



# RDC

RESEARCH & DEVELOPMENT CORPORATION  
NEWFOUNDLAND AND LABRADOR

## GeoEXPLORE (2011-13)

Geoscience R&D in support of mineral and  
petroleum exploration and development

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The Research & Development Corporation (RDC) is a provincial Crown corporation mandated to improve the focus, quantity, quality and relevance of research and development (R&D) for the long-term economic benefit of Newfoundland and Labrador. Our success hinges on leveraging opportunities, enhancing collaboration and building new capacity as a R&D performer through strategic investments in people, research and infrastructure.

### Program Overview

Directed research is an internationally recognized program framework for accelerating R&D in priority areas. Directed research is often characterized as:

- *thematic* – target areas with significant potential to impact one’s economy and/or society;
- *problem solving* – R&D solutions to industry needs and technical challenges;
- *capacity building* – investments that build capacity as a R&D performer; and
- *collaborative* – fostering local, national and international collaboration among researchers.

Directed research typically involves a long-term commitment of funds and leadership in identifying R&D needs and opportunities. The priority areas and project scale varies by jurisdiction, industry and the intended outcome(s).

### Rationale

GeoEXPLORE (2011-13) is a RDC-directed research program. Recognizing the exploration and development potential of Newfoundland and Labrador’s mining and petroleum industries, RDC is investing in geoscience R&D projects, with relevance to industry and significant potential for economic impact in Newfoundland and Labrador. RDC’s Senior Geoscience Advisor will

champion this program and work with industry, academia and government to identify R&D opportunities that align with the program objectives.

Geoscience R&D is fundamental to successful mineral and petroleum exploration and development. Increasing knowledge of these resources offers significant potential to reduce exploration risks and costs, thereby enhancing discovery success and resource development opportunities throughout Newfoundland and Labrador.

Newfoundland and Labrador is characterized by diverse geological provinces that contain a great variety of rock types, geological ages, tectonic structures and depositional environments. Having that complex, geological legacy enhances the potential for hosting a variety of mineral deposits, including iron ore, uranium, gold, copper, nickel, rare earth elements, industrial minerals and others. Equally, the province's oil and gas potential includes exploration and development opportunities in the older rocks of the onshore/offshore of western Newfoundland (including unconventional shale gas plays) and in the younger rocks of the offshore continental shelf (including unconventional gas hydrates). Together, these two geological resources represent significant wealth-generating possibilities for the province.

## **Objectives**

GeoEXPLORE is intended to enhance geoscience R&D capacity, collaboration and industry innovation in support of mineral and petroleum exploration and development in Newfoundland and Labrador.

## **Target Areas**

GeoEXPLORE has identified five key R&D areas for RDC investment: research team awards; geoscience research tools and equipment; collaborative research projects; post-doctoral researchers; and industry-led R&D, technology development and demonstration.

### **1. Research Team Awards**

The objective of research team awards is to support academic-led research teams (i.e., two or more academic researchers, including faculty and students) that engage industry and other potential collaborators in support of targeted exploration and development opportunities in the province of Newfoundland and Labrador. Research team awards represent seed funding to

initiate or advance field and/or analytical lab-based research. They must have significant industry engagement, including financial contributions (cash and in-kind contributions) that support logistics related to field research, lab analysis and/or other research costs. These projects are identified through academic calls for proposals.

## 2. Geoscience Research Tools and Equipment

The objective of investing in geoscience research tools and equipment is to support academic-led, industry-engaged projects where new equipment is required to enhance R&D capacity and further exploration and development opportunities. Successful projects will have a strong business case for the investment, linked to specific research projects (i.e., current projects, or those planned for the upcoming field season), frequency of use, and multiple users (other academic researchers, industry and/or government). These projects are identified through academic calls for proposals.

## 3. Collaborative Research Projects

The objective of collaborative research projects is to encourage local, national and international collaboration among academia, industry and government researchers. Successful projects will have significant co-funding from the collaborators and other sources. Collaborative research projects must contribute to enhancing the potential for mineral or petroleum exploration and development in Newfoundland and Labrador. These projects may be funded at any time, as opportunities are identified through engagement with RDC and potential project collaborators.

## 4. Post-doctoral Researchers

The objective of support for post-doctoral researchers is to focus on industry-relevant R&D projects, where the post-doctoral researcher is embedded (supervised) in either academic research centres or government geological surveys and labs (federal or provincial). These positions may be supported for up to three years but require matching funds from the university, industry or government sponsors. Post-doctoral researchers may be funded at any time, as opportunities are identified through engagement with RDC and other potential co-funders.

## 5. Industry-led R&D, Technology Development and Demonstration

The objective is to support industry-led projects in the mining or petroleum sectors, including related technology providers and collaborators, where geoscience R&D could reduce exploration risk, increase discovery success, and support innovation through to resource

development. These projects may range from the development of new exploration tools through to new methods or technologies for enhanced recovery, processing, and initial development of mineral or petroleum resources, as well as for reduced environmental impact. These projects may be funded at any time, as opportunities are identified. It is recommended that industry project proponents contact RDC prior to development of a proposal.

## **Eligibility**

Eligible applicants vary by area. Research team awards, geoscience research tools and equipment, and collaborative research project applications will tend to be **academic-led** (i.e., academic researchers with geoscience-related expertise in mineral and petroleum exploration and development at Memorial University of Newfoundland, including its institutes and incorporated entities, and the College of the North Atlantic). Post-doctoral researchers could be collaborative with academia, industry or government partners.

**Industry-led** R&D projects require one or more companies in the mineral or petroleum industries to initiate and co-fund the project. If planning to hire post-doctoral researchers within your company and those positions will be located in Newfoundland and Labrador, companies are encouraged to consider RDC co-funding with NSERC's Industrial R&D Fellowships (IRDF).

## **Evaluation Process**

Alignment of research outcomes with industry needs, development opportunities, and potential for economic impact will be key considerations in evaluating and ranking GeoEXPLORE proposals:

- *Relevance to industry* – identified technical need; collaboration with companies; level of private sector intellectual engagement and material support (financial and in-kind contribution);
- *Potential for economic impact* – increased efficacy in resource exploration and discovery; R&D contribution to industrial innovation; positive impact on resource development opportunities; and

- *Contribution to geoscience R&D capacity* – scientific merit of the research; strengthening of R&D capacity; training of geoscience researchers and students (Highly Qualified Personnel); use of innovative methods and/or technology; dissemination plan for research results.

RDC funding must not displace funding available from other sources. Other considerations may include: project readiness, engagement of government geoscience research facilities and researchers, and alignment with provincial government priorities. Final determination of eligible costs rests with RDC. Any costs incurred prior to RDC receipt of a proposal are ineligible.

### **Application Process**

Submission requirements, eligible costs, and the level of R&D funding available will vary by program area. RDC's website will have specific information relating to each area as appropriate.



**For More Information:**

Prior to developing a proposal, stakeholders should contact RDC to discuss geoscience R&D funding opportunities.

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