



Resource
Industry
Consultants



XRF

XRF Exploration Technology

CSA Global has been using field portable XRF (FPXRF) technology successfully in the minerals industry for over ten years in exploration, grade control and environmental applications. Our expertise in this field allows us to provide program design, data capture, interpretation of results and data management solutions for our clients as well providing FPXRF units for hire.

CSA Global's data collection, data management and GIS expertise provides an ideal platform to deliver support for training and ongoing support of FPXRF programs to the minerals industry. CSA Global has expert staff dedicated to FPXRF program design and management and to assist with any technical enquiries or the rental requirements you may have for an XRF instrument.

XRF is a well established laboratory technique for elemental analysis used all over the world. Recent advancements in this technology have allowed field portable XRF analysis at geochemical concentrations useful to the exploration geologist.

CSA uses Innov-X Handheld XRF units to assist miners, geologists and environmental scientists to save time and money by implementing on-site analytical programs. The units are highly versatile and able to analyse elements in solids, liquids, powders, cores, fragments, filters & films, and slurries.

Our Innov-X Handheld XRF units meet EPA Method 6200 for metals in soil, NIOSH Method 7702 for lead in air filters, and OSHA Method ID-204 for lead in air filters. The 8 RCRA Metals and Priority Pollutant Metals are easily monitored onsite.

CSA also offer a broad range of contract geochemical services to our clients including orientation surveys, mapping, drill sample analysis, grade control, baseline studies and environmental monitoring. Given our expertise in geology we are able fully integrate the results with geological understanding.

Exploration & Evaluation

- Research & targeting studies
- Exploration planning & supervision
- Field investigations (*mapping, geochemistry, drilling, etc.*)
- Project reviews & evaluation
- Technical & expert reporting

Data Management & Mapping

- Data capture & validation
- Database design & management
- GIS & mapping services
- Database hosting, security & audits
- Intranet design & setup

Resources & Mine Geology

- Data collection & QA/QC audits
- Geological modelling & Mineral Resource estimation (*JORC, NI.43-101, PERC, China, Russia, etc*)
- Resource assessment & expert reporting
- Mine geology reviews & contract services
- Grade control & dilution management

Mining & Projects

- Ore reserve reporting & classification
- Mine & operations design & strategy
- Engineering studies (*concept & PFS to BFS*)
- Due diligence & operational audits
- Strategic planning & productivity improvement

Community Development & Sustainability

- Impact assessment & sustainability programs
- Stakeholder liaison & community engagement
- Landscape interpretation & geotourism
- Educational workshops & training courses
- Sustainability benchmarking & certification

FPXRF PRACTICAL FIELD SOLUTIONS

Applications in Exploration:

Geochemical exploration - orientation, reconnaissance, or grid geochemical surveys – real-time detection of anomalies, no need to wait for lab results to carry out infill surveys

Mapping – regolith and outcrop mapping for real-time alteration and rock identification

Drilling – auger, RAB, aircore, RC, diamond - in field analysis direct from the sample, instant results and screening of samples sent for laboratory analysis



Applications in Mining:

Mapping – in pit or underground – obtain real time data at low cost and improve definition of ore waste boundaries and alteration haloes

Grade control – analysis of grab, channel, blast hole, RC and dump samples – low cost allows greater density of measurements, instant data provides greater flexibility in mine planning

Geometallurgy – multi-element analysis for input in flow sheets allowing real time refinement of processes

Applications in Environmental Studies:

Baseline studies – increase the density of sampling for the same cost

Contaminated sites assessment – ability to analyse surface exposures (insitu samples) reduces the dilutionary effects of whole sample analysis

Environmental monitoring – real-time results, allow earlier hazard identification and faster response time



About CSA Global

We are a leading geological, mining and management consulting company with 25 years experience in the international mining industry.

We cover all stages of the exploration and mining cycle:

Exploration & Evaluation

Data Management & Mapping

Resources & Mine Geology

Mining & Projects

Community Development & Sustainability

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