Geoscience BC

ANNUAL REPORT **2018**

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Chair & CEO Welcome

2018: Completing Relevant New Research and Building a Strong Base

Stephanie Killam
CHAIR OF THE BOARD
GEOSCIENCE BC

Gavin C. Dirom
PRESIDENT & CEO
GEOSCIENCE BC

Geoscience BC completed a number of relevant research projects in 2018, building a strong foundation for future research projects based on strategic objectives related to mineral, energy and water resources in British Columbia.

Our 2018 annual report serves as the first 'report card' for Geoscience BC's *Strategic Plan 2018-2022*, which was published in April. We listened carefully to more than 400 people as we developed the plan, with perhaps the most significant change being the adoption of Water as a new Strategic Focus Area alongside Minerals and Energy.

Several projects completed in 2018 are already delivering new research that is advancing knowledge, informing responsible development, encouraging investment and stimulating innovation. For example, in January we published results from the Search Phase III airborne survey of 9,600 km^2 in northern BC. Designed to focus mineral exploration activities and advance research, the data was immediately welcomed by communities and the mineral exploration sector alike. Within six months of the data being released, 350 km^2 of new or amended minerals claims were acquired, sparking new research and exploration programs in the region.

Also in 2018, the four-year Peace Project concluded. This multidisciplinary study of groundwater resources in the north Peace region of northeastern BC has produced the first regional groundwater map in an area of significant oil and gas development. The research data are useful to the oil and gas sector, but project findings are also being used by a variety of groups focusing on water management in the Peace region, including communities considering water quantity and locations for domestic use.

Additional innovative and highly relevant research progressed in 2018. For example, the pioneering greenhouse gas measurement project GHGMap continued. This project is using a miniature optical instrument developed by NASA's Jet Propulsion Laboratory mounted on a drone to detect and analyze GHG emissions. It is generating the first Canadian GHG inventory based on real-time, remote data collection, dramatically improving the speed, accuracy, safety and cost of measuring GHG emissions. In 2018, field testing continued, with new funding from Western Economic Diversification Canada confirmed.

Geoscience BC's research on minerals, energy and water resources continues to be welcomed and supported by a wide range of people. This was exemplified by three resolutions that passed in 2018. The first two, from the British Columbia Chamber of Commerce, show support for a coordinated approach to British Columbia's public geoscience. A third resolution by the Union of BC Municipalities calls for the provincial government to continue funding Geoscience BC.

Thanks to everyone for sharing their ideas and demonstrating support for Geoscience BC and our partners in 2018. Together we have built a solid foundation as we look forward to providing more public geoscience that BC needs in 2019 and beyond.

GEOSCIENCE BC IN 2018

MINERALS

Identifying New Natural Resource Opportunities

Following the release of the new Search III earth science dataset in January, more than 60 new or amended minerals claims were acquired in the project area, covering 350 km^2. This was accompanied by new boots-on-the-ground exploration and research programs.

Advancing Science & Innovative Geoscience Technologies

We are funding projects that apply the latest science and technology to age-old mineral exploration challenges. Using machine learning, researchers analyzed geochemical data from stream sediments collected across the province to more accurately locate potential mineral deposits.

Facilitating Responsible Natural Resource Development

When a mine closes, operators are required to restore disturbed land to a defined condition. By supporting a new Industrial Research Chair in Ecosystem Reclamation at Thompson Rivers University, we are helping to deliver tools to monitor, measure and find new ways to improve the reclamation process.

ENERGY

Identifying New Natural Resource Opportunities

Northeastern BC is well-known for its extensive natural gas reserves but little research into the oil potential has been done since the widespread adoption of hydraulic fracturing. A 2018 Geoscience BC project identifies potential locations for high-value light and medium oil in northeastern BC.

Advancing Science & Innovative Geoscience Technologies

Our GHGMap project is building Canada's first greenhouse gas emission inventory using technology developed by NASA for its Mars missions. In March, the Western Economic Diversification Canada program announced additional funding to help us develop and test drone-mounted sensors to measure methane, ethane and carbon dioxide at sites that emit greenhouse gases such as wetlands, landfills, sewage treatment plants, agricultural feedlots, gas wells, infrastructure and pipelines, dams and thawing permafrost.

ENERGY

Facilitating Responsible Natural Resource Development

When an earthquake occurs, the shaking felt at the surface is greatly affected by the type of sediments the seismic waves travel through. We are supporting a ground motion hazard mapping project in the Peace Region of northeastern BC, where seismic activity from hydraulic fracturing and fluid injection at oil and gas sites can occur. The research will help industry to improve processes and protocols.

Enabling Clean Energy

In 2018, we launched a new Front-End Engineering Design (FEED) project to explore the opportunities and constraints of repurposing mature former oil and gas wells to build a pilot geothermal energy and heat plant at Clarke Lake in northeastern BC to determine if a pilot project is feasible and who the potential customers are.

WATER

Understanding Water

Water became a strategic focus area for Geoscience BC in 2018 in response to feedback received during the development of our *Strategic Plan 2018-2022*. A Strategic Task Force on Water comprising experts from industry, government, communities and academia was assembled to identify relevant water research priorities.

We published final results from the four-year multidisciplinary Peace Project 2018. The final report summarizes 16 individual pieces of research and provides the first detailed hydrogeological picture of aquifers in the Peace region, where there is significant upstream natural gas development.

PUBLIC ACCESS & DATA MANAGEMENT

Providing Public Access to Data

Maintaining Secure Digital Data

In addition to maintaining our primary vehicle for data delivery – the Earth Science Viewer – we added information for more than 180 Geoscience BC Minerals, Energy and Water projects to the Province of British Columbia's *BC Economic Atlas* online mapping tool in July 2018.

GOVERNANCE, MANAGEMENT & FINANCE

Ensuring Transparency, Accountability & Responsibility

Building Future Opportunities

With input from 400 people from a wide range of partners and interest groups, we developed and released the Geoscience BC *Strategic Plan 2018-2022* to guide the organization to achieve its vision and accomplish its mission over five years.

This was followed by a new *Scientific Project Plan* and *Annual Management Plan*. These help to ensure transparency and to further improve organizational planning and efficiency.

In June, we transitioned to the new British Columbia *Societies Act*, and completed related amendments to its Constitution and Bylaws in September.

We submitted a funding proposal to the Province of British Columbia in November.

EXTERNAL RELATIONS & COMMUNICATIONS

Increasing Awareness & Expanding Collaborative Network of Partners

Demonstrating Research Value & Building Broader Support

Serving Technical & Academic Partners

Increasing Geoscience Literacy & Capacity

Geoscience BC continued to build awareness and our network of partners in 2018. The number of people receiving regular updates by email and engaging with Geoscience BC's social media channels continued to increase.

We also ran a series of YouTube webinars, bringing together geoscience experts from around the world.

In June, we announced support for ten post-graduate students through our annual scholarship program.

Through the summer, resolutions were passed by the BC Chamber of Commerce and the Union of BC Municipalities supporting Geoscience BC's model and a coordinated approach to public geoscience.

MINERALS

Minerals and mining play a vital role in British Columbia's economy, with BC's gross mining revenue in 2017 reaching $11.7 billion[1] and demand for many minerals forecast to grow to meet the needs of a cleaner, greener economy.[2]

This section highlights Geoscience BC's Minerals research completed, ongoing or new in 2018.

[1] https://www.mining.bc.ca/sites/default/files/pwc_2017.pdf

[2] http://cleanenergycanada.org/wp-content/uploads/2017/06/MiningCleanEnergy2017-1.pdf

2018 MINERALS PROJECTS

COMPLETED 10

ONGOING 11

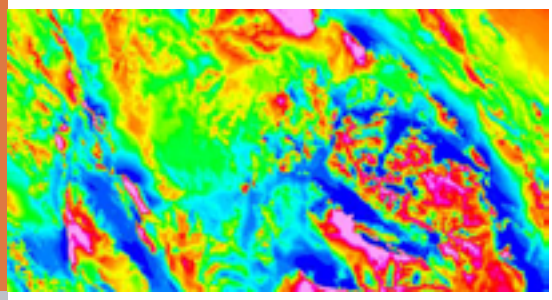
NEW 11

IDENTIFYING NEW NATURAL RESOURCE OPPORTUNITIES

Since 2005, we have conducted regional-scale surveys that deliver large datasets to help focus the search for mineral deposits, increase discovery rates and encourage responsible investment and development. We have flown nearly 500,000 kilometres of geophysical surveys by plane and helicopter over our QUEST, Search, and TREK project areas. On the ground, we continue to add value to existing datasets through research that includes ground-truthing studies, data interpretation and compilations at mining-camp scale.

Search Phase III

With a project budget of $1.8 million, Search Phase III surveyed a remote area of central northern and northeastern BC from the Kemess Underground mine project in the north to northwest of Mackenzie. In January, Geoscience BC released new, high quality data from the survey that covered 9,600 km^2.



In March, Serengeti Resources Inc. announced it had staked eight new mineral properties as a result of new data from the Search Phase III project. This was followed by a fieldwork program in 2018, bringing new investment into BC's local and provincial economies.

Cracking the Code to Central BC's Hidden Gold, Copper and Silver

In October, we published the final component of our $4.1 million Targeting Resources for Exploration and Knowledge (TREK) series of projects, which was launched in 2013 to understand why mineral deposits like Blackwater occur where they do. Researchers used modern, high quality geophysical and geochemical data generated early in the TREK project alongside field mapping to create a report and the most comprehensive geological map for the region to date. TREK generated significant new mineral data across a 24,000 km^2 area of BC between Anahim Lake, Burns Lake, Vanderhoof, Quesnel, and Williams Lake.

> **“One of the largest, highest quality**, and directly comparable surficial geochemistry data sets in North America.” **David Sacco,** Palmer Environmental Consulting Group Inc. (on the TREK project)

New Analysis Method to Locate Mineral Deposits

Using advanced analysis and modelling techniques, researchers identified 50 new targets in the TREK area with significant potential for undiscovered copper, gold, silver and molybdenum deposits.

Glacial Secrets

New data from two mineral projects published in February provide insight on how sediments left by glaciers at the surface in central BC can reveal what lies deep beneath the surface. Geochemists Pim van Geffen and Britt Bluemel integrated the chemistry data of till (glacial gravels and clays) to identify potential mineral deposits in the TREK project area.

Boosting Interest in a Historical Mining Region

A new geological map for the Greenwood area is the last in a series of six to encourage mineral exploration in the Regional District of Kootenay Boundary in southeastern BC. The new map provides an updated understanding of the relationships between different rock types and their ages around Greenwood, where there has been significant gold, silver, copper, lead and zinc mining dating back to the late 1880s. This latest map follows on from similar work on the nearby Almond Mountain, Christian Valley, Deer Park, Burrell Creek and Grand Forks map sheets. A final summary map and report will be published in 2019.

Virtual Slices Through Southeastern BC

This project targeted undiscovered sulphide mineralization in BC's Belt-Purcell Basin using a mix of public and private earth science data. This area hosts the now-closed Sullivan mine, which was one of the largest and highest-grade lead-zinc-silver deposits in the world.

The virtual two-dimensional (2D) slices through the earth created during this project provide new and valuable insights into the relationships between electrical conductivity and rock layers delineated by seismic profiles, which together can indicate elevated mineral potential, perhaps comparable to the deposit found at the Sullivan mine.

> **This map** provides data and information about new opportunities as well as existing deposits, knowing that new approaches could make them viable targets again.
>
> **Trygve Höy, Consultant**

New Research Opportunities

In July, six Requests for Proposals (RFPs) were released to generate Mineral project proposals that will produce new, relevant and unbiased earth science research and data to be shared publicly for the benefit of all British Columbians. Proposals were reviewed by the Geoscience BC Board of Directors in December.

The approved projects will produce earth science and baseline data for prospectors, explorers, mine developers, governments, community leaders and Indigenous groups. The data enables informed, evidence-based decisions about mineral resources, helps to identify and mitigate risk, answers specific environmental and social questions and stimulates investment, jobs and socioeconomic development in BC.

ADVANCING SCIENCE & INNOVATIVE GEOSCIENCE TECHNOLOGIES

The way earth science is generated, delivered and used is changing rapidly. At Geoscience BC, we are supporting and encouraging the application of innovative new technologies to generate independent and reliable earth science information for all users. In 2018, we published several reports from researchers who applied the latest data analysis, evaluation and modelling tools and technologies to exploration challenges.

A common exploration method used in BC is the collection of stream, glacial and lake sediments. Analysis of the chemistry and other characteristics of these materials helps explorers see through the covering sediments to potential mineral deposits below. While analysis adds tremendous value, it also generates enormous volumes of data. We are supporting researchers who apply new techniques to mine this data for potential new discoveries.

Machine Learning Pinpoints Mineral Deposits in Northwestern BC

Machine learning and more traditional analysis techniques were applied to geochemical data for almost 15,000 stream sediment samples collected over many years. In a report released in June, researchers found that a combination of existing data treatments and modern data processing techniques, including guided machine learning, could be applied to a geochemical data set to remove the influence of other rocks within the catchment and the impact of metal scavenging and dilution. This allowed them to better define concentrations of trace elements associated with specific mineral deposits in watersheds, and more accurately locate potential mineral deposits.

Improving the 'Washing' Process for Steelmaking Coal

A new water-based process is being developed to wash metallurgical steelmaking coal samples from BC coal mines prior to coal and coke quality testing. The Canadian Carbonization Research Association (CCRA) completed the first phase of a research project for the 'Roben Jig' process in February, with a second phase to better define the accuracy and utility of the process expected in early 2019. The goal of this research is to identify if the Roben Jig is a more efficient and 'cleaner' way of testing steelmaking coal samples.

An Apatite for Copper Discovery

BC is Canada's largest copper producer and currently exports about one million tonnes of copper concentrate each year from seven mines. Finding additional deposits to mine will help BC keep up with forecast increases in global copper demand.

In November, we published new research suggesting that when rocks form under conditions likely to create porphyry copper deposits, the common minerals apatite and titanite within them have a distinctive chemistry and specific appearance when viewed under a microscope.

FACILITATING RESPONSIBLE NATURAL RESOURCE DEVELOPMENT

Together with our research partners, we are conducting studies to improve understanding of the impacts of coal and mineral development. The information and data we generate will inform decisions relating to planning, monitoring, remediation and reclamation methods, approaches and tools.

Enhanced Mine Site Reclamation

Mine operators restore disturbed land to a defined condition upon mine closure, a process known as reclamation. We have funded research to deliver new tools to monitor, measure and find ways to improve the reclamation process. In August, we partnered with the first Industrial Research Chair in Ecosystem Reclamation at Thompson Rivers University supported by the Natural Sciences and Engineering Research Council of Canada to work on two new projects.

Storing topsoil in piles for the purpose of future mine site reclamation.

Using DNA sequencing, this project is measuring the soil microbiota to establish the health of topsoil stockpiles at numerous mine sites around BC and is testing if soil amendments improve the health of the topsoil.

Measuring biodiversity more accurately at undisturbed and reclaimed sites.

Using tent-like structures called 'malaise traps' to capture flying insects and pitfall traps to capture small ground insects, this project is using DNA analysis to test invertebrate species diversity and composition to more accurately measure biodiversity in undisturbed areas and at reclaimed mine sites in BC.

ENERGY
Oil & Gas

The oil and gas sector plays a vital role in British Columbia's economy, providing essential energy products to global markets, supporting thousands of jobs and contributing billions of dollars in revenue.

Through our energy research, we are identifying new economic energy opportunities, helping to answer specific environmental and social questions and addressing concerns by supporting projects that identify and mitigate risk.

This section highlights Oil & Gas research completed, ongoing or new in 2018.

2018 OIL & GAS PROJECTS

COMPLETED 1

ONGOING 6

NEW 1

IDENTIFYING NEW NATURAL RESOURCE OPPORTUNITIES

The independent, public earth science data we generate about BC's energy resources is helping to identify new natural resource opportunities and efficiencies through joint research and partnerships.

High-Value Oil Potential in Northeastern BC

In September, we published a report that identifies potential sources of valuable light to medium oil from northeastern BC's portion of the Western Canada Sedimentary Basin. Light oil generally flows freely at room temperature and is significantly more valuable than heavier oils because it is more easily converted into gas and diesel products.

Northeastern BC is well known for its natural gas reserves, but little research has been done to identify the potential for accessing lighter oil since the widespread adoption of horizontal drilling and multi-stage hydraulic fracturing. Researchers graded the potential for high-value light and medium oil in 27 formations in northeastern British Columbia. Eight of the 27 considered received an A, A/B, or B grade and have potential to be developed.

> "**This project has the potential** to bring investment in light oil development to northeastern BC. This has significantly lower environmental impact than the heavier oils associated with Alberta's oil sands and could also help to diversify British Columbia's economy."
> **Brad Hayes, Petrel Robertson Consulting Ltd.**

ADVANCING SCIENCE & INNOVATIVE GEOSCIENCE TECHNOLOGIES

We are supporting research designed to improve the economic competitiveness of the Montney Play, BC's most active natural gas production region, through advanced science and innovative geoscience technologies.

New Project Maps 'Sour Gas'

Sour gas is natural gas that contains measurable amounts of hydrogen sulfide (H_2S). Even in small amounts, H_2S can turn 'sweet' natural gas into 'sour gas.' Pipelines and gas processing plants that handle sour gas must be constructed from costly corrosion-resistant steel. If the gas from a well changes from sweet to sour, infrastructure must be retrofitted, adding huge costs and time delays to an operation.

In September, we launched a new project to map and predict sour gas and hydrocarbon liquids in important unconventional reservoirs in parts of the Western Canadian Sedimentary Basin in northeastern BC, including the Montney, Doig, and Duvernay formations.

The predictive maps of the distribution of H_2S-bearing gas from this study will help natural gas operators plan more cost-efficient gas development programs. They will also provide regulators with data to optimize natural gas development while communities and Indigenous groups will be able to use the data to understand potential for natural gas development.

FACILITATING RESPONSIBLE NATURAL RESOURCE DEVELOPMENT

One of our strategic goals is to support the responsible development of the Montney Play – an area in northeastern BC that is rich in natural gas. Research aiding H_2S prediction and safe fluid and acid gas disposal is helping producers to optimize project economics and mitigate risk.

Mapping Ground Motion Hazards Maps in Northeastern BC

Understanding how seismic waves travel through different soils and sediments is important information for engineers designing infrastructure and seismologists who study the effects of earthquakes.

What is felt at the earth's surface can be greatly affected, either increased or decreased, by the type of sediments. Generally, fine-grained sediments, like clay and muds, will 'amplify' seismicity that might not otherwise be felt at the surface. Understanding these surface sediments will allow scientists to assess risks and hazards from human-induced earthquakes in the region. We are supporting a ground motion hazard mapping project in the Peace Region of northeastern BC, where seismic activity from hydraulic fracturing and fluid injection at oil and gas sites can occur. The information will be used to improve industry processes and protocols to mitigate any risk of damage resulting from seismic activity. A final report is due in early 2019.

Annual oil and gas gross revenue in British Columbia is valued at $6.4 billion (2017) and forecasts indicate an increase in natural gas production.

One third of Canada's natural gas comes from operations in BC.

❝ **Geoscience BC** (is) breaking new ground and demonstrating the kind of leadership that will ensure Canada's place among the world's technological leaders for years to come. ❞ **Jonathan Wilkinson** Minister of Fisheries, Oceans and the Canadian Coast Guard

ENABLING CLEAN ENERGY

We are investing in research to identify and develop innovative and practical ways to detect greenhouse gas emissions associated with natural gas development, including methane. This will help energy companies to reduce their impact and inform government to ensure models used to estimate emissions are accurate.

GHGMap Project Receives Federal Funding

In March 2018, the federal Western Economic Diversification Canada program announced additional funding for our GHGMap project, which is developing and testing drone-mounted sensors to accurately and cost-effectively measure emissions of methane, ethane and carbon dioxide at sites that emit greenhouse gas emissions. These include natural and industrial sites such as wetlands, landfills, sewage treatment plants, agricultural feedlots, gas wells, infrastructure and pipelines, dams and thawing permafrost.

GHGMap is building Canada's first greenhouse gas emission inventory based on actual data as opposed to the emissions models currently used for reporting. This will help governments and site operators to improve protocols and legislation, as well as cost-effectively verifying emission reductions.

ENABLING CLEAN ENERGY

We continue to support geothermal resource mapping and research that focuses on economically viable projects and sites with high geothermal energy potential.

The BC Oil and Gas Commission (OGC) was made the provincial regulator of geothermal resources in early 2017 and issued its first geothermal well authorization under the *Geothermal Resource Act* in May 2018. It holds a substantial public database of well data following many years of oil and gas development in northeastern BC, providing a wealth of information about the rocks and groundwater below the surface.

Geoscience BC has been working with this well data to build a better understanding of geothermal potential.

Favourable Areas for Geothermal Development in BC

In October, we released a report that used data from the OGC database to assess potential electricity production and the cost of geothermal power plants in northeastern BC at Horn River, Clarke Lake, Prophet River and Jedney. Researchers from The University of Victoria calculated the amount of electric power that could be generated and developed simple economic models to identify the cost of energy production. The results from this project build on previous geothermal research in the area to improve understanding of the economics of geothermal exploration and development in northeastern BC.

A Geothermal Facility at Clarke Lake?

The Clarke Lake natural gas field is about 14 kilometres southeast of Fort Nelson in the far northeast of the province, and is in the Horn River Basin, BC's second largest natural gas basin. Unlike other sites with potential geothermal resources in BC, its history as a natural gas field means there is already a significant amount of data about the area available. In a report published in October, researchers from the University of Alberta generated a model of the Clarke Lake geothermal reservoir using existing geological and hydrogeological information. The results suggest that Clarke Lake may be a good potential candidate for BC's first geothermal power plant facility.

Clarke Lake: Gas Wells Recycled for Geothermal Power Generation

In late 2018, we launched a new Front-End Engineering Design (FEED) project to explore the opportunities and constraints of repurposing mature former oil and gas wells to build a geothermal pilot plant at Clarke Lake. The project is assessing the feasibility of implementing the pilot project from a site servicing perspective, as well as assessing the potential customer base for power and prospective heat recovery.

In partnership with the Geological Survey of Canada, we will soon be launching a suite of multidisciplinary projects to assess the power generation potential from geothermal resources in one of Canada's most prospective areas for geothermal power development: the Garibaldi Volcanic Belt in southwestern BC.

ENERGY
Geothermal

Geothermal resources may play a role in British Columbia's long-term energy strategy as we transition to alternative sources of energy for electricity and heat.

Our Geothermal research focuses on projects and sites with high potential, to provide communities and decision-makers unbiased data for informed decisions.

This section highlights Geothermal research completed, ongoing or new in 2018.

2018 GEOTHERMAL PROJECTS

COMPLETED 2

ONGOING 0

NEW 2

WATER

With thousands of lakes, rivers, streams and aquifers, fresh water is one of British Columbia's most important natural resources, supporting our environment, economy and quality of life.

This section highlights Water research completed, ongoing or new in 2018, as well as outlining the future direction of Geoscience BC's Water research.

2018 WATER PROJECTS

COMPLETED 1

ONGOING 5

NEW 0

UNDERSTANDING WATER

Strategic Task Force on Water

In response to a growing demand for independent water research in BC, we added water as a specific research area in our *Strategic Plan 2018-2022*. In October, we assembled experts from industry, government and academia to launch a Strategic Task Force on Water to identify research gaps beyond work already conducted by others and already included in Geoscience BC's Minerals and Energy research areas.

The Strategic Task Force on Water delivered its report to the Board of Directors in December 2018. An announcement is expected in early 2019.

Groundwater Monitoring in Northeastern BC

In March, we launched a project to install 30 scientific groundwater monitoring wells within the Peace region in northeastern BC, in collaboration with the BC Oil and Gas Commission, the Energy and Environment Research Initiative at the University of British Columbia, Simon Fraser University and the University of Calgary. The data collected from these wells will help to address some aspects of public concern around oil and gas activities and naturally-occurring groundwater methane in the Peace region.

> **"This new research project** will generate high quality scientific data to address concerns related to resource development in the Peace Region. **" Dr. Aaron Cahill,** Energy and Environment Research Initiative, University of British Columbia

PEACE PROJECT

New Baseline Groundwater Data for the Peace Region

The Peace Project was a four-year multi-disciplinary study providing baseline information about groundwater in the Peace region of northeast BC. The new data generated between 2015 and 2018 has provided foundational groundwater information to improve knowledge of aquifers in an area of significant natural gas development.

In May, we published the comprehensive final report from the Peace Project. Written by groundwater experts at Simon Fraser University, the report summarizes 16 articles of research conducted since 2015 in a region where impartial, scientific data about groundwater is invaluable not only to natural gas companies, but also to communities, Indigenous groups and government.

Peace Project Key Findings:

- **Surface geology in the Peace Region is complex, and the depth of a layer of sediments covering bedrock varies significantly.**
- **Sediments near the surface in the Peace region are not sufficiently interconnected over large areas nor do they contain quantities of water suitable for industrial uses or as water sources for large communities.**
- **The networks of aquifers near the surface may be suitable for other uses, such as domestic water wells.**
- **Other water sources deeper in the bedrock may be suitable for industrial uses, but further research is required.**

3D Model Identifies Potential Groundwater Sources

In March, we published a new report by Aarhus Geophysics and the Geological Survey of Denmark and Greenland who processed data from the Peace Project's helicopter electro-magnetic (EM) survey and incorporated well log information from previous studies. This created two-dimensional slices and three-dimensional models of the northwest corner of the Peace Project area. The models identified over 30 layers within the top 300 metres and two generations of paleovalleys, narrowing down the location of these potentially important groundwater host units. The results can be used to predict the location of groundwater down to 300 metres below the surface with more accuracy than ever before.

More Accurate Predictions to Locate Groundwater

In March 2018, we published a report from researchers Dr. Mel Best and Dr. Vic Levson, which compared resistivity gamma and geological logs from an eight-well drilling program with airborne electro-magnetic (EM) inversions to make more accurate predictions in areas where well and drill logs are not available.

GOVERNANCE, MANAGEMENT & FINANCE

Board of Directors

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District of Mackenzie (retired Mayor)

Donna Phillips, Vice Chair
Executive Vice President, Corporate Development, Canbriam Energy Inc.

Jeff Christian
Partner, Lawson Lundell LLP

Gavin C. Dirom
President & CEO, Geoscience BC

Michael Gatens
Unconventional Gas Resources Canada (former CEO, retired)

Doug Konkin
Adjunct Professor, University of British Columbia

John Milne, Treasurer
Audit Partner, KPMG LLP

Nalaine Morin
Principal, ArrowBlade Consulting Services

Christine Ogryzlo
President & Communications Manager, Smithers Exploration Group

Robert Quartermain
Executive Chairman, Pretium Resources Inc.

Carlos Salas
Executive Vice President & Chief Scientific Officer, Geoscience BC

Alan Winter
Innovation Commissioner, Province of British Columbia

Geoscience BC employs nine staff members, and is supported by more than 70 volunteers who contributed an estimated 1,450 hours in 2018. This includes a volunteer Board of Directors consisting of up to 13 members with a variety of backgrounds and interests. The Board is responsible for the overall governance and strategic direction of the organization, including research project budgets based on recommendations from the Board's three standing Technical Advisory Committees (TACs).

ENSURING TRANSPARENCY, ACCOUNTABILITY & RESPONSIBILITY

In June, Geoscience BC transitioned to the new British Columbia *Societies Act,* and completed related amendments to its Constitution and Bylaws in September.

Mike Cathro stepped down from the Board of Directors after seven years of service, the last three as Chair of the Board, and Director Stephanie Killam was appointed the new Chair at the 13th Annual General Meeting in September. Directors Brad Armstrong, who has served for four years, and Richard Dunn, who has served for eight years, also stepped down at that time. Two new Directors were appointed: Jeff Christian, partner at Lawson Lundell LLP, and Michael Gatens, founder and former CEO of Unconventional Gas Resources Canada.

A new activity-based cost centre budget system was developed in 2018 and an independent financial audit of Geoscience BC was conducted by Beauchamp & Company LLP Chartered Professional Accountants.

In October, Laura Wytrykush joined Geoscience BC in the new role of Manager, Energy and Water. Laura is responsible for the implementation and technical management of Geoscience BC's energy and water-related research projects.

BUILDING FUTURE OPPORTUNITIES

In April, Geoscience BC published its *Strategic Plan 2018-2022*, which sets out the priority focus areas and strategic objectives for the next five years. Geoscience BC's management implements the Strategic Plan through a multi-year Scientific Project Plan and an Annual Management Plan with an administrative budget.

The Minerals & Mining, Oil & Gas and Geothermal TACs are made up of Board-appointed expert volunteers with specific technical expertise to identify, plan, develop and review earth science research projects. The TACs are responsible for making project recommendations to the Board for final review and decision.

Geoscience BC submitted a comprehensive funding proposal to the Province of British Columbia in November.

Technical Advisory Committees

Minerals & Mining

James Barr Tetra Tech Canada Inc.

Peter Bradshaw FPX Nickel Corp.

Greg Dipple Bradshaw Research Initiative for Minerals and Mining, UBC

Gavin C. Dirom Geoscience BC

Fil Ferri BC Geological Survey, Mineral and Mining Resource Division

Craig Hart Mineral Deposits Research Unit, University of British Columbia

Alf Hills Consultant

Jacques Houle Consultant

Julie Hunt Mineral Deposits Research Unit, University of British Columbia

Steve Irwin Geological Survey of Canada, Natural Resources Canada

Fiona Katay BC Ministry of Energy, Mines and Petroleum Resources

Jules Lajoie Can Alaska Uranium Ltd.

Jim Lang Hunter Dickinson Inc.

Bruce Madu Geoscience BC

Nalaine Morin Arrowblade Consulting

Carlos Salas Geoscience BC

Diana Sollner Consultant

Alastair Still Goldcorp

Pim van Geffen VanGeochem

Oil & Gas

Dan Allan Canadian Society for Unconventional Resources

Deanna Cottrell Shell

Gavin C. Dirom Geoscience BC

Tannis Gibson Saguaro Resources Ltd.

Bruce Hancock Encana

Brad Hayes Petrel Robertson Consulting Ltd.

Randy Hughes Painted Pony

Elizabeth Johnson BC Ministry of Energy, Mines and Petroleum Resources

Jeff Johnson BC Oil and Gas Commission

Carlos Salas Geoscience BC

Clint Tippett Canadian Society of Petroleum Geologists

Geothermal

David Chapman University of Utah (Professor Emeritus)

Gavin C. Dirom Geoscience BC

Grant Ferguson
University of Saskatchewan

Stephen Grasby Geological Survey of Canada, Natural Resources Canada

Cathie Hickson Geothermal Canada

Sarah Kimball BGC Engineering Inc.

Jasmin Raymond Institut National de la Recherche Scientifique – Eau Terre Environnement

Tim Sadlier-Brown
Sadlier-Brown Consulting Ltd.

Carlos Salas Geoscience BC

Nathalie Vigouroux-Caillibot
Douglas College / Simon Fraser University (adjunct)

Warren Walsh BC Ministry of Energy, Mines and Petroleum Resources

Jeff Witter Innovate Geothermal Ltd.

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Ron Prasad BSc, Adv. Dip. GIS
GIS Specialist

Candice Appleby
Office Manager & Communications Coordinator

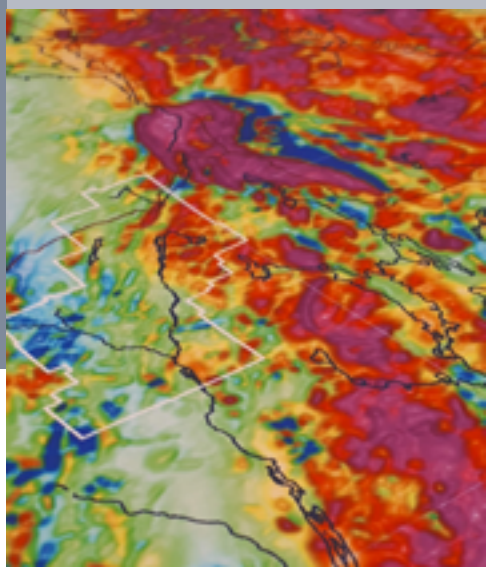
Rhonda Schultz
Accountant & Corporate Secretary

Earth Science Viewer

Geoscience BC's Earth Science Viewer is a powerful online tool to view projects, reports and data alongside select valued information such as mineral, placer and coal tenures from other sources.

You can access the Earth Science Viewer from the Geoscience BC homepage or by visiting:

http://www.geosciencebc.com/s/WebMaps.asp



“ By adding data from Geoscience BC to the *BC Economic Atlas*, people now have access to more information that's relevant to British Columbia's rich natural resources sector, making the *BC Economic Atlas* an even more valuable tool for exploring economic opportunities in BC. **” Bruce Ralston,** Minister of Jobs, Trade and Technology

PUBLIC ACCESS & DATA MANAGEMENT

PROVIDING PUBLIC ACCESS TO DATA

Geoscience BC provides reliable, simple and efficient public access to accurate scientific information and quality project data at no cost to end users through online platforms, applications and data sharing agreements with partners.

All Geoscience BC projects and reports are added to the Earth Science Viewer. This is a powerful tool hosted on the Geoscience BC website that makes it easy to view and compare project information and data alongside selected information from other sources such as the Government of British Columbia.

We understand that some users want to access information in other ways or use it alongside different data. With this in mind, project and report information for more than 180 Geoscience BC projects was added to the Province of British Columbia's *BC Economic Atlas* online mapping tool in July.

The *BC Economic Atlas* is a user friendly, publicly available web-based mapping application. It is a hub for business and investment information.

In June, we released a new compilation of every Geoscience BC geochemistry sample ever collected or reanalyzed. The geochemistry compilation is now available on the Earth Science Viewer, providing easy access and analytical results for more than 60,000 samples.

The work was carried out by practicum student Adam Czecholinski as part of his GIS Advanced Diploma Program at BCIT, with oversight from Geoscience BC's GIS Specialist Ron Prasad. The new compilation includes data from over 33 Geoscience BC reports and provides improved detail about the collected samples including field observations, analytical results and analysis methods. The map tip for the geochemistry layer on the Earth Science Viewer has been redesigned to provide important sample information at a glance.

MAINTAINING SECURE DIGITAL DATA

During 2018, Geoscience BC completed an audit of all projects, reports and data to make sure that information from projects dating back to 2005 is easily available and in the right place. This also ensures that systems are in place to continue to reliably deliver information for future projects.

This work meets our strategic goal of maintaining safe and secure databases, digital data project libraries, information technology infrastructure and management controls to professional standards and practices.

EXTERNAL RELATIONS & COMMUNICATIONS

INCREASING AWARENESS & EXPANDING COLLABORATIVE NETWORK OF PARTNERS

As part of the *Increasing Awareness & Expanding Collaborative Network of Partners* Strategic Objective, Geoscience BC met with Ministers and representatives from British Columbia's ministries of Advanced Education; Energy, Mines & Petroleum Resources; Environment & Climate Change Strategy; Finance; Forests, Lands, Natural Resource Operations & Rural Development, Indigenous Relations & Reconciliation; Jobs, Trade & Technology; the Public Safety and Solicitor General; and BC Premier John Horgan in 2018.

BC's business community showed its support for public geoscience by advocating for continued funding for the BC Geological Survey and Geoscience BC's Minerals, Energy and Water research in the BC Chamber of Commerce's 2018 *Policy and Positions Manual*.

Geoscience BC met with community leaders throughout the year, and attended a series of local government association conferences. This included a resolution passed by the North Central Local Government Association supporting provincial funding for Geoscience BC. The same resolution was supported at the Union of BC Municipalities conference in September. To ensure Geoscience BC information is easy to access, three quarterly email newsletters were distributed in 2018, and our social media following and engagement continued to grow.

DEMONSTRATING RESEARCH VALUE & BUILDING BROADER SUPPORT

Much of the work towards the *Demonstrating Research Value & Building Broader Support* Strategic Objective in 2018 related to major research projects. This began in January with attendance at the AME Roundup conference in Vancouver, where new minerals data from the Search Phase III project was published. In March, Western Economic Diversification Canada announced additional funding for the GHGMap project at the #BCTECHSummit. There were also presentations to British Columbia's Select Standing Committee on Finance and Government Services, the Scientific Hydraulic Fracturing Review Panel and the Mining Jobs Task Force.

Conversations with several First Nations regarding potential agreements took place and Geoscience BC continued to participate in the Business Council of British Columbia's Indigenous Affairs and Reconciliation Committee. In November, Geoscience BC attended and presented at the Nation2Nation conference.

SERVING TECHNICAL & ACADEMIC PARTNERS

Published in January, the annual *Summary of Activities* volumes contain papers on every ongoing Geoscience BC project and are an important element of the *Serving Technical & Academic Partners* Strategic Objective. Vancouver's Resources for Future Generations conference was a unique opportunity to present to a broad and international audience and featured more than 20 talks about Geoscience BC research as well as GHGMap project demonstrations. Other technical and academic forums included GeoConvention 2018, Canadian Society for Unconventional Resources events, the Kamloops Exploration Group conference, Minerals North and Minerals South.

Webinars

We have heard from the people who use our research that they often don't have budgets or time to attend events about our projects.

Also, the wide range of researchers involved and interested in Geoscience BC research are sometimes spread across the globe. With this in mind, Geoscience BC ran three webinars in 2018 about the Minerals Request for Proposals process and to conclude the Peace Project groundwater mapping project.

The Peace Project webinar brought together experts from four different time zones and was watched live by more than 30 people. The webinar was added as a video to our website and YouTube channel and was watched by over 190 people in the first week.

Research Data for Indigenous Groups

Geoscience BC met with representatives from the Carrier Sekani Tribal Council and Tsay Keh Dene before and after the publication of new Minerals data from the Search Phase III project in 2018. This was followed by workshops to explain the data and how it can be used with Tsay Keh Dene staff and lands managers from Carrier Sekani First Nations.

SCHOLARSHIPS

INCREASING GEOSCIENCE LITERACY & CAPACITY

Geoscience BC awards scholarships annually to graduate students working on British Columbia-based projects to increase geoscience literacy and capacity. In 2018, ten projects were funded, covering subjects ranging from volcanic hazard assessment, to gold and copper deposit origins, to characterizing hydrocarbon deposits.

New Exploration Model for IKE Copper Deposit

MSc student Megan Binner is examining the mineral veins and alteration surrounding the IKE copper-molybdenum-silver porphyry deposit near Gold Bridge, BC. Using petrographic studies, vein alteration mapping, shortwave infrared spectroscopy and fluid inclusion studies, she is generating a new exploration model and an enhanced understanding of the deposit.

Megan Binner
Supervisor: Dr. Dan Marshall, Simon Fraser University.

Where Did That Gold Come from?

PhD candidate Hugh Graham is characterizing the hydrothermal fluids that result in gold deposition in different parts of evolving magmatic-hydrothermal systems by studying gold deposition in the Iron Cap deposit in the Kerr-Sulphurets-Mitchell (KSM) district of northern BC. By examining the trace elements, including gold, and analyzing their mobility, speciation and partitioning throughout the economically-important system, he will contribute to the understanding of how and why deposits of this style occur where they do.

Hugh Graham
Supervisors: Dr. Rob Chapman and Dr. Dan Morgan, University of Leeds, UK.

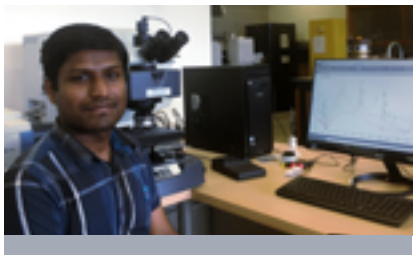
Reconstructing the past for Our Energy Future

MSc student Alexandra Kunert is looking at a 46-metre core covering the entire depth of the Gordondale Member, one of northeastern BC's richest hydrocarbon source rocks. Production from these rocks is limited because the conditions of the environment when it was deposited are poorly understood. By studying the geochemistry of select elements within the core, she will complete a paleo-environmental reconstruction of the Gordondale Member to help identify intervals with the highest hydrocarbon production potential.

Alexandra Kunert
Supervisor: Dr. Brian Kendall, University of Waterloo.

BC Coal Deposits as a Source for Rare Earth Elements

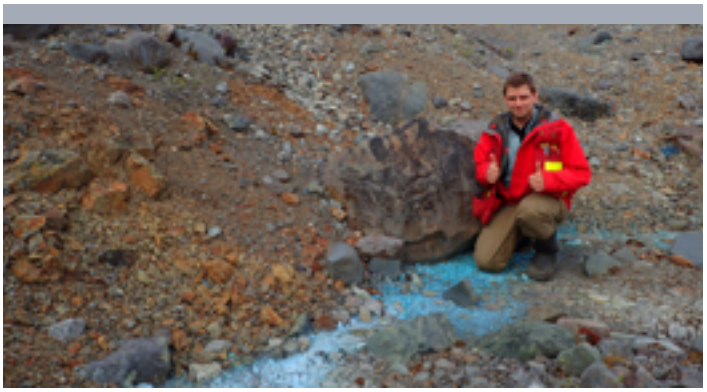
PhD candidate Vinoth Kumar Kuppusamy is developing a preliminary database of rare earth concentrations across three coal fields in southeastern BC. Rare earth elements, considered 'critical elements' due to the importance in clean energy and defense applications, can be extracted from secondary sources, but there is currently no proper quantification, characterization and extraction analysis available for coal deposits in BC.



Vinoth Kumar Kuppusamy
Supervisor: Dr. Maria Holuszko, University of British Columbia.

Using Organic Compounds to Uncover Hidden Copper Deposits

MSc student Pearce Luck is exploring the use of organic compounds produced by certain bacteria found in soil as pathfinders in mineral exploration. This under-researched tool will help explorers locate buried mineral deposits in areas where till deposits obscure the rocks below. He is developing a robust, cost effective analytical technique to identify and characterize trace concentrations of organic compounds in soil samples, and will provide guidance on the optimal media to collect for future field work.



Pearce Luck
Supervisor: Dr. Peter Winterburn, University of British Columbia.

Unravelling the Puzzle of BC's Copper Gold Deposits

MSc student Emily Miller is untangling the complex deformation history of the 170 km-long mineralized Stewart District in northwest BC, host to the Brucejack gold mine, the KSM copper-gold deposits as well as numerous other deposits. New models of deformation have recently been proposed and she is testing them by undertaking structural and stratigraphic mapping at important sites in the region. The results will shape exploration models for the region.

Emily Miller
Supervisor: Dr. Lori Kennedy, University of British Columbia.

Characterizing Earthquakes near Hydraulic Fracturing Sites in Northeast BC

PhD candidate John Onwuemeka is studying the characteristics of earthquakes that result from human activity. In northeast BC, recovery of hydrocarbons is most cost-effective using hydraulic fracturing, which can cause earthquakes and has generated concern. By increasing our understanding of the way the earth behaves during fracking, John's research will help generate advice to industry on how to modify hydraulic fracturing operational parameters to achieve balance between maximizing production and minimizing the intensity of earth movements.

John Onwuemeka
Supervisor: Dr. Yajing Liu, McGill University.

Counting on Microorganisms to Uncover Buried Mineral Deposits

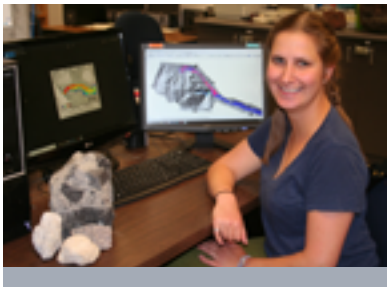
MSc student Bianca Phillips is working on the application of microbiology to mineral exploration. By qualifying, quantifying and comparing the abundant populations of microbes in till above zones of mineralization and in background soils, Bianca is developing practical field and analytical procedures and protocols for the mineral exploration industry.

Bianca Phillips
Supervisors:
Dr. Peter Winterburn and
Dr. Sean Crowe, University of British Columbia.

"I love solving geological puzzles and reconstructing the stories behind the observed structural configurations."
Emily Miller, MSc student at UBC

Understanding the Volcanic Hazards at Mount Meager

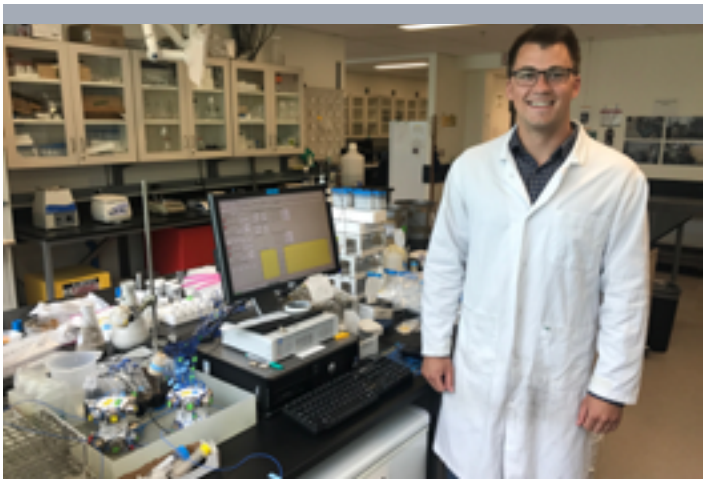
MSc student Rachel Warwick is generating a volcanic hazard map for the area around Mt. Meager, a remote volcanic system that is currently in a state of quiescence. Rachel is identifying the volcanic hazards most likely to be of concern to industry and infrastructure projects in the area and working with numerical models to simulate the impact footprint for each hazard for various eruption scenarios.



Rachel Warwick
Supervisor:
Dr. Glyn Williams-Jones,
Simon Fraser University.

Sequestering Carbon Dioxide in Mine Tailings

PhD candidate Sterling Vanderzee is examining how to safely sequester carbon dioxide, a greenhouse gas, in mineral form within mine tailings. By examining the minerals and chemical processes occurring within tailings materials, he will identify the factors required to produce a secondary magnesium carbonate 'cement' within the tailings. The findings will potentially impact carbon accounting for mines and stabilize tailings at a lower cost.



Sterling Vanderzee
Supervisor: Dr. Gregory Dipple, University of British Columbia.

FINANCIALS

GEOSCIENCE BC SOCIETY

Management's Responsibility For Ongoing Financial Reporting And The Accompanying Summary Financial Statements

The Summary financial statements and the information contained in the annual report are the responsibility of the management of Geoscience BC Society (the "Society").

The Summary financial statements have been prepared in accordance with Canadian accounting standards applicable to summary financial statements for not-for-profit organizations. As part of its responsibilities, the Society maintains systems of internal accounting and administrative controls of high quality, consistent with reasonable cost. Such systems are designed to provide reasonable assurance that the financial information is relevant, reliable and accurate, and that the Society's assets are appropriately accounted for and adequately safeguarded.

The Society carries out its responsibilities with regard to these Summary financial statements and the audited financial statements upon which they are based mainly through its Finance Committee (the "Committee"). The Committee reviews the Summary and annual financial statements and other information contained in the annual report and recommends these to the members of the Society for approval. The Committee meets periodically with management and the external auditors. Following these meetings, the Committee may meet privately with the auditors to ensure free and open discussion of any subject the Committee or the auditors wish to pursue. The Committee also recommends the engagement or re-appointment of the external auditors, reviews the scope of the audit and approves the fees of the external audiors for audit and non-audit services.

The accompanying Summary financial statements, and the audited financial statements on which they are based, have been audited by Beauchamp & Company LLP Chartered Professional Accountants in accordance with Canadian Auditing Standards, and have been approved by the Society on the recommendation of the Finance Committee.

Director

Director

January 17, 2019

Report Of The Independent Auditor On The Summary Financial Statements

To the Members of
Geoscience BC Society

The accompanying Summary Financial Statements, which comprise the Summary Statements of Financial Position as at March 31, 2018 and the Summary Statements of Revenues and Expenditures and Changes in Net Assets for the year then ended, and related notes, are derived from the audited Financial Statements of Geoscience BC Society as at and for the year ended March 31, 2018. We expressed an unmodified audit opinion on those Financial Statements in our report dated September 20, 2018. Those Financial Statements, and the Summary Financial Statements, do not reflect the effects of events that occurred subsequent to the date of our report on those Financial Statements.

The Summary Financial Statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations as included in the CPA Handbook. Reading the Summary Financial Statements, therefore, is not a substitute for reading the audited Financial Statements of Geoscience BC Society.

Management's Responsibility for the Summary Financial Statements

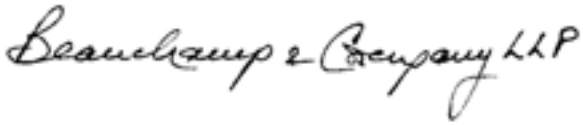
Management is responsible for the preparation of a summary of the audited Financial Statements in accordance with the Basis of Preparation disclosed in footnote 2 to the Summary Financial Statements.

Auditor's Responsibility

Our responsibility is to express an opinion on the Summary Financial Statements based on our procedures, which were conducted in accordance with Canadian Auditing Standards 810, 'Engagements to Report on Summary Financial Statements'.

Opinion

In our opinion, the Summary Financial Statements derived from the audited Financial Statements of Geoscience BC Society as at and for the year ended March 31, 2018 are a fair summary of those Financial Statements, in accordance with the criteria described in the Basis of Preparation.



CHARTERED PROFESSIONAL ACCOUNTANTS

Vancouver, British Columbia
January 17, 2019

GEOSCIENCE BC SOCIETY

Summary Statements Of Financial Position
As At March 31, 2018 And 2017

	2018	2017
ASSETS		
Current assets		
Cash and cash equivalents	$ 277,661	$ 475,453
Investments	16,705,788	12,043,977
Accrued interest receivable	48,755	27,661
Accounts receivable	448,450	10,155,396
Prepaid expenses and deposits	193,274	138,967
	17,673,928	22,841,454
Capital assets	30,666	56,075
	$ 17,704,594	$ 22,897,529
LIABILITIES AND DEFERRED CONTRIBUTIONS		
Current liabilities		
Accounts payable and accrued liabilities	$ 276,828	$ 756,661
Deferred revenue contributions	4,024,616	10,000,000
	4,301,444	10,756,661
NET ASSETS		
Net assets restricted for approved programs	4,744,182	4,727,248
Unrestricted net assets	8,658,968	7,413,620
	13,403,150	12,140,868
	$ 17,704,594	$ 22,897,529

Nature of operations and going concern (Note 1)
Basis of preparation (Note 2)

Approved By The Board:

Director

Director

See accompanying notes to the Summary financial statements

GEOSCIENCE BC SOCIETY

Summary Statements Of Revenues and Expenditures For The Years Ended March 31, 2018 And 2017

		(Note 3)
Revenues	**2018**	**2017**
Grants – BC Ministry of Energy, Mines and Petroleum Resources	$ 5,975,384	$ 5,000,000
Grants – other, and program reimbursements	847,413	265,244
Investments	412,104	629,372
Other	2,765	2
	7,237,666	5,894,618
Expenditures - Programs		
Program costs incurred	4,096,232	3,836,152
Program management	537,622	465,576
Publishing costs	36,542	49,416
Scholarship awards	35,000	50,000
GST/HST, non-refundable portion	58,853	41,114
GIS Server – implementation & maintenance	12,115	21,938
	4,776,364	4,464,196
Expenditures - Administration		
Amortization of capital assets	32,660	35,613
Communications and marketing	51,965	103,600
Consulting	68,573	390,698
Dues and memberships	11,848	6,370
Equipment lease	6,288	7,305
Gifts and promotion	13,697	16,702
GST/HST, non-refundable portion	17,455	33,860
Insurance	8,854	8,890
Investment management fees	63,526	45,776
Office and sundry	20,774	22,530
Professional fees	124,649	155,464
Recruitment	27,299	69,349
Rent and utilities	178,048	174,500
Salaries and benefits	429,067	788,644
Sponsorship	9,675	24,571
Staff training and professional development	-	2,351
Travel, conferences and meetings	106,637	152,915
Website, internet and e-mail	28,005	23,506
	1,199,020	2,062,644
Excess (Deficiency) of revenues over expenditures	$ 1,262,282	$ (632,222)

See accompanying notes to the Summary financial statements

GEOSCIENCE BC SOCIETY

Summary Statements Of Changes In Net Assets For The Years Ended March 31, 2018 And 2017

	Restricted For Approved Programs	Unrestricted	Total
Balance, March 31, 2016	$ 6,001,481	$ 6,771,609	$ 12,773,090
Internally-imposed restrictions	2,658,033	(2,658,033)	-
(Deficiency) Excess of revenues over expenditures	(3,932,266)	3,300,044	(632,222)
Balance, March 31, 2017	4,727,248	7,413,620	12,140,868
Internally-imposed restrictions	4,205,707	(4,205,707)	-
(Deficiency) Excess of revenues over expenditures	(4,188,773)	5,451,055	1,262,282
Balance, March 31, 2018	$ 4,744,182	$ 8,658,968	$ 13,403,150

See accompanying notes to the Summary financial statements

GEOSCIENCE BC SOCIETY

Notes To Summary Financial Statements March 31, 2018 And 2017

1. Nature Of Operations And Going Concern

Geoscience BC Society ("Geoscience BC" or "the Society") was incorporated under the Society Act (British Columbia) on April 26, 2005 as a not for profit organization. The Society transitioned under the Societies Act (British Columbia), effective June 19, 2018. The Society is exempt from taxation under subsection 149(1) of the *Income Tax Act* (Canada). The purpose of the Society is to promote, fund and otherwise support applied geoscience research in British Columbia. The Society had its genesis in a $25 million funding commitment announced by the government of British Columbia in January 2005, which unrestricted funding was subsequently received and the Society incorporated. The Society has had certain members and directors in common with, and its creation was promoted by, both the Association for Mineral Exploration British Columbia and the Mining Association of British Columbia. However, the Society operates independently of both organizations and is controlled by a separate board of up to 13 directors, which also comprises the Society's membership. Although it functions to complement the efforts of pre-existing provincial and federal agencies, Geoscience BC also operates on an arms-length basis from the governments of both British Columbia and Canada.

The Society has no source of operating revenue and its future operations are therefore dependent upon the receipt of continued unrestricted and non-repayable funding, anticipated to be from government sources. In the event such funding is not received, the Society would in due course deplete its cash reserves and be required to cease operations. At March 31, 2018 the Society expects to maintain operations for a period sufficient to complete all existing commitments to fund programs from liquid asset balances currently on hand.

Management believes that these actions make the use of the going concern basis appropriate; however, it is not possible at this time to predict the outcome of these matters. If the going concern basis is not appropriate, adjustments could be necessary to the carrying amounts and/or classification of assets, liabilities, revenues and expenditures in these Summary financial statements, and these adjustments could be material.

2. Basis Of Preparation

The Summary Statement of Financial Position and Summary Statements of Revenues and Expenditures and Changes in Net Assets are derived from, and are consistent with, the audited Financial Statements of Geoscience BC Society, prepared in accordance with Canadian accounting standards for not-for-profit organizations, as at March 31, 2018 and March 31, 2017 and for the years ended. Omitted from this presentation is the Statement of Cash Flows and certain footnote disclosures, all of which are required in order for a complete and formal presentation pursuant to Canadian accounting standards for not-for-profit organizations.

The preparation of these Summary financial statements requires management to determine the information that needs to be reflected in them so that they are consistent in all material respects with, or represent a fair summary of, the audited financial statements.

Management prepared these Summary financial statements using the following criteria:

(a) the Summary financial statements include a statement for each statement included in the audited financial statements, except the Statement of Cash Flows which is not considered material to the expected users of the information;
(b) information in the Summary financial statements agrees with the related information in the audited financial statements;
(c) major subtotals, totals and comparative information from the audited financial statements are included; and
(d) the Summary financial statements contain the information from the audited financial statements dealing with matters having a pervasive or otherwise significant effect on the summarized financial statements.

The audited financial statements of Geoscience BC Society are available upon request by contacting the Society, or are available for viewing at http://www.geosciencebc.com/s/FinancialStatements.asp.

3. Comparative Figures

Outreach – First Nations and Government Relations has been reclassified to, and grouped with, Consulting in the Society's Summary Statements of Revenues and Expenditures to conform with the Summary financial statement presentation adopted for in the current year. This reclassification resulted in no change to the Society's deficiency of revenues over expenditures for the year ended March 31, 2017.

Geoscience BC

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