

New British Columbia lithogeochemical database development and preliminary data release: Ministry of **British Columbia Geological Survey GeoFile 2017-6** Energy and Mines Tian Han, Alexei S. Rukhlov, Mustafa Naziri, and Adrienne Moy

Introduction

The British Columbia Geological Survey (BCGS) is the custodian for several provincial geological datasets, including bedrock geology, surficial geology, and geochemistry. These datasets and the products derived from them provide geological information for mineral exploration, environmental assessment, and land use planning. However, the lithogeochemical dataset has not been used to its full potential, due primarily to its intrinsic complexity (diverse analytical methods and numerous analytes), scattered data storage, lack of consistent data updates, and inadequate data quality control (QA/QC).

To address these problems, we developed a new lithogeochemical database and initiated systematic compilation of publicly available provincial lithogeochemical data, following release of the new provincial Regional Geochemical Survey (RGS) database (Rukhlov and Naziri, 2015). We: 1) developed a logical data model based on the intrinsic relationships between basic data entities and essential attributes of the lithogeochemical data; 2) systematically populated and updated the database with data compiled from BCGS publications released between 1986 and 2015; 3) conducted quality assurance and control to the existing and newly added data (referring to the original lab reports where available); 4) enabled production of customizable data products derived from the database; and 5) automated inbound and out-bound data flow for loading the database and generating products. With the above renovations, we established a streamlined process and an operational database system to manage, maintain, update, and distribute province-wide lithogeochemical data routinely and consistently.



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Source data (in different formats)













Managing lithogeochemical data





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Highlights

Status: Preliminary data release as GeoFile 2016-4, accessible at