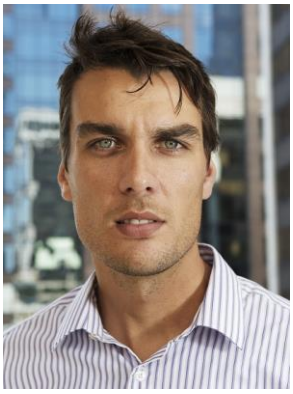
PAUL FERGUSON, Ph.D.

SENIOR GEOCHEMIST



EDUCATION

Ph.D., Earth Sciences, University of Ottawa, ON, Canada, 2007
B.Sc., Earth Sciences, University of Victoria, BC, Canada, 2002

EXPERIENCE

Paul completed his Ph.D. in Earth Sciences in 2007 with a focus on isotope and trace element geochemistry. He has ten years of experience in the fields of environmental geochemistry and hydrogeology and specializes in characterizing the impacts of acid rock drainage (ARD) and metal leaching (ML) on groundwater and surface water quality and the determining the implications for mine closure.

Paul has worked closely with regulatory agencies, mining companies, and other consulting firms during the pre-feasibility, active mining, and closure stages of mining projects in Canada, Chile, and Australia so is well-versed in the permitting process & required regulatory interface during various stages of mining.

Paul is RGC's project lead for closure planning at Nyrstar Myra Falls in western Canada and at the former Rum Jungle Mine Site, an abandoned uranium mine in Australia's Northern Territory. He has also worked at the former Mount Morgan Mine Site in Queensland (Australia) and the Faro Mine Site in Canada's Northwest Territories, as well as on several active mines in northern Canada and Chile.

PROFESSIONAL HISTORY

2008-present:	Senior Geochemist, Robertson GeoConsultants Inc.
2007-2008:	Post-Doctoral Fellow, University of Ottawa
2002-2007:	Ph.D. Candidate, University of Ottawa

PROJECT EXPERIENCE (SELECTED STUDIES)

MINE CLOSURE PLANNING

Former Rum Jungle Mine Site, Northern Territory, Australia

- Conducted initial assessment of current groundwater and surface water quality conditions and assisted in the development of a routine monitoring program for the site.
- Developed a numerical flow model for the site to simulate current hydrogeologic conditions at the site and characterize how they vary seasonally and developed a contaminant load balance model for current conditions

- Outlined conceptual rehabilitation options and post-closure success criteria to be considered by the NT Department of Mines and Resources and facilitated a Multiple Accounts Analysis (MAA) to select a preferred rehabilitation strategy

Nyrstar Myra Falls, British Columbia, Canada

- Conducted an initial assessment of current groundwater and surface water quality conditions and developed a routine monitoring program for the site
- Completed a preliminary assessment of waste rock and tailings geochemistry
- Developed a contaminant load balance model for the site for current conditions and conditions at closure
- Evaluated candidate alternative closure scenarios while writing the Closure & Reclamation Plan for the site

GROUNDWATER IMPACT & SEEPAGE CONTROL STUDIES

Anvil Range Mining Complex (ARMC), Yukon Territory (Canada)

- Assessed ARD/ML from waste rock piles and design seepage interception system.
- Completed annual review of groundwater quality data and identify additional monitoring needs.

Mount Morgan Mine Site, Queensland (Australia)

- Determined impacts by ARD/ML on groundwater and surface water and prepare a contaminant load balance model.
- Completed an annual review of groundwater quality data and identify additional monitoring needs.

MINE PERMITTING & BASELINE STUDIES

Prairie Creek Mine, NWT (2008 - present) for Canadian Zinc (CZN)

- Designed & implemented a groundwater monitoring program at Prairie Creek Mine
- Prepared hydrogeological baseline study for DAR application
- Developed a groundwater flow model for Prairie Creek Mine site
- Assisted in DAR submission and EA process

The Granites mill site, Northern Territory (Australia)

- Reviewed routine monitoring data and identify data gaps and additional monitoring needs.
- Assessed contaminant loads from ARD/ML to groundwater and surface water

SELECTED PUBLICATIONS

Ferguson, P., C. Wels and M. Fawcett, 2012, “Current Groundwater Quality Conditions at the Historic Rum Jungle Mine Site, Northern Australia”, ICARD 9, May 2012, Ottawa, Canada.

Ferguson, P.R. and J. Veizer, 2011, “Fluvial carbon fluxes under extreme rainfall conditions: Inferences from the Fly River, Papua New Guinea”, Chemical Geology. 281 (2011), 283-292

Ferguson, P.R. and J. Veizer, 2007, “Inferred coupling of water vapor and carbon dioxide fluxes between the terrestrial biosphere and atmosphere based on regional-scale estimates of plant transpiration”, Journal of Geophysical Research-Atmospheres, 2007JD008431.

Ferguson, P.R., Weinrauch, N., Wassenaar, L., Mayer, B. and J. Veizer, 2007, “Isotope constraints on water, carbon, and heat fluxes from the northern Great Plains region, North America”, Global Biogeochemical Cycles, GB2023, doi:10.1029/2006GB002702.

Freitag, H., Ferguson, P.R., Dubois, K., Hayford, E.K., von Vordzogbe, V. and J. Veizer, 2007, “Water and carbon dioxide fluxes from a savanna-dominated ecosystem: the Volta River watershed, West Africa”, Global and Planetary Change, 61(1), 3 – 14.