

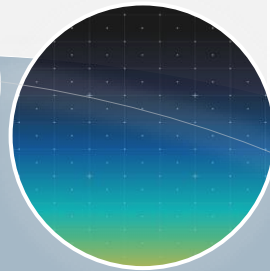
BIG GUNS ENERGY SERVICES



Your Trusted Partner in CCS GeoContainment™



BGES stands at the forefront of Canada's subsurface testing and evaluation services, recently spotlighted in the prestigious 2023 Energy Business Review cover story. With accolades including the 2022 “Company of the Year”, and recognition as Oil & Gas Canada’s “Consultant of the Year”, plus a spot among Alberta Oil Magazine’s “Top 200 companies”, we pride ourselves on delivering unparalleled solutions. Spanning across diverse sectors — from oil & gas to cutting-edge fields like carbon capture & storage (CCS) and hydrogen energy storage — our innovative approach continues to redefine industry standards.



Geocontainment is essential for the success of carbon capture and storage (CCS) initiatives, ensuring the safe containment of CO₂ in designated formations such as saline aquifers, depleted oil & gas reservoirs, and salt caverns, etc. Caprock integrity plays a crucial role in maintaining containment by sealing the CO₂ within the storage zone and preventing leakage pathways.

BGES offers comprehensive geocontainment and caprock integrity assessment services, ranging from wellsite core collection to geotechnical lab testing, in-situ testing, logging, data analysis, computer simulation, and project management.

Our multidisciplinary Geoscience & Engineering team collaborates closely with clients to provide tailored solutions at every stage of the CCS project lifecycle, minimizing environmental, operational, and financial risks. With our proven track record and commitment to excellence, BGES is well-equipped to support CCS initiatives and contribute to global efforts in combating climate change.

GEOCONTAINMENT EVALUATIONS

1



Core Recovery & Management

The evaluation process begins with meticulous wellsite core recovery and management, as effective lab results rely on preserving the core in pristine condition. BGES ensures success with onsite Professional Geologist / Engineer overseeing this process and transporting cores to our dedicated lab with utmost care.

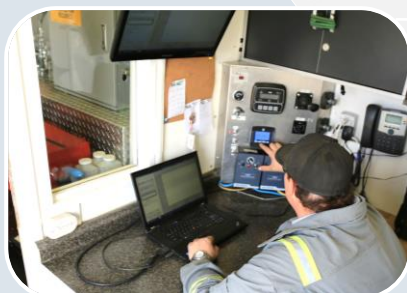
2

Geotechnical Lab Testing

At the lab, cores are preserved in a temperature-controlled environment for further analysis. BGES provides a range of lab testing services, featuring proprietary tests like ambient and high-temp triaxial analyses, along with multi-stress and multi-temp permeability tests, customized to meet specific needs.



3



In-situ Stress Testing

Field in-situ testing such as Diagnostic Fracture Injection Tests (DFITs) and Step-Rate Tests (SRTs) are performed by skilled technicians using advanced injection units. Insights into in-situ stresses of storage formations and caprocks are provided in a report by a specialized Professional Engineer (P.Eng / IntPE).

4

Injectivity / Mobility Testing

Injectivity or mobility testing is another vital form of in-situ testing offering insights into subsurface characteristics and fluid mobility. These tests provide reliable data on formation parameters, heterogeneities, layering, and connectivity, facilitating site selection and computer modelling.



5



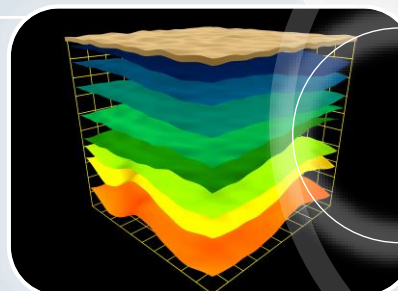
Cased-Hole Logging / Completions

For over two decades, BGES has excelled in cased-hole services, demonstrating expertise in logging, perforating, and decommissioning. Our specialized services include formation evaluation through casing, well and casing integrity assessment, cavern mechanical integrity testing, and fluid flow profiling.

6

Modelling & Simulation

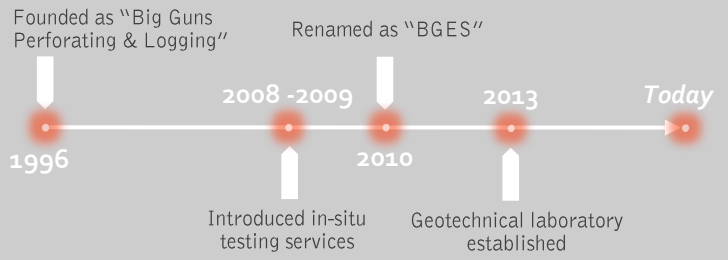
An integral component of geocontainment, our geomechanical models and simulations serve as essential tools for forecasting changes in in-situ stresses and parameters throughout the lifecycle of a CCS operation, ensuring caprock integrity and environmental protection.





COMPANY HISTORY

Originally founded in 1996 as a cased-hole wireline company, BGES has undergone a remarkable transformation into a technology-driven firm focused on geoscience, engineering, and data acquisition. With long-term clients including Canada's Big 4 oil producers and major utilities, we are trusted partners in the industry. As a leading provider of geocontainment evaluation for global clean energy initiatives, our core mission is to mitigate safety, environmental, and financial risks through technical expertise and operational proficiency.



Scientific

BGES excels in merging science and practice, leveraging expertise, and prioritizing work quality through real-world experience, cross-disciplinary knowledge, R&D, technology, and advanced testing methods.



Expertise



Quality-Focused



Integrated

We provide cost-effective solutions by seamlessly integrating services, streamlining field operations, and offering customized, flexible options to meet specific requirements.



Flexible



Cost-Effective



THE BGES ADVANTAGE

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