

DIANA BENZ, PhD

Data Science and Geostatistics, GitHub: d-benz
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SUMMARY

Accomplished mineral explorationist with 28+ years of progressive experience leading multi-disciplinary teams and projects across diverse terrains and jurisdictions. Proven expertise in remote collaboration, project management, data curation and analysis, technical writing, data quality assessments, and geochemical statistics. Adept at developing secure data management systems, ensuring regulatory adherence, and delivering projects successfully. Proficient in GIS, spatial analysis, technical and assessment reporting, and virtual communication tools.

CORE COMPETENCIES

Project Management		Data Management		Statistical Analysis	
Technical Writing		Regulatory Compliance		Remote Collaboration	
Mentoring		Quality Assurance		ArcGIS, QGIS, GRASS	
Microsoft Office Suite		Python, R, SQL, Git		Geospatial Analysis	

PROFESSIONAL EXPERIENCE

TAKOM EXPLORATION LTD. - Lead Consultant (2011 - Present)

- Interfaced remotely with C-suite executives, consultants, and stakeholders to coordinate 22 mineral exploration projects, including drill programs, with teams of 2-9 people across 14 field seasons.
- Developed secure data management systems and organized 2TB of multidisciplinary data from 61 projects for informed decision-making.
- Conducted exploratory data analysis and multivariate statistical analysis on geochemical data using Excel and R, integrating these analyses into Jupyter workbooks.
- Authored 20 BC and 3 YT assessment reports including geochemical statistical procedures, analyses, and interpretations.
- Key reviewer on 3 NI 43-101 technical reports and authored 4 diamond drilling QA/QC reports.
- Presented at major conferences including AME Roundup, GAC/MAC, and SEG100 on mineral prospectivity mapping and diamond indicator mineral classification.

Key Projects

- R&D (2024): Developed biogeochemical leveling method and compiled multi-year small datasets using R Studio and statistical packages in R Studio (off-confidential, 2025).
- R&D (2023): Conducted drone photogrammetry surveys for orthomosaic and digital surface models.
- R&D (2021): Created neural network models (CNN) of LA-ICP-MS geochemical data to classify diamond indicator minerals based on a kimberlite's diamond content using keras, matplotlib, sklearn, and tensorflow as Jupyter Notebooks.
- Uearthed Solutions – Oz Minerals Explore Australia Challenge (2019): Applied logistic regression and Bayesian methods to create mineral prospectivity maps for gold, silver, and copper using multidisciplinary data: geochemistry, geophysics, geology, structure, satellite imagery, and biology for a mine site and all of Australia (Explore Australia Challenge).

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DISCOVERY CONSULTANTS - Geologist (2011)

- Co-led a 10-person remote mineral exploration camp, managing logistics, field operations, and daily field sampling activities for 3 project areas in YT.
- Organized sample handling, documentation, and reporting while ensuring environmental, health, and safety best practices completing the projects successfully, on time and budget.

MITACS & RICHFIELD VENTURES CORP. - Intern (2010 - 2011)

- Developed and executed a mineral exploration prospectivity project, leading a small team from financing to project closing.
- Incorporated geochemical data (ICP-MS and XRD clay analysis) with enhanced satellite imagery and geological data using Principal Component Analysis to create a mineral potential index map for the Blackwater Gold Project area.
- Managed all aspects including academic-industry coordination, as well as project conception, development, and release including presentations and reports.

ALLNORTH CONSULTANTS - Staff Geologist (2008 - 2009)

- Assisted in preparing the Mines Act permit for the Mount Milligan Mine project, including hazardous materials notification and additional permits/licenses.
- Prepared proposals and developed procedures for exploration and consulting projects in BC and AB.
- Worked with the IT Department to create a proprietary core logging program and trained geologists.
- Liased between Project Geologists and GIS technicians to produce maps for reports and presentations.

PEREGRINE DIAMONDS - Rig Geologist (2007)

- Monitored Large Diameter Drill Hole rig functions on 3 concurrently running drills in a remote NWT winter camp.
- Organized bulk sample handling, packaging, documentation, and QA/QC procedures.
- Trained local First Peoples drill helpers.

CF MINERAL RESEARCH - Geology Lab Assistant (1996 - 2004)

- Conducted diamond indicator mineral identification and sample processing/analysis for diamonds/metals.
- Operated scanning electron microscope and conducted mineral separation techniques.
- Assisted in proprietary diamond indicator mineral classification program and creating maps for reports on projects located on 3 continents.

EDUCATION

- PhD in Natural Resources & Environmental Studies (Geostatistics), University of Northern British Columbia
- MSc in Earth Sciences (Geostatistics & LA-ICP-MS), University of Windsor
- BSc in General Biology, University of British Columbia
- GIS Certificate, University of Northern British Columbia

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TRAINING

- Scientist MBA (sMBA) Trained Associate, Cheeky Scientist
- Data Scientist Syndicate Trained Associate, Cheeky Scientist

VOLUNTEER LEADERSHIP & ACHIEVEMENTS

- Director: Women Geoscientists in Canada (2018 - 2024)
 - Developed a mentoring program guidebook and inclusive events program.
 - Managed organization's social media, website, corporate upkeep, and financial reporting.
- Director: Association for Mineral Exploration (2020 - 2022)
 - Advocated for diversity and inclusion practices within the mineral exploration industry.
- Presenter: Geochemical Neural Network Classification of Indicator Minerals, SEG100, Whistler, BC, 2021
- Co-Presenter: Future Mineral Exploration, SEG100, Whistler, BC, 2021
- Booth: Proof Project, Prospector Tent, AME Roundup, Vancouver, BC, 2019
- Scholarship Award, University of Northern British Columbia ESRI Canada GIS, 2010
- Student Research Grant, International Association for Mathematical Geoscience, 2010