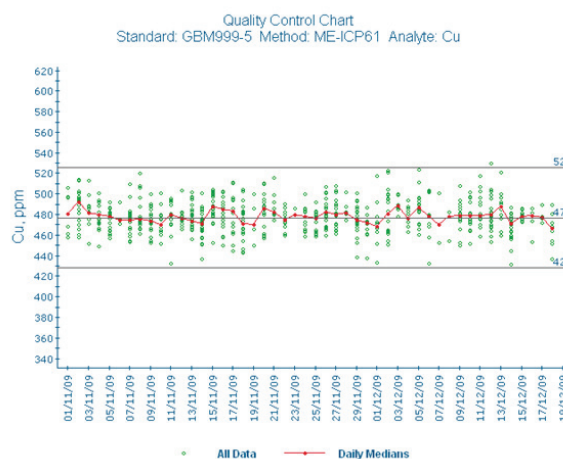


Figure 4 - Quality control chart for Cu (ppm) by 4-acid ICP analysis for standard GBM999-5, shown with individual determinations over time. Acceptable precision range shown in solid lines. These plots are available to clients on the ALS Webtrieve™ system.



Most geochemical procedures are specified to have a precision of ± 10%, and assay procedures are ± 5%. The precision of Au analyses is dominated by the sampling precision. Precision can be expressed as a function of concentration:

$$P_c = \left(\frac{\text{Detection Limit}}{c} + P \right) \times 100\%$$

where *P_c* - the precision at concentration
c - concentration of the element
P - the "Precision Factor" of the element.

(M. Thompson, 1988. Variation of precision with concentration in an analytical system. *Analyst*, 113: 1579-1587.)

Control charts for frequently used method codes are generated, evaluated and distributed to Departmental managers for posting in the lab on a weekly basis. The control charts are evaluated to ensure internal specifications for precision and accuracy are met. The data are also reviewed for any long-term trends and drifts. These control charts for standards and methods are available for client review on the Webtrieve™ system.

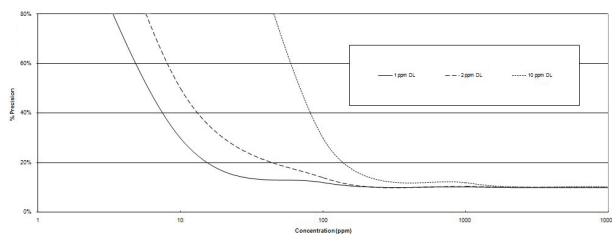


Figure 5 - Precision as a function of concentration (10% precision) is plotted for three different detection limits. The impact of detection limit on precision of results for low level determinations can be dramatic.

Round Robin & External Proficiency Tests

Proficiency tests provide an independent assessment of laboratory performance by an outside agency. Test materials are regularly distributed to the participants and results are processed by a central agency. The results are usually converted to a Z-score, to rate the laboratory's performance against the consensus value from all participating laboratories.

All ALS Minerals analytical facilities in North America participate in proficiency tests for the analytical procedures routinely done at each laboratory. The laboratories also routinely participate in proficiency tests organized by the Canadian Certified Reference Materials

Projects, Geostats and a number of independent studies organized by consultants for specific clients. ALS Minerals participates in certification studies for new reference materials for suppliers such as CANMET and Rocklabs. Feedback from these studies are reviewed carefully by the Quality Control group. The results are invaluable in ensuring our continuing accuracy and method validation.

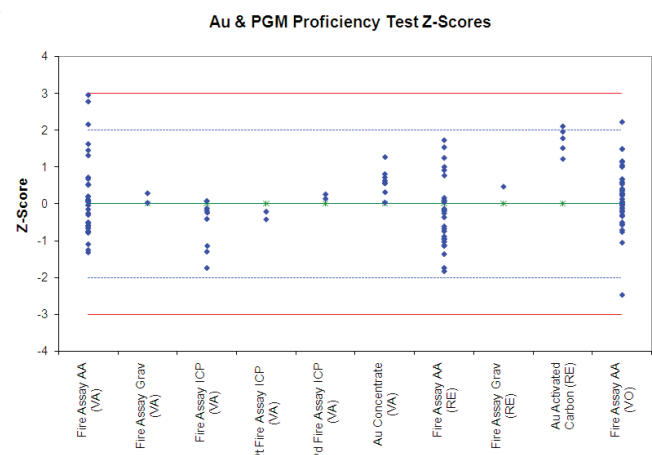


Figure 6 - Z-Score Round Robin test for several methods at 3 analytical laboratories.

Independent Quality Control Department

Commitment to quality control at ALS Minerals is provided by an independent quality control group. This group reports outside of Operations Management with a mandate to assure quality for clients and to monitor, track and resolve quality issues. This group provides weekly and monthly quality reporting to ALS Management. Regular check samples are sent to branches. Internal audits at each ALS Minerals facility are completed once/year to assure consistent quality across the network of ALS facilities. The group also leads an annual management review of quality control annually to provide assessment of the ALS quality systems at each laboratory.

At ALS Minerals, we believe that data quality is the foremost requirement of our business and as such, the quality function is an integral part of all day-to-day activities and involves all levels of ALS staff. Quality analytical data are our priority.