

# CELINE BEAUCAMP-STOUT, M.Sc. Geology

beaucamp.celine@gmail.com | celine.beaucampstout@umwestern.edu | 775-397-2775

## Education

- **Master in Geology**, specialization in Metallogeny, Université du Québec À Montréal (UQÀM), Canada. 2007-2010. Received on June 15, 2010 with the grade of 3.88/4.3 and 45 Canadian Credits.

Thesis subject: Marban Mining District Metasomatism and Structural Controls on Gold Mineralization, Val d'Or, Qc, Canada. Received on February 23<sup>rd</sup>, 2010 with Honors.

Field trips or seminars:

- Newfoundland Appalachian Orogeny Field Course and Seminar. Geotectonic and Morphoclimatic Systems Study of a Transect of the Orogeny. September 2007.
  - Dominican Republic Metallogeny Field Course. Site visits included Cerro Maimòn VMS, Neita HS Epithermal, Pueblo Viejo High Sulfidation Epithermal, Falcondo Ni-Lateritic Mine. December 2007.
  - Metallogeny day-field trips: Visit of sedimentary, magmatic and volcanogenic ore deposits. Distinction between syngenetic and epigenetic mineralization. Québec Province.
  - Sources and Sinks in Hydrothermal Systems Exploration Short Course. Mineral Deposit Research Unit (MDRU) of UBC. January 2009.
- **Graduate Exchange Student**, Université du Québec À Montréal (UQÀM), Canada. 2006-2007. Received a grade of 3.99/4.3 and 30 Canadian Credits. Registered at the Université de Savoie, Chambéry, France.

Field trips or seminars:

- Stratigraphy and Structural geology field trip to Montmorency Falls and Québec City Area: Discordance of the Grenville Craton, the Saint-Laurent Platform and the Appalachian Orogeny. November 2006
  - Southern Cordillera of Chile field course. Metallogeny and Structural Geology of the Cordillera. Mine visits to Zaldivar Cu-porphyry and La Coipa High Sulfidation Epithermal. February 2007.
  - Abitibi Greenstone Belt and Sudbury Mining District Field Course. Metallogeny and Structural Geology with site visits including La Ronde Gold-Rich VMS Mine, a nickel mine in Sudbury and Sudbury Shatter Cone Site. April 2007.
  - Individual Research Project: Comparison of Three High Sulfide Epithermal Gold Deposits – La Coipa, Chile; Pueblo Viejo, Dominican Republic; Summitville, USA. Spring semester 2007
- **Bachelor in Earth and Environment Sciences**, Université de Savoie, Bourget-du-Lac, France. 2003-2006. Received on July 5<sup>th</sup>, 2006 with the grade of 12/20 (ranked 4/27).

Field trips or seminars:

- Sedimentary Formations Field Course. Mapping and study of the sedimentary formations in the Lagrasse Mountains, Aude, France. May 2005.
- Metamorphic Formations Field Course. Mapping and study of the metamorphic formations in south

Ardèche, France. May 2005.

- Quaternary geology of the Maurienne Valley, French Alps, May 2004
- Structural geology and Petrology of the Alps front: Cross-Section of the Helvetic group to the Penninic Front, Maurienne Valley, French Alps
- Structural Geology: Foreland Basin of the Alps, Avant-Pays Savoyard Region, April 2005
- Soil study in the Annecy lake area, June 2005
- Senior Project: Study and modeling (using Surfer Software) of the spatial variability of water in different types of alpine soils, in partnership with two mountain research centers: EDYTEM (Laboratoire Environnement, Dynamiques et Territoires de la Montagne) and CISM (Centre Interdisciplinaire Scientifique de la Montagne). April 2006.

## Work Experience

- **Adjunct Instructor**, April 2016 to present. University of Montana Western Environmental Sciences Dept, Dillon Mt. Introduction to Physical Geology.
- **Adjunct Instructor**, October 2018 to present. University of Montana Western Mathematics Dept, Dillon Mt. Introductory and Intermediate Algebra.
- **Executive Director** September 2017 to present. The Beaverhead Trails Coalition, Dillon Mt.
- **Geology Tour Instructor**, September 2016 to present. Road Scholar, University of Montana Western School Of Outreach Chapter, Dillon Mt. Tours: *The Great Caldera, Colter's Hell to America Hotspot, Wildlife and Geysers in Yellowstone with Your Younger Grandchild.*
- **Geotechnical Engineer II**, August 2011 – April 2015. Barrick Gold Cortez, Elko, Nevada. The geology of the Cortez Hills site is comprised of Paleozoic carbonate formations such as limestone from the Devonian Wenban formations and siltstone from the Silurian Robert Mountains formation. They act as host rocks for the Jurassic-Miocene gold mineralization and are overlaid by Quaternary alluvium, intruded by Jurassic granodiorite bodies and deformed by basin and range related tectonic events.

Duties performed were:

- Geomechanical mapping (RMR, GSI, cell/line mapping, rating and structure identification), drill planning, geomechanical core logging, televiewer reconciliation (WellCAD) and interpretation, stability analysis (Rockscience Software package)
- Advised and reviewed the site fault model and its implication for highwall stability
- Assisted for blast data collection, blast pattern design and high-wall design, deployment of seismographs, analysis of blast events on highwall movement
- Ground control: highwall monitoring with 3 Reutech MSR radar mobile units and an IDS Ibis radar unit, 3 prism networks with Leica Robotic Total Stations, extensometers, slope inclinometers, visual inspections
- Hydrogeology support: Flow rate, fracture and geologic analysis for identification of dewatering targets

- Project manager: Replacement and/or the installation of Geokon piezometers in active leach pad using operations equipment or a sonic drill, collection and interpretation of the data and report to State of Nevada
- Instructor: Ground Control Training for employees (MSHA New hire, experienced miner hire and annual employee refresher)
- **Open Pit Geologist**, July 2010 – August 2011. Barrick Gold Cortez, Elko, Nevada. High-wall and digface geologic mapping, building 3D fault model using Vulcan Maptek Software; core, reverse circulation and sonic drilling management (drill site, sampling, crew); logging and geologic interpretation.
- **Exploration Geologist**, July 2009 to October 2009 and June 2008 to August 2008. Summer exploration camp. Areva Qc Inc., Cage Prospect, Qc, Canada. The Cage prospect was a uranium exploration project focused on mineralization occurring along highly strained ductile contact between gneiss from the Archean core, marbles and calc-silicates from the Paleoproterozoic Lake Harbour group and pegmatite swarms from Paleoproterozoic tectono-metamorphic events. During both summers, my duties were to perform detailed geological and structural mapping of showings, regional cartography, radioactivity line surveys using a hand-held Geiger counter, and core logging.
- **Teaching Assistant**, Spring semester 2008. Ore deposit lab, Professor: Michel Gauthier
- **Intern Geologist**, June 2007 - August 2007. Niogold Mining Corp., Marban Gold Old Mine, Val d'Or, Qc, Canada. Marban district is located in the southern end of the Abitibi greenstone belt, a regional shear zone mostly made of volcanic rocks, but also includes ultramafic rocks, mafic intrusions, granitoid rocks, and early and middle Precambrian sediments. Field work for Master Thesis but I also worked with the geology team to perform core logging, cross section interpretations, and drill targeting.
- **Intern Geologist**, June 2006. Intern for the Côtes-Rôtie and Condrieu Wineries Syndicate. France. Located on the eastern border of the volcano-metamorphic Massif Central, along the Rhône river, the grapes are growing on either granites or gneiss, sometimes covered by quaternary deposits. Geological mapping and consulting on possible geographic extension of the wine labels based on rock formations, under the supervision of Dominique Gasquet, Pierre Faivre and André Payet, from the Université de Savoie.
- **Intern Geologist**, June 2005. Université de Savoie, France; I Built Geographic Information System database to demonstrate the evidence of a link between Pb-Ag showings and Gallo-Romane mining industry in the Contamines-Montjoie Valley, Alps, France. In partnership with the Mountain Research Center (CISM: Centre Interdisciplinaire Scientifique de la Montagne) and the Archeological Services Bureau of Lyon, France.

## Other experiences and Education

- **AEG 2012 presentation. Structural Geology of the Cortez Hills Open Pit: Implications for Highwall Stability and Deformation.** A three-dimensional geologic model constructed from data collected in the

open pit and underground workings reveal a complex structural geology including thrust system, overturned stratigraphy and thickening. A breccia pipe and associated hydrothermal system intruded the structurally thickened and deformed rocks resulting in alteration of the bedrock and mineralization of the ore body. The geology affecting the East highwall of the Cortez Hills Open Pit creates stability challenges such as toppling and bench deformation. In order to keep the factor of safety of the highwall in an acceptable range, an intensive monitoring system has been developed in parallel with adapting the mining and blasting activities in the sensitive areas. September 2012.

- **Substitute Teacher.** Beaverhead County High School, November 2015 – December 2017. All subjects.
- **Volunteer – US Forest Service, Hydrology.** Creation of Hyperlink GIS Layer of Historic Stream Survey Documentation, under the supervision of Kevin Weinner, Hydrologist, November 2015.
- **Advanced Vulcan Training.** Maptek, October 2014
- **DW Pump Screening Selection and Well Development Training.** Barrick, Sept 2014
- **Carbonate Geology and Sequence Stratigraphy Short Course.** Barrick, April 2014
- **Structural Geology Workshop.** Barrick, March 2014
- **Adamtech / Photogrametry basic training.** Adamtech, September 2013
- **AutoCAD Fundamentals and AutoCAD Advanced trainings.** AutoCAD, April 2013
- **Barrick Gold Safety Champion 2013.** Barrick's annual employee awards program recognizes initiative and achievement in the areas of environment, safety and health, continuous improvement, security and corporate social responsibility.
- **WellCAD Essentials for Water, Mining and Energy Logging Data training.** WellCAD, October 2012
- **Building a Drillhole Database training.** Maptek, October 2012
- **Barrick's Compass Program Graduate.** Barrick Gold Corporation developed a mining cross-training program to help entry level miners to get familiar with all activities of a mine site. The program includes activities in areas like: open pit and underground engineering (Geology, hydrology, geotechnical engineering, survey, long range, short range, ore control), open pit and underground mine operations (Dispatch, equipment, maintenance, crew and supervisors in the mining levels and dumps, dewatering), process (assay lab, mill, leach pad, tailings impoundment), safety, and business improvement. Graduated October 2012
- **AAPG field course.** Fractures, Folds and Faults in Thrusted Terrains in the Sawtooth Range of Montana with Bill Hansen, Chuck Kluth, James Sears and Steve Boyer. July 2012
- **Introduction to Move software training.** Midland Valley. April 2012
- **Project Management Training.** Ready To Learn. April 2012
- **Advanced Excel Training.** November 2011
- **Zero to Kriging - Practical Geostatistics Short Course.** Isobel Clark, Ecosse software, May 2011
- **Introductory Resource Modeling Course.** Barrick Modeling Team, Tuscon, AZ, April 2011
- **Vice President of the Geological Association of Chambéry-Savoie (AGEOX),** 2005-2006.
- **President of AGEOX** and creation of the association, 2004-2005
- **Languages:** Fluent in French and English, conversational level in Spanish.