

Corporate Overview





AGAT Laboratories is a highly specialized, Canadian-based company that provides laboratory services worldwide. With over 40 years of experience, AGAT Laboratories is the most geographically and technically diversified laboratory in Canada. Our scientists are highly skilled and specialized in the fields of chemistry, biochemistry, microbiology, geology, engineering and specialty analysis. Committed to local communities, AGAT Laboratories aims to maintain our mission of “Service Beyond Analysis”.

AGAT Laboratories’ operations encompass 13 scientific divisions to offer full-service solutions to multiple industry types within the Environmental, Energy, Resources & Renewables, Minerals & Metals, Industrial, Transportation, Agri-Food, Life Sciences and Forensics sectors.

AGAT Laboratories specializes in the following scientific areas:

- Environmental Chemistry
- Ultra-trace and Toxicology
- Agricultural Analysis
- Food Testing
- Geology and Petrology
- Reservoir Characterization
- Air Quality Monitoring
- Petroleum Testing Services
- Oil Sands Analysis
- Advanced Rock Properties
- Core & Materials Testing
- Mining Geochemistry
- Lubricants Testing Services
- Geotechnical Testing Services

Core Values

- **Integrity** – We do the right thing for the right reason, upholding our ethics no matter the outcome, putting quality above all.
- **Accountability** – We admit when we are wrong and take ownership of our actions.
- **Respect** – We value personal diversity while treating all people with dignity.
- **Unity** – We support one another, share a common direction, lift each other up and celebrate our achievements as one.
- **Innovation** – We push the boundaries of science and technology to provide uniqueness in our processes, culture, and scientific advancements.
- **Passion** – We exude enthusiasm in all that we do, valuing the fun and enjoyable environment that we exist in while embracing every challenge along the way.

Our Purpose

To provide “**Service Beyond Analysis**” to three key pillars: **Our People**, **Our Clients** and **Our Communities**





| The AGAT Advantage

Experience

Since 1979, AGAT Laboratories has operated under the philosophy of continuous advancement in the field of science and technology through providing top quality and defensible analytical solutions for clients across the globe. Our team of scientists are highly skilled and specialize in the fields of chemistry, biochemistry, microbiology, geology, engineering and specialty analysis. Committed to local communities, AGAT Laboratories aims to maintain our mission statement in delivering “Service Beyond Analysis”.

Health, Safety and the Environment

Through our Health, Safety and Environmental (HSE) Program, we are committed to safeguarding the health and safety of our employees and clients. We provide all employees with the appropriate training to ensure that work is performed in accordance with the strictest government regulations. We aim to have minimal impact on the environment, taking a “Green” approach to all of our analytical services. Our environmental monitoring systems work in conjunction with all of our initiatives so that we can lessen our environmental footprint, while still providing optimal service.

Seminars and Laboratory Tours

AGAT Laboratories offers an extensive number of technical seminars and presentations for our clients. These seminars can be customized to client needs and are delivered in our training facilities, directly at

the client’s office, or in the form of industry focused live seminars held year over year. Laboratory tours accompany in-house presentations and can be arranged to help our clients gain a clear understanding of the internal workings of our laboratory facilities. In Calgary, the AGAT Foundation is able to provide a touring bus to allow larger tour groups safe and convenient transportation with the ability to view all of AGAT’s major laboratories and testing types. Our customizable tour package includes an in-depth presentation in the AGAT Foundation’s auditorium followed by in person demonstrations and explanations of key analyses performed in Calgary.

Research and Development

Our Research and Development Program continues to develop and expand key industry relevant projects to better understand and best navigate the developing technical business and regulatory markets. They represent initiatives designed to improve internal processes while continuing to offer new services and innovative solutions to our clients. By embarking on this research and development initiative, AGAT Laboratories remains on the leading-edge of the laboratory industry.

Instrumentation

AGAT Laboratories invests heavily in instrumentation and continually addresses advances in analytical technology in every field. This approach allows for increases in both process efficiencies and analytical sensitivity, resulting in cost benefits and performance improvements for both the laboratory and our clients.

Environmental Division

AGAT Laboratories offers comprehensive services to environmental consultants, the environmental industry, government and many other clients that seek to conduct environmental monitoring or meet environmental regulations.

Our services involve the analysis of air, water and soil for chemical contaminants impacting ecological, agricultural and human health pathways.

Our expertise is focused in the following divisions:

- **Environmental Chemistry:** Expert analysis for environmental applications such as organic chemical analysis of water, groundwater, wastewater, soil, sediment sludge and solid waste.
- **Ultra-trace and Toxicology:** Trace analysis of harmful, persistent pollutants such as Dioxins and Furans, Polychlorinated Biphenyls (PCBs), Per and Polyfluoroalkyl Substances (PFAS) and Polycyclic Aromatic Hydrocarbons (PAHs) from samples in varying matrices.
- **Air Quality Monitoring:** Services are designed to assist clients in evaluating the effectiveness of their air quality management systems through source emissions testing, ambient air monitoring, meteorological monitoring, passive air monitoring, fugitive emissions services and multi-sector air pollutants regulations (MSAPR) testing.
- **Forensics Testing:** Specialists analyze a variety of sample types looking at ignitable liquid residues (ILRs) in arson investigations, aged and mixed petroleum samples in ownership and liability disputes, and petroleum biomarkers when reviewing subsurface pathways in in-situ oil sands projects.

We employ a variety of environmental experts who are able to provide clients with concise results to meet specific guidelines regarding contamination and remediation. We understand that scientifically sound, legally defensible analytical data is a critical element to the success of an environmental project. As a result,

our environmental laboratories utilize CCIL, EPA, APHA, ASTM and NIOSH standard methods, as well as other industry methods, in accordance with both federal and provincial legislation.

Mining Division

AGAT Laboratories offers analytical services to support mining and mineral exploration companies in all stages of the mining processes from exploration and development to environmental monitoring and restoration. Our Sample Preparation Department takes pride in ensuring the most homogeneous sub-sample is prepared for analysis. Depending on the type and size of the sample, common preparation procedures may include drying, crushing, pulverizing or screening of the sample. Our geochemistry services cover multi-acid and aqua-regia digestions, sodium peroxide fusions and fire assays on hard rock samples. We also offer specialty services in a variety of leaching tests, Acid-Base Accounting (ABA) and kinetic cell testing.

With advanced instrumentation, our geochemical specialists are able to offer a wide range of detection levels, from sub-ppb required for geological mapping to percent levels used in grade studies and purity analysis in finished products. Instrumental determinations are accomplished using the most advanced techniques and equipment including:

- X-Ray Fluorescence
- Modern Flame Atomic Absorption Systems (FAAS)
- Inductively Coupled Plasma – Mass Spectrometry – Collision Reaction Cell (ICP-MS-CRC)
- Inductively Coupled Plasma – Optical Emission Spectroscopy (ICP-OES)
- Modern Elemental Analyzers



Energy, Resources & Renewables Division

AGAT Laboratories offers a wide spectrum of laboratory services tailored to meet the needs and demands of the petroleum industry throughout its entire life cycle, from exploration to production to end of life closure and reclamation. To accomplish this full service offering, we provide analyses from the following divisions within AGAT:

Petroleum Testing Services

These services specialize in the analysis and characterization of natural gas, condensate, crude oil and produced water. Our strategically placed branch locations provide field sampling and testing services for regulatory measurement requirements, meter calibrations, pipeline specifications, routine sampling, corrosion monitoring and plant optimization.

Rock Properties Divisions

Oil Sands Analysis: Our Oil Sands Division provides analytical measurements of petrophysical properties, lithology, porosity, oil and water saturation, permeability and density. Our systems have been setup to apply to all sorts of formation zones and production methodologies including oil sands mining, cold production (CHOPS), and insitu production (SAGD) of a variety of heavy oil types. As the largest oil sands testing facility in Canada, AGAT has the most diverse testing capabilities to support every aspect of exploration, production, enhanced oil recovery (EOR) and tailings management.

Core and Materials Testing: Analytical testing for core and cuttings programs integrate geological and engineering approaches to effectively solve any of our clients' problems in the areas of drilling, completion and production. In addition to oil and gas and mineral exploration testing, our unique services are designed to handle a full range of sample sizes and materials, including plastics, polymers, metals and fibers.

Geology and Petrology: Geological studies incorporate the use of thin section petrology, scanning electron



microscopy (SEM), x-ray diffraction, x-ray fluorescence and high resolution automated mineralogy to assess the geologic properties and diagenetic history of a rock. These same techniques and processes are also used to identify foreign organic and inorganic materials, assess failure mechanisms of rock, metals, construction materials and textiles and provide feedback on scaling tendencies in fluid/solid interactions.

Reservoir Quality and Characterization: Our team of engineers, geologists, chemists, and technicians provide services for Reservoir Engineering and production optimization. The multidisciplinary approach to projects we are involved with allows us to integrate both geological and engineering aspects in the exploration, development and management of petroleum reservoirs, from understanding fluid distribution and flow, to optimizing production schemes and evaluating new technologies. Through research and development initiatives, our team continually advances the science of reservoir characterization to remain a leading service provider in a continually evolving discipline.

Geotechnical Testing: Our team of geologists and engineers are able to support construction and tailings projects that range from a few samples to major infrastructure development. State of the art equipment including one of the largest geomechanics labs in Canada is used to meet the demands of the construction and mining industries. A wide range of testing is provided for aggregate, soil and concrete applications.

Industrial Division

AGAT Laboratories provides customizable analytical solutions for pulp and paper processing, chemical plants, metal manufacturing and infrastructure. Our Environmental Chemistry and Ultra-trace and Toxicology divisions assist companies in achieving environmental compliance with government regulations and in monitoring their pollution control systems for environmental sustainability. These services may include analysis for wastewater treatment, industrial waste reduction, gaseous emissions monitoring, industrial residual materials and more.

Services AGAT offers the industrial sector includes, but is not limited to:

- Indoor air quality testing
- Bulk Asbestos Analysis
- Chemical and physical characterization of products and contaminants using a variety of analytical techniques
- Failure analysis of stationary and mobile equipment.
- Preventative Maintenance Testing on Rotating Equipment
- Stacks and Effluent Emissions Monitoring
- Specialty projects for unique situations and applications

AGAT Laboratories encourages clients from all industry types to approach us with any of their potential analytical needs. We offer customized laboratory solutions for projects of experimentation, investigation or assessment that may fall outside of the mentioned typical analytical parameters. Our partnerships with certified sub-contractors provides us with the resources to complete any type of analysis with high quality results.

Transportation Division

AGAT Laboratories' Lubricants Testing Services specialize in a number of analytical tests to assist in mechanical diagnostic services for mechanical equipment used in various industries. Our clients can also utilize services from our Environmental Chemistry and Air Quality

Monitoring divisions for assistance in complying with environmental regulations or emissions monitoring. Our equipment reliability services include the following:

Lubricant Oil Analysis: Examples of contaminants include dirt, water, glycol, metals and fuel. Not only does oil analysis provide insight into the mechanical condition of the component, it also determines the condition of the oil itself. This type of analysis can be used to determine preventative maintenance strategies such as optimizing oil change frequencies, filter quality and scheduled downtime prior to failure.

Coolant Analysis: Poor quality coolant will corrode significantly more metal surface on liners, coolers, heat exchangers, radiators and other affected components in a given time period. As a result, it is extremely important that coolant analysis is performed annually, or when a coolant problem is suspected.

Failure Analysis: Involves the use of Scanning Electron Microscopy (SEM), Wear Particle Analysis, Energy Dispersive X-Ray Spectroscopy (EDX), and other analytical techniques when needed. We also employ the use of SEM to investigate various deposits of minerals and other contaminants on engine components. This is done as a preventative maintenance procedure to avoid issues or engine failure.

Contaminant Analysis: An investigation into lubricant contamination that can include fuel dilution, coolant leaks, free water, dust and dirt, process fluids, soot



content and harmful acids. Consistent analysis of in-service fluids for these contaminant conditions can predict and prevent failure.

Aviation Fuel Certification: Aviation Fuel testing can be done upon delivery, to verify and certify quality; after transportation, to confirm cleanliness and lack of contaminants, or after long-term storage, to verify usability of the fuel. Long-term storage of jet fuel can lead to fuel quality and stability issues. Bacterial and fungal growth, gum content, water, and particulate contamination are properties that should be monitored as part of a fuel quality program. AGAT Laboratories can provide a complete certification test package to include all requirements based on CAN/CGSB standards, a basic certification package, or a simple contamination screening package.

Life Sciences Division

Protecting the health of consumers, employees and the general public is an important priority for industries today. AGAT Laboratories can help industries achieve this priority, offering specialty analysis that can detect harmful toxins in environmental matrices or harmful contaminants to the body. Our analysis can trace pollutants back to their source and therefore reduce the impact that these pollutants have on humans.

Through our Ultra-trace and Toxicology Division, we offer low-level detection of Dioxins and Furans, Polychlorinated Biphenyls (PCBs), Polycyclic Aromatic Hydrocarbons (PAHs) and Per and Polyfluorinated Alkyl Substances (PFAS) in sample mediums such as water, soil, tissue and food.

Using the latest Mass Spectrometry, our testing parameters for Life Sciences monitoring also includes the following:

- Halogenated organics in environmental samples
- Nonylphenols and Nonylphenol Ethoxylates in waste water samples
- Mycotoxins and allergens in food samples and tissues
- Custom analytical scans as required



Agri-Food Division

Our laboratories offer services in food safety, development and consulting to ensure that our Agri-Food clients remain compliant with all necessary regulations.

Agricultural Analysis: We provide soil salinity test packages for testing site liability. Agricultural professionals utilize routine water chemistry packages to assess and classify the suitability of water quality for drinking or irrigation purposes. We also provide expert services ranging from basic fertilizer recommendations to complete soil profiling. Additionally, our Lubricants Testing Services can assist clients in monitoring the condition of their farming equipment.

Microbiology: Our laboratories use the most up-to-date methodologies and instrumentation for food safety and quality control. We utilize the BAX Q7 System which pinpoints pathogens on a genetic level, ensuring absolute certainty in the detection of bacteria and other microbes.

Food Chemistry: Our services provide information concerning the composition of products necessary to industries adhering to regulations on packaging and labelling of products. We are also able to offer our clients an accurate sample of a Health Canada approved Nutrition Facts Table. These labelling and formatting requirements can be provided for both Canadian and American food products.

Ultra-trace and Toxicology: We offer services for food profiling and contaminant identification. Using HRMS and LC-MS-MS instrumentation, we conduct trace level detection for the analysis of vitamins, sugars, antibiotics, mycotoxins, melamine and comprehensive pesticide residue screening in food samples.

Environmental Analysis: Many of our food industry clients have on-site water treatment facilities to effectively manage wastewater in a cost-effective manner. To ensure our clients remain compliant with all necessary regulations, our laboratory can analyze contaminants in water and soil as a complementary service to our food industry clientele. In addition, we

offer comprehensive indoor air quality evaluations along with analytical services for mould, bacteria and other chemicals.

Information Technology

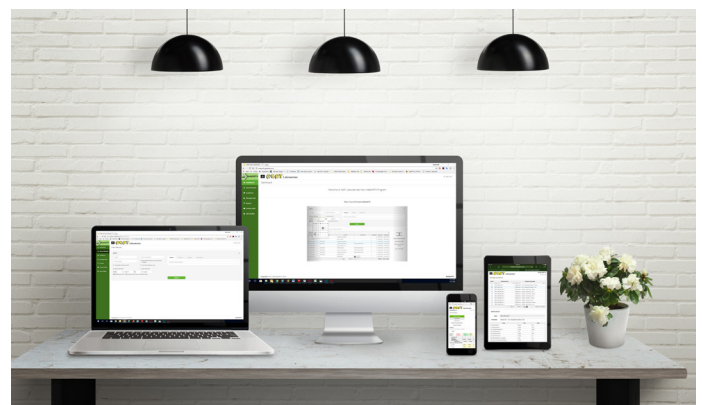
AGAT Laboratories has an Information Systems (IS) Department staffed with the best hardware and software specialists available. As a result, we employ a custom-designed Laboratory Information Management System (LIMS) that integrates data capture, real-time statistical process control, standard report generation, data integrity checks and more. Our IS Department has also designed division-specific programs to increase the efficiency and accuracy of our operations and laboratory personnel.

We also house specially designed software programs for our clients to access and manage information quickly, resulting in improved productivity, profit, performance and accuracy.

These web-based databases include the following:

- WebEARTH
- WebFOOD
- WebAIR
- WebCEMS
- WebFLUIDS
- WebOAS
- WebMINING

Please ask your AGAT Representative for a demo of any of these programs.

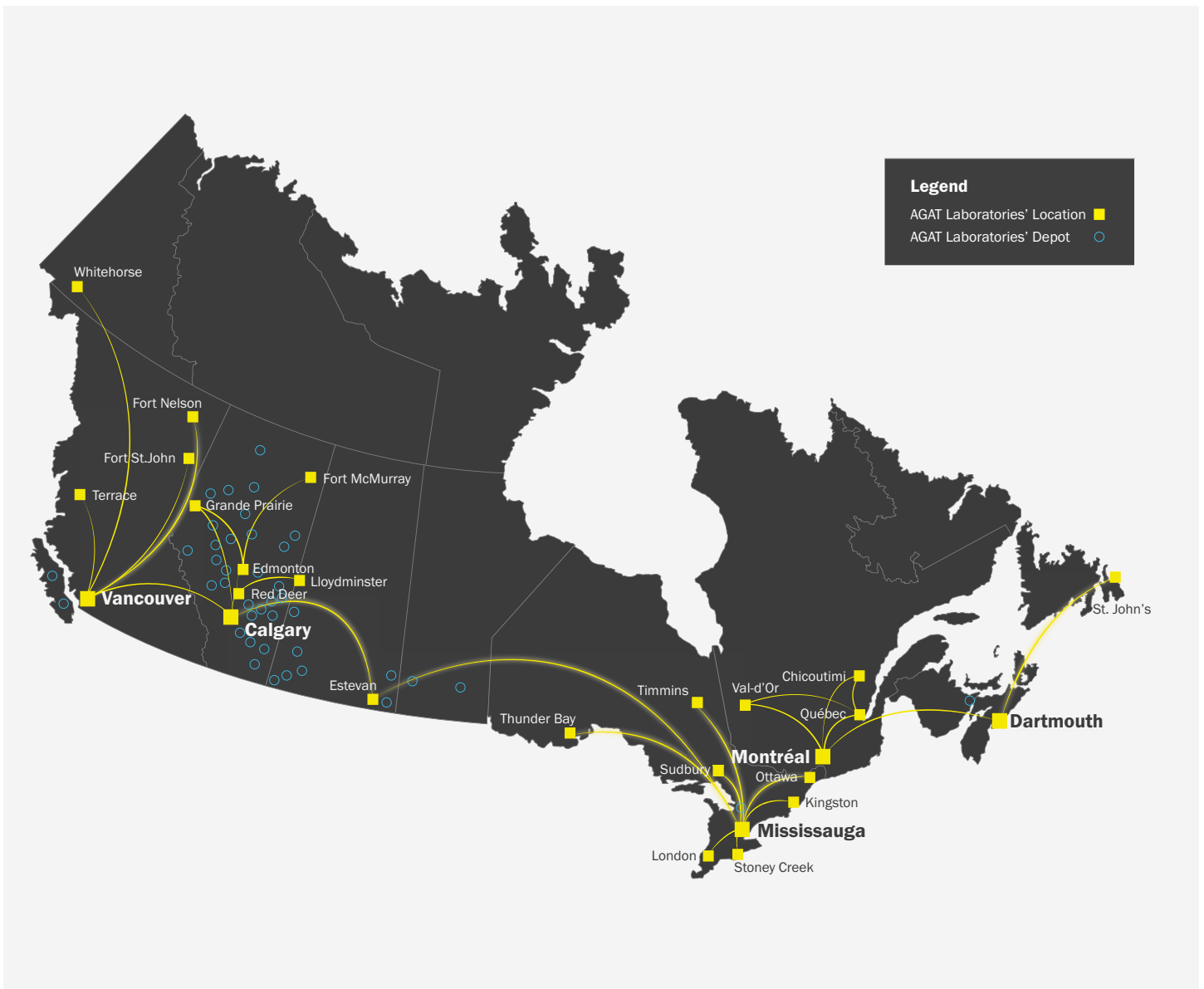


Proudly Canadian

AGAT Laboratories is proud to be a Canadian-based business and continues to invest in our company and the interests of Canada's communities. Our management team values and fosters continued development, diversification and innovation in science and technology which enables us to continually support and invest in key local regions throughout the country.

With locations coast to coast, AGAT Laboratories is the most geographically and technically diversified

laboratory in Canada. We are proud to set high standards in the laboratory industry with our mandate to provide timely and accurate for our clients' analytical needs with services ranging from routine testing to complex, multi-stakeholder projects. We are proud to continue offering 'Service Beyond Analysis', pursuing creative, accurate and defensible solutions to your complex analytical requests.



Accreditation

AGAT Laboratories is accredited or approved for specific analyses by the following:

- Canadian Association for Laboratory Accreditation (CALA)
- Standards Council of Canada (SCC)
- Canadian Council of Ministers of the Environment (CCME)

AGAT Laboratories is accredited, for specific tests, to the following standard:

- ISO/IEC 17025:2017

AGAT laboratories is certified to the following standard:

- ISO 9001:2015



AGAT Laboratories International Corporate Headquarters

Calgary, Alberta
Canada

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AGAT Laboratories



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