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### **PROFILE**

Engaged and current director of three boards, including private, non-profit and trade association board of directors for a combined board experience of over a decade. Celebrating close to 25 years of experience in the junior mineral exploration industry in Canada and abroad in field, lab and office settings with or for Goldstrike Resources, DSM Syndicate, Richfield Ventures, Peregrine Diamonds, Metalex Ventures and CF Mineral Research. Five years of graduate-level academic accolades resulting in personally bringing in over \$230 thousand in research and related grant and scholarship endowments. Integral, as data manager, to landing a \$53 million option agreement for a client's flagship project with Newmont Gold. Successful project generator with client finding 53 grams per tonne gold grab sample in their first year and successfully optioning their projects the same year. Diversity and Inclusion policy and practice leader resulting in the development of a mentoring program and inclusive conference initiative. Environment and social responsibility risk identifier for mineral exploration projects operating within the Great Bear Rainforest Biodiversity, Mining and Tourism Area Land-use Zone of the Golden Triangle and Critical Habitat Areas located within British Columbia and the Yukon Territory.

#### **Responsibilities and experience include:**

- President and business owner
- National and international projects
- Subject matter expert in target generation and innovation
- Social media content provider
- Strategic planning for mineral exploration
- Non-Profit, Elected Board Member
- Communication specialist to laypersons
- Diversity & Inclusion responsibility and planning
- Environmental and permitting specialist
- Business Development

### **CORPORATE BOARD OF DIRECTORS EXPERIENCE**

Takom Exploration Ltd.  
www.takomexploration.com  
Prince George, British Columbia  
October 2011 to Present (owner)  
**President and Chair**

Takom Exploration Ltd. is a boutique mineral exploration and consulting firm that finds and develops projects located within British Columbia and the Yukon Territory. As the owner of Takom Exploration Ltd. I am responsible for day-to-day operations, research and development, accounting, health and safety, compliance and permitting, data science and management as well as stakeholder

relations. I have successfully located three projects, from greenfields, for my clients resulting in grab samples of 56 grams per tonne gold, 2340 grams per tonne silver, 2 % copper and 12 % lead in their first season leading to all three projects being optioned in their first year. I was also integral, as data manager, to landing a \$53 million option agreement for a client's flagship project with Newmont Gold.

#### **NON-PROFIT & TRADE ASSOCIATION BOARD OF DIRECTORS EXPERIENCE**

Association for Mineral Exploration British Columbia

[www.amebc.ca](http://www.amebc.ca)

Suite 800 – 889 West Pender Street, Vancouver, British Columbia

January 2020 to Present (3 year terms)

Elected Independent Board Member

The Association for Mineral Exploration is the lead association in British Columbia for the mineral exploration and development industry with a prominent national and international presence since 1912. As an elected board member, I am responsible for advocating, protecting and promoting the interests of thousands of members who are engaged in mineral exploration and development in BC and throughout the world. I have personally experienced the challenges associated with working in the mineral exploration industry regarding prospecting, safety, operational transparency and social responsibility and I am working with the Board Chair and the President to ensure AME is current as well as developing practices relevant for the next decade. I am currently instigating the diversity and inclusion practices initiative as part of the risk assessment I identified for board and award nominations, webinars and future events.

Women Geoscientists in Canada

[www.wgcanada.org](http://www.wgcanada.org)

Vancouver, British Columbia

October 2019 to Present (1 year terms)

Elected Independent Board Member

Women Geoscientists in Canada is the lead association in Canada for women and their allies working scientific roles directly related to mineral exploration and mining within Canada and internationally. As an elected board member, I am responsible for recognizing, advocating, protecting and promoting the interests of almost 200 members who are engaged in mineral exploration and mining in Canada. I am very aware of the challenges associated with working in a male-dominated industry and I am working with the Board to ensure WGC is current and developing practices relevant for the next decade. I have developed their mentorship program and I am working on the inclusive conferences initiative. I instigated and created their diversity and inclusion policies. I have also helped plan, attend and speak at their annual meeting at AME's Roundup in Vancouver, BC.

## **PROFESSIONAL EXPERIENCE**

Takom Exploration Ltd.  
www.takomexploration.com  
Prince George, British Columbia  
October 2011 to Present (owner)  
President and Primary

Takom Exploration Ltd. is a boutique mineral exploration and consulting firm that finds and develops projects located within British Columbia and the Yukon Territory. As the primary for Takom Exploration Ltd., I am responsible for day-to-day operations, research and development, accounting, health and safety, compliance and permitting, data science and management as well as stakeholder relations.

I have successfully developed the R Statistics-Biogeochemistry Project which provides scripts for imputing below-detection limit values and running multivariate statistics which are the steps prior to performing machine learning and I am currently developing a machine learning technique for diamond indicator minerals. I sent in a solo submission for the 2019 Unearthed-Oz Minerals Explorer Challenge to predict where to drill for their on the Prominent Hill Copper-Gold Project in Southern Australia.

I have solo authored 15 mineral assessment reports for projects located in British Columbia and assisted with numerous NI 43-101 technical reports. I personally hold a greenfield gold claim within central British Columbia that I am working and developing in preparation for optioning. I am also actively engaged in promoting mineral exploration within British Columbia, and the Yukon, and recently wrote a blog piece showcasing my data management skills by analyzing the expenditures of prospectors and companies within British Columbia using the Assessment Report Indexing System (ARIS).

I have worked on projects from office to field settings. From both field and office locations, I have prepared Notice of Work permits (BC) as well as Class 1 and 3 Land Use Permits (YT) along with their accompanying documents such as fuel spill response plans, flight plans, heritage and wildlife logs and forms, kitchen maps as well as health and safety posters; environmental and safety best management policies and documents; historical compilations; pre-field, in-field and post-field target delineation for prospecting and drilling; GIS and database management; tenure acquisition, management and upkeep; field geological mapping including alteration, structure and veining; as well as prospecting, soil, rock, vegetation and channel sampling. I also provide environmental and local stakeholder risk assessments resulting in numerous mineral exploration projects responsibly operating in the Great Bear Rainforest Biodiversity, Mining and Tourism Area Land-use Zone of the Golden Triangle and Critical Habitat Areas located within British Columbia and the Yukon Territory.

Discovery Consultants  
www.discoveryconsultants.com  
Vernon, British Columbia  
August to September, 2011  
Associate Geologist

Discovery Consultants is a full service mineral exploration and development consulting firm that provides program design and planning; field collection of geochemical, geological and geophysical data; design and implementation of quality control and quality assurance procedures; supervision of programs; and compilation, interpretation and reporting of results. As a geologist with Discovery Consultants I was co-lead of a 10 person field camp and crew prospecting for Carlin gold on three projects in the Yukon during White Gold area rush. We were responsible for daily communication with the lead geologist; camp food and supplies; sample and data collection as well as organization and shipping; daily safety meetings; as well as route and crew deployment. I successfully completed the three projects, on time and on budget without incident. I also co-authored three assessment reports, one for each of the projects.

MITACS and Richfield Ventures Ltd.  
www.mitacs.ca  
Toronto, Ontario  
June, 2010 to January, 2011  
Intern

MITACS is a non-profit link between industry and post-secondary institutions that promotes collaboration between industry and academia to help develop projects to solve business challenges. Richfield Ventures was a junior exploration company that developed the Blackwater Gold Project in central British Columbia and sold it, in April 2011, to New Gold Inc. for \$550 million. I worked with Dr. Dirk Tempelman-Kluit, of Richfield Ventures, to create a mineral potential index map of the broader region using satellite imagery, geology and geochemistry. I was responsible for the development and implementation of the project as well as budgeting, logistics and safety. I successfully completed the project, on time and on budget without incident. I submitted a final report to MITACS and Richfield Ventures and presented the results, in poster format, at AME BC's Roundup conference in January of 2011.

Allnorth Consultants Ltd.  
www.allnorth.com  
Prince George, British Columbia  
March, 2008 to February, 2009  
Staff Geologist

Allnorth Consultants is a multi-disciplinary engineering and construction firm providing technical services to mining and construction projects throughout Canada and globally. I worked with Ken MacDonald, currently VP Exploration of ZincX Resources Corp., to create in-house environmental best management practices and a proprietary core logging database. The best practices management documents included environmental and work plan proposals for a variety of private and government-

based construction and engineering project throughout British Columbia, Alberta, the Northwest Territories and the Yukon. The development of the core logging database included refining Allnorth's proprietary DDH core logging database program, creating a manual for the software, providing training for field staff and integrating the data into ArcGIS.

I was responsible for Notice of Work Permits, site-specific desktop and field acid rock drainage/metal leaching assessments and was part of the team working on the Mount Milligan Gold Mine-Mines Act Permit (2008) for Terrane Metals Corp.-Thompson Creek Metals Company Inc.; in particular I was responsible for the preparation of the hazardous materials notification application packages as well as assisting in the preparation of the Water, Air and Refuse Permits and Licenses. Mount Milligan received their Mines Act Permit in September of 2009 and the initial Environmental Management Act authorizations in July of 2010. In October of 2016 Thompson Creek and their assets, including Mount Milligan, were sold to Centerra Gold Inc. for US\$1.1 billion.

I was also responsible for the preparation of proposals and budgets to bid for various exploration and consulting projects, the development of internal department procedures related to mineral exploration and I was the liaison for project geologists with the drafting department. I also developed detailed erosion and sediment control Best Management Practices fact sheets for mining, exploration and forestry projects as well as a Construction Management Plan for a proposed coal mine access road in northern British Columbia. I was field manager for a number of precious and semi-precious metal exploration and core logging projects within British Columbia for clients such as Happy Creek Minerals Ltd., 100 Mile House (BC) area projects and Low Profile Exploration Ltd., Houston (BC) area projects. I successfully completed the projects, on time and on budget without incident while providing consistent communication with the project manager in the office. I was also noted as a contributor to a number of assessment reports signed off by the Professional Geologist on Record as well as assisting with the preparation of NI 43-101 technical reports.

Peregrine Diamonds Ltd.  
Acquired by De Beers Group in 2018  
Vancouver, British Columbia  
January to May, 2007  
Rig Geologist

Peregrine Diamonds Ltd. was a junior exploration company acquiring and developing diamond exploration projects within the Northwest Territories. As a rig geologist for Peregrine Diamonds I was responsible for monitoring large diameter drill hole (LDDH) rig function on three drills operating concurrently as well as sampling and logging the kimberlite chips in arctic winter conditions. I supervised teams and provided training. I also managed the sample database and ensured consistency and quality between the two 12-hour shifts. In addition, permafrost temperature readings were collected on a daily basis for a partnership with an academic research project. In 2018, Peregrine Diamonds was acquired by the De Beers Group at C\$0.24 per share and C\$107 million.

University of Windsor

www.uwindsor.ca

Windsor, Ontario

September, 2004 to December, 2006

Teaching and Research Assistant

The University of Windsor is an internationally-oriented, multi-disciplined academic institution. As a Teaching Assistant for a third year Mineralogy Lab, I was responsible for ensuring the lab materials were set up for each class, wrote and marked exams as well as organized the mineral specimen library. As a Teaching Assistant for a first year Geology Lab, I helped the students with their experiments and understanding their lab assignments. I also proctored and marked undergraduate Earth Science mid-terms and finals.

As a Research Assistant at the University of Windsor, I undertook the management of my graduate thesis from data collection and industry coordination to the final report over a span of 2.5 years. I communicated often with my financial sponsor and mentor, Charles Fipke, while my University of British Columbia-Okanagan Campus supervisor secured \$123,000CDN from him for my project. My responsibilities included project development; academic-industry coordination; laser ablation inductively coupled mass spectrometry (LA-ICP-MS) analyses, normalizing and interpretation; as well as project closing. I finished my thesis on time and well under-budget. In October of 2006, construction began on the Charles E. Fipke Centre for Innovative Research at the University of British Columbia – Okanagan Campus following donations by Charles Fipke of \$5 million for the development of the facility and \$2 million for equipment.

Metalex Ventures Ltd.

“MTX” on the Toronto Stock Exchange

www.metalexventures.com

Kelowna, British Columbia

June 2005

Contractor

Metalex Ventures Ltd. is a junior exploration that focusses on acquiring, exploring and developing mineral properties in Canada and Morocco. As a contractor with Metalex Ventures, I led a two-person diamond exploration crew in northern Ontario for a till and kimberlite float sampling program. I organized routes, field sieved and collected 10 kg till samples, organized samples, collected and managed the data as well as shipping. I also communicated the daily progress with the Lead Geologist based in the Kelowna office. The project was completed on-time, on budget and all areas delineated for sampling were covered, except for one area that turned out to be an active gravel pit.

Kel-Ex Development Ltd. and Metalex Ventures Ltd.  
Metalex is listed as "MTX" on the Toronto Stock Exchange  
www.metalexventures.com  
Kelowna, British Columbia  
June to September 2004

Till Sampler

Kel-Ex Development Ltd. is a consulting company privately owned by Charles Fipke. Metalex Ventures Ltd. is a junior exploration that focuses on acquiring, exploring and developing mineral properties in Canada and Morocco. As a contractor with Metalex Ventures, I was part of six- and three-person diamond exploration crews in the Northwest Territories, northern Ontario and Greenland conducting till sampling programs. I field sieved and collected 10 kg till and kimberlite float samples, helped to organized routes and samples, plus assisted with data management and shipping. The projects were completed on-time, on budget and all areas delineated for sampling were covered.

CF Mineral Research Ltd.  
www.cfmresearch.com  
Kelowna, British Columbia  
August, 1996 to May, 1997  
and February, 1999 to May, 1997

Geology Lab Assistant

CF Mineral Research Ltd. is a heavy mineral processing laboratory, privately owned by Charles Fipke, and was created to assist with exploration for Canada's first diamond mine, Ekati, located in the Northwest Territories. The Ekati Diamond Mine was discovered in 1991 and opened in 1998. As a Geology Lab Assistant for CF Mineral Research, I used a stereo microscope and tweezers to identify, count and separate out diamond indicator minerals and diamonds while ensuring appropriate lab procedures to avoid cross-contamination.

I created epoxy plugs for analyses using scanning electron microscope and the electron microprobe machines. The Smithsonian National Museum of Natural History in Washington, D.C., United States was one notable client in which I created epoxy plugs. I also maintained liquid nitrogen levels and ran scans of the polished plugs with the scanning electron microscope.

I performed dry sieving of the samples and worked in the fume hood performing liquid density separation. I also worked in the map room, or "war room", doing GIS-related tasks including digitizing maps and sample locations for projects located in the Northwest Territories, Ontario, Greenland, South America, Africa and Yemen. I assisted with the research and development of the proprietary diamond indicator mineral classification program which eventually lead to my Master's thesis project at the University of Windsor. Working in the "war room" at CF Mineral Research, I learned about the complexities of the interactions between geological processes and the challenge of finding ore deposits leading me into my current career.

Deep River Science Academy  
Ministry of Environment & Climate Change Strategy  
University of British Columbia - Okanagan  
[www.youthcanada.ca/programs/deep-river-science-academy](http://www.youthcanada.ca/programs/deep-river-science-academy)  
Kelowna, British Columbia  
May, 1997 to August, 1997  
Environmental Research Coordinator

Deep River Science Academy is a Youth Canada program designed to introduce high-achieving high school students to scientific research in the form of a mentorship with a research assistant and a professional researcher. My position as a Research Coordinator consisted of two responsibilities, chaperoning the students while they stayed in dorms at UBC-O and attended their extra-curricular activities in Kelowna, as well as researching, developing and implementing an invasive weed survey in the south Okanagan with the Ministry of Environment suitable for a pair of high school students. I was responsible for transportation and field safety in an area noted for intense dry heat, rattlesnakes, cougars and black bears. My two students thought the field component of the research was a bit rigorous in the dry heat, but truly enjoyed field mapping, digitizing their polygons and finalizing their reports. The project was completed on time, without incident and the Ministry researcher was pleased with the methodology, the results and the recommendations.

*Epilogue:* As of 2009 the project area has been successively rehabilitated to accommodate the local flora and fauna.

## **EDUCATION**

University of Northern British Columbia  
[www.unbc.ca](http://www.unbc.ca)  
Prince George, British Columbia  
January 2009 to May, 2017  
Doctorate in Philosophy

The University of Northern British Columbia is a research-oriented, interdisciplinary academic institution. My graduate program in Natural Resources and Environmental Studies Graduate Program at the University of Northern British Columbia consisted of two semesters of classes including ethics, social responsibility and research development as well as an original thesis project. My program was self-funded through a consulting company I started in October of 2011, although I participated in one MITACS project with Richfield Ventures and received a number of grants. I also solely developed the original idea of my thesis and had contacted potential academic supervisors at the university with a project proposal prior to applying to the PhD program.

*Thesis Title:*

Multivariate statistical analysis of lodgepole pine outer bark samples for metallic mineral exploration within the southern Nechako Plateau, British Columbia, Canada



### *Short Abstract:*

To reveal patterns related to molybdenum and gold mineralization, multivariate statistical analysis was applied to two suites of 'opened' biogeochemical samples collected from lodgepole pine outer bark in the southern Nechako Plateau of British Columbia. These samples were collected as part of the Geological Survey of Canada's Nechako National Mapping Project (from 1996-1998) and a British Columbia Geological Survey's Interior Plateau Geoscience Project in 1994. One suite of samples contained anomalous molybdenum concentrations and is located proximal to the Endako molybdenum mine. The second suite is anomalous for gold and is within the vicinity of the Blackwater-Davidson gold project. The samples were analysed by instrumental neutron activation analysis for 28 elements, treated as compositions using the log-ratio approach and investigated for their element associations using RQ-mode principal component analysis.

Principal Component Analysis identified a number of distinct element associations. The first principal component, from both datasets, shows a complex relationship between plant element uptake and soil composition. Principal component 2 (molybdenum dataset) revealed that molybdenum-cobalt associations in lodgepole pine outer bark may be an indicator of molybdenum mineralization for the southern Nechako Plateau, whereas principal component 2 (gold dataset) revealed the association between gold and arsenic as an indicator of gold mineralization.

Further studies are suggested with respect to the nature of molybdenum-cobalt, gold-arsenic, zinc, arsenic-antimony and caesium enrichment within the study area and using principal component analysis on high dimensional, low sample size data.

### *Grants and Awards:*

- UNBC ESRI Canada GIS Scholarship Award 2010
  - Valued at 62,850CDN (includes licenses, books, training, conference fee and 1,000CDN)
- UNBC Graduate Research Award 2011/2012
  - 7,500CDN for tuition
- UNBC Doctoral Tuition Scholarship 2010/2011
  - 8,276.70CDN for tuition and courses
- UNBC Graduate Research Award 2010/2011
  - 7,500CDN for tuition
- MITACS Graduate Research Internship 2010
  - 15,000CDN for research project
- UNBC Graduate Research Award 2009/2010
  - 7,500CDN for tuition
- International Association for Mathematical Geosciences Student Research Grant 2009
  - 1,000USD with an invitation to publish in their journals

### *Epilogue:*

As a result of my thesis project I staked the Proof Gold Project located 25 kilometres southeast of the Village of Fraser Lake, British Columbia and coinciding with an intense 3 kilometre long caesium anomaly within the broader 30 kilometer long zone of caesium identified during my PhD research. In

July of 2018, a reconnaissance exploration program was conducted and a total of 13 rock, 5 silt and 21 new growth twigs from lodgepole pine were collected.

A five sample, 935 metre in length, gold-in-twig anomaly was discovered within the centre of the Property, the Goldtree Zone, with values ranging from 21 to 38.8 ppb gold and background values less than 6 ppb gold. Within the twig samples, vanadium values exhibited a broader halo ranging from 160 to 290 ppb within the Goldtree Zone and from 110 to 180 ppb surrounding the Zone. One twig sample, within the Goldtree Zone, returned 8.3 ppb thallium (background levels < 0.5 ppb). A significant rock sample was found north of the Goldtree Zone twig samples, collected from a shear zone within a recent road cut, and returned >500 ppm antimony, 503 ppm arsenic, 50.5 ppm caesium, 660 ppm vanadium and 1.63 ppm thallium. A pit sample dug within the Goldtree Zone revealed a maroon crystal tuff with 0.427 ppm silver, 17 ppm antimony, 18.8 ppm caesium, 0.34 ppm thallium and 0.08 ppm tellurium.

Based on the data collected to-date, the Proof Project is thought to represent a hydrothermal deposit although similarities with the atypical, mesozonal-orogenic, disseminated-replacement-stockwork Hemlo Gold Deposit are noted: nearby feldspar porphyritic pluton, located within volcanic rocks and local enrichment of gold, caesium, antimony, arsenic, thallium and vanadium, as well as molybdenum.

University of Windsor

[www.uwindsor.ca](http://www.uwindsor.ca)

Windsor, Ontario

September, 2004 to December, 2006

Master of Science

The University of Windsor is an internationally-oriented, multi-disciplined academic institution. My graduate program in Earth Sciences Department at the University of Windsor consisted of two semesters of classes including geochemistry and research development as well as an original thesis project. My program was funded through my previous employer, Charles Fipke, who donated C\$123,000 to my supervisors.

Thesis Title:

Diamond Indicators, Trace Elements, and Kimberlites: A Comparative Study Using Examples from the Slave and Kaapvaal Cratons

Abstract:

Diamond indicator minerals and diamonds are mantle materials brought to the Earth's surface by kimberlites. The geochemical signatures of diamond indicator minerals are related to diamond formation in the area of the mantle in which both the diamonds and their indicator minerals are formed. Occasionally the chemical character of the diamond indicator minerals indicate conditions conducive to diamond formation, but few diamonds are found. This study used laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS) to look for element abundance patterns in five diamond indicator minerals: G10 harzburgitic garnets, eclogitic garnets, clinopyroxenes, orthopyroxenes, and olivines. The suites of diamond indicator minerals used in this study are from the Beartooth, Koala, Panda, Kit, New Elands (orangeite) and Zero kimberlites. Diamond content, craton and kimberlite

locations were the variables used to distinguish the sample sets. Kimberlite diamond content is distinguished using binary plots of magnesium, lanthanum, titanium, calcium, manganese, zirconium, cerium, scandium, vanadium, aluminium and chromium abundances. Trace element variations show metasomatic enrichment is more pronounced in the minerals from highly diamondiferous kimberlites. G10 garnets and eclogitic garnets provided the clearest separation with respect to diamond content. Kimberlite pipes can be fingerprinted by yttrium, magnesium, zinc, cobalt and nickel abundances in clinopyroxenes and orthopyroxenes. The cratons were chemically distinguished using magnesium, lanthanum, phosphorous, manganese, calcium, cobalt, yttrium, aluminium, chromium, zinc and nickel abundances from all minerals. Future research should concentrate on developing better external standards for the LA-ICP-MS analysis of diamond indicator silicate minerals and incorporating more samples from various kimberlites on different cratons.

*Epilogue:* I wasn't satisfied with the statistical analyses conducted, under the direction of my supervisor, for my Master's thesis. To update the methodology, I've researched and conducted appropriate non-detect imputation and machine learning techniques as well as treated as the data as compositions. The results of the neural networks will be published on my github site, [github.com/d-benz](https://github.com/d-benz), and in a future article.

The University of British Columbia - Okanagan

[www.ok.ubc.ca](http://www.ok.ubc.ca)

Kelowna, British Columbia

September, 2004 to December, 2006

Earth and Environmental Sciences

The University of British Columbia - Okanagan is a globally recognized academic institution with a tight-knit entrepreneurial community creating an innovative hub for learning, research and discovery. My three semesters in Earth and Environmental Sciences Department at the University of British Columbia - Okanagan consisted of classes including geochemistry, earth sciences, mineralogy, geologic resources, tracers in natural processes, and geological field mapping. My program was self-funded as I worked full-time at the heavy mineral processing lab. I was also a member of the Earth Sciences Student Society where we did a field trip to Hawaii. I was the Department Winner of the Mineralogical Association of Canada's Undergraduate Student Award in 2004 and as a result I was counseled, by my future Master's thesis advisor, to apply to a graduate program. The award included one-year membership to the Association (including electronic access to *The Canadian Mineralogist*, a subscription to the scientific magazine *Elements*, 20% discount on MAC publications, discounted registration fee at our annual meeting) and a \$100 gift certificate redeemable on any MAC publications to be selected from our Topics of Mineralogical Sciences, Special Publications, or Special Issues of *The Canadian Mineralogist*.

The University of British Columbia  
www.ubc.ca

Vancouver, British Columbia  
September, 1992 to May, 1997

Bachelor of Science – General Biology

The University of British Columbia is a globally recognized academic institution for research and teaching with consistent rankings among the top 20 universities in the world. My courses were in the Biology Department at Okanagan University College (OUC) and my degree was conferred by the University of British Columbia (UBC) in 1997, the final year in which OUC and UBC had collaborative programs. My courses included vascular and non-vascular plant physiology, organic and inorganic chemistry, physics, calculus, statistics, genetics, philosophy and psychopharmacology. I worked minimum wage jobs part-time while taking classes and full-time in the summer to graduate debt-free.

**TRAINING**

The University of Northern British Columbia  
www.unbc.ca/nres-institute/colloquium-series

Prince George, British Columbia  
January, 2011 to May, 2017

Natural Resources and Environmental Studies Institute Colloquium

The University of Northern British Columbia is a research-oriented, interdisciplinary academic institution and the Natural Resources and Environmental Studies Institute (NRESi) facilitates collaborative research projects involving ecological processes, social values and earth science systems. The colloquium is an information and discussion series on a wide range of topics and perspectives on natural resources management. I still occasionally attend these lectures online.

Mineral Deposit Research Unit, University of British Columbia  
Association for Mineral Exploration British Columbia Roundup Short Course

www.mdru.ubc.ca  
Vancouver, British Columbia  
January, 2013

Exploration Footprints of Hydrothermal Ore Deposits

The Mineral Deposit Research Unit is a collaborative research-oriented venture between academia and industry that facilitates integrated research of mineral deposits and exploration. The Exploration Footprints of Hydrothermal Mineral Deposits was a 2-day short course at AME's Roundup Conference that provided attendees with tools to recognize and understand the nature of geochemical footprints surrounding and within hydrothermal deposits. Geochemical footprints are an important component of my past and present exploration and ore targeting work.

Tetra Tech Inc.  
Association for Mineral Exploration British Columbia Roundup Short Course  
www.tetrattech.com  
Vancouver, British Columbia  
January, 2012

Understanding and Running an Effective QA/QC Program

Tetra Tech is a global provider of consulting, engineering, program management and technical services. Understanding and Running an Effective Quality Assurance/Quality Control (QA/QC) Program was a 1-day short course at AME's Roundup Conference that provided attendees with the skills to recognize and understand the purpose, fundamentals and tools required for an effective QA/QC program. After the course I created spreadsheets following their examples of appropriate statistical analyses and graphs which I still use today.

University of Northern British Columbia  
www.unbc.ca  
Prince George, British Columbia  
April 2009  
Continuing Studies

Geographic Information Systems (GIS) Certificate

The University of Northern British Columbia is a research-oriented, interdisciplinary academic institution. My certificate program reviewed data creation and manipulation within the ArcGIS environment. This included software customization, data symbolization, labeling and map elements; geodatabases, attributes and data conversion; vector GIS analysis and model builder; raster GIS analysis; triangular irregular networks (TINS), perspectives, fly tool, referencing and rectification. I have used and continue to use a variety of GIS software programs for my projects.

Columbia Mountains Institute of Applied Ecology  
www.cmiae.org  
Revelstoke, British Columbia  
September, 2009

Ecological Approaches to Invasive Plant Management

The Columbia Mountains Institute of Applied Ecology is a regional group focused on hosting applied ecology conferences and specialized courses on the latest information and technologies. The Ecological Approaches to Invasive Plant Management course was a 2-day intense class, with lecture and field components, that provided attendees with the skills to design vegetation management systems to work with natural successional process.

SRK Consulting Limited  
Association for Mineral Exploration British Columbia Roundup Short Course  
[www.srk.com](http://www.srk.com)  
Vancouver, British Columbia  
January, 2009

Understanding Mineralization Controls: Applied Structural Geology to Exploration and Mining

SRK Consulting is a global consulting company that offers a range of specialized services to earth and water resources industries. Understanding Mineralization Controls: Applied Structural Geology to Exploration and Mining was a 2-day short course at AME's Roundup Conference that provided attendees the ability to recognize and the confidence to apply structural geology effectively to regional grassroots exploration projects as well as mine-scale models. Identifying structural controls are widely used in my past and present exploration and ore targeting projects.

Mineral Services Group  
Association for Mineral Exploration British Columbia Roundup Short Course  
[www.msgrgroup.net](http://www.msgrgroup.net)  
Vancouver, British Columbia  
January, 2008

Kimberlites – Geological Principles Relevant to Evaluation, Resource Classification and Mining

Mineral Services Group is a conglomerate of companies providing specialist consulting and laboratory services to the diamond industry. Kimberlites – Geological Principles Relevant to Evaluation, Resource Classification and Mining was a 2-day short course at AME's Roundup Conference that provided attendees with the information and principles regarding kimberlite types and emplacement, as well as the economic implications, resource classification and geological factors related to mining kimberlites.

## PUBLICATIONS AND NOTABLE SPEAKING ENGAGEMENTS

Takom Exploration Ltd.'s Blog  
www.takomexploration.com/posts  
May, 2018 to Present

### Sole Contributing Author

I write a monthly blog about core skills, technological advancements and professionalism in the mineral exploration industry. Some more popular topics include: A Brief Glimpse into the Future of Data Science in Mineral Exploration, Discovering the Giants, Discovery Under Cover and Starting the Field Season in the Wake of Quarantine Measures.

Women Geoscientists in Canada  
www.wgcanada.org  
Vancouver, British Columbia  
January 2020

### Presenter

As an elected Director for Women Geoscientists in Canada, I presented at our annual general meeting to provide an overview, and answer questions, about our Diversity and Inclusion Policies and our Inclusive Conference Initiative.

Association for Mineral Exploration British Columbia  
www.amebc.ca  
Vancouver, British Columbia  
January 2020

### Presenter in the Prospector's Tent

I applied for and won a booth for Takom Exploration Ltd.'s Proof Gold Project. I chose and designed the display, maps and rock samples. I also personally attended the booth with a helper by chatting with fellow presenter's and conference attendees.

Association for Mineral Exploration British Columbia  
www.amebc.ca  
Vancouver, British Columbia  
January 2011

### Poster Presenter

I applied for and won a poster presentation space for my MITACS Project: Remote Sensing Analysis of the Nechako Plateau using Landsat, ASTER and Spot Datasets. I chose and designed the poster, its maps as well as provided a pamphlet. I also personally attended the poster session by chatting with fellow presenter's and conference attendees.

University of Northern British Columbia Graduate Student Conference  
Natural Resources and Environmental Studies Institute Annual Lecture and Poster Session  
[www.unbc.ca/graduate-programs](http://www.unbc.ca/graduate-programs)

Prince George, British Columbia

February 2011

Poster Presenter

I applied for and won a poster presentation space for my MITACS Project: Remote Sensing Analysis of the Nechako Plateau using Landsat, ASTER and Spot Datasets. I personally attended my poster and chatted with fellow presenter's and conference attendees as well as successfully answered some difficult questions about mineral exploitation.

Geological Association of Canada -Mineralogical Association of Canada Annual Meeting

[www.gac.ca/events](http://www.gac.ca/events)

Halifax, Nova Scotia

May 2005

Oral Presenter

I applied for and won an oral presentation spot for my Master's thesis research on the geochemistry of diamond indicator silicate minerals. The title of my talk was Preliminary LAM-ICP-MS analysis of diamond indicator silicate minerals in the Panda and New Eland kimberlite pipes.

Geological Association of Canada -Mineralogical Association of Canada Annual Meeting

[www.gac.ca/events](http://www.gac.ca/events)

Halifax, Nova Scotia

May 2005

Co-Chair

After winning an oral presentation spot I was asked to co-chair the GS3 Mineralogy, Crystallography and Crystal Chemistry (II) Technical Program. I was responsible for introducing the session speakers, keeping time, thanking the speaker as well as beginning and monitoring the question period.