

Appendix: British Columbia Geological Survey publications and peer-reviewed journal papers authored by BCGS staff and released in 2019

All BCGS publications are available for download, free of charge, from <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/publications>

To receive notification of our latest releases email
Geological.Survey@gov.bc.ca



Papers

Paper 2019-01

Geological fieldwork 2018, a summary of field activities and current research, 140 p.

Ferri, F., Jones, L.D., and Clarke, G., 2019. British Columbia Geological Survey annual program review 2018-2019. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 1-14.

Schiarizza, P., 2019. Geology of the Nicola Group in the Bridge Lake – Quesnel River area, south-central British Columbia. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 15-30.

Ootes, L., Bergen, A., Milidragovic, D., Graham, B., Simmonds, R., 2019. Preliminary geology of northern Hogem batholith, Quesnel terrane, north-central British Columbia. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 31-53.

Milidragovic, D., and Grundy, R., 2019. Geochemistry and petrology of rocks in the Decar area, central British Columbia: Petrologically constrained subdivision of the Cache Creek complex. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 55-77.

van Straaten, B.I., and Wearmouth, C., 2019. Geology of the Latham and Pallen Creek area, northwestern British Columbia: Distinguishing the Tsaybahe group, Stuhini Group, and Hazelton Group, and the onset of Triassic arc volcanism in northern Stikinia. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 79-96.

Mihalynuk, M.G., Zagorevski, A., Logan, J.M., Friedman, R.M., and Johnston, S.T., 2019. Age constraints for rocks hosting massive sulphide mineralization at Rock and Roll and Granduc deposits between Iskut and Stewart, British Columbia. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 97-111.

Simandl, G.J., Petrus, J.A., Matthew I., Leybourne, M.I., Suzanne Paradis, S., and Akam, C., 2019. Characterization of primary fersmite from the Mount Brussilof magnesite deposit, southeastern British Columbia, Canada. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 113-123.

Han, T., Rukhlov, A.S., Riddell, J.M., and Ferbey, T., 2019. A skeleton data model for geochemical databases at the British Columbia Geological Survey. In: Geological Fieldwork 2018, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Paper 2019-01, pp. 125-135.

Appendix: British Columbia Geological Survey publications and peer-reviewed journal papers authored by BCGS staff and released in 2018, pp. 137-140.

Open Files

OF 2019-01

Clarke, G., Northcote, B., Katay, F., and DeGrace, J.R., 2019. Mines, mine development, selected proposed mines, and selected exploration projects in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-01.

OF 2019-02

Ootes, L., Bergen, A.L., Milidragovic, D., and Graham, B., 2019. Preliminary geology of Notch Peak and Ogden Creek (parts of NTS 094C/04 and 093N/13), northern Hogen batholith, Quesnel terrane, north-central British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-02, 1:50,000 scale.

OF 2019-03

Arnold, H., and Ferbey, T., 2019. British Columbia surficial geology map index. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-03.

OF 2019-04

Bustard, A.L., Ferbey, T., and Arnold, H., 2019. Regional- to property-scale till geochemical and mineralogical surveys in British Columbia for base and precious metals. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-04.

OF 2019-05

van Straaten, B.I., and Wearmouth, C.D., 2019. Preliminary bedrock geology of the Latham and Pallen Creek area. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-05, 1:50,000 scale.

OF 2019-06

Milidragovic, D., 2019. Geology of the Cache Creek terrane north of Trembleur Lake, parts of NTS 93K/14. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-06, 1:50,000 scale.

OF 2019-07

Angen, J.J., Rahimi, M., Nelson, J.L., and Hart, C.J.R., 2019. Bedrock geology, Search phase 1 project area, western Skeena arch, west-central British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-07, 1:150,000 scale. Also published as Geoscience BC Map 2019-03-01 and MDRU Map 17-2018.

OF 2019-08

Angen, J.J., Rahimi, M., Nelson, J.L., and Hart, C.J.R., 2019. Aeromagnetic correlation with bedrock geology, Search phase 1 project area, western Skeena arch, west-central British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-08, 1:150,000 scale. Also published as Geoscience BC Map 2019-03-02 and MDRU Map 18-2018.

OF 2019-10

Plouffe, A., and Ferbey, T., 2019. Indicator-mineral content of bedrock and till at the Gibraltar porphyry Cu-Mo deposit and the Woodjam porphyry Cu-Au-Mo prospect, south-central British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-10, 33 p. Also published as Geological Survey of Canada Open File 8580. <https://doi.org/10.4095/315647>.

GeoFiles

GF 2019-01

Mihalynuk, M.G., Friedman, R.M., and Logan, J.M., 2019. Laser ablation ICP-MS geochronologic data from Granduc and Rock and Roll deposits, northwest British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-01, 5 p.

GF 2019-02

Nelson, J.L., 2019. Iskut region geological compilation: Supporting data and working files. British Columbia Ministry of Energy, Mines and Petroleum Resource, British Columbia Geological Survey GeoFile, 2019-02, 2 p.

GF 2019-03

Febbo, G.E., Friedman, R.M., Kennedy, L.A., and Nelson, J.L., 2019. U-Pb geochronology of the Mitchell deposit, northwestern British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile, 2019-03, 8 p.

GF 2019-04

Norris, J., and Fortin, G., 2019. Assessment report-sourced surface sediment geochemical database: Development and initial data release from the Interior Plateau. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-04, 10 p.

GF2019-05

Simandl, G.J., Akam, C., Yakimoski, M., Richardson, D., Teucher, A., Cui, Y., Paradis, S., McPhail, S., and Ferri, F., 2019. Potential recovery of Ca, K, Mg, Br, I, B, and Li from produced water at oil and gas fields, British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-05 (Poster).

GF2019-06

Simandl, G.J., Petrus, J.A., Leybourne, M.I., Paradis, S., and Akam, C., 2019. Primary fersmite and direct indicator mineral concept, Mount Brussilof, British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-06 (Poster).

GF2019-07

Simandl, G.J., Kon, Y., Paradis, S., Hoshino, M., Akam, C., Miller, D., Araoka, D., and Kodama, S., 2019. Geochemistry of the Rock Canyon Creek REE-F-Ba deposit, British Columbia, Canada. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-07 (Poster).

GF2019-08

Rukhlov, A.S., Aspler, L.B., and Gabites, J., 2019. Are Cordilleran carbonatite hosts of Ta, Nb and REE from the deep mantle? British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-08 (Poster).

GF2019-09

Cui, Y., Diakow, L.J., and Miller, D., 2019. Toward international geoscience standards and interoperable web services for British Columbia geology and mineral resources. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-09 (Poster).

GF2019-10

Ferri, F., and Reyes, J., 2019. Rock-Eval, lithogeochemistry, gamma ray spectrometry, vitrine reflectance, and X-ray diffraction analysis of the Besa River Formation in the Rocky Mountains of northeastern British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-10, 3 p.

GF2019-11

Ferri, F., and Reyes, J., 2019. Rock-Eval, lithogeochemistry, gamma ray spectrometry, thermal maturity, X-ray diffraction analysis, and organic carbon isotope geochemistry of the Besa River Formation, west-central Liard Basin, British Columbia (94N/14). British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-11, 5 p.

GF2019-12

Ferri, F., Golding, M., and Reyes, J., 2019. Rock-Eval, lithogeochemistry, gamma ray spectrometry, thermal maturity, and X-ray diffraction analysis of the Grayling and Toad formations (Montney and Doig formations equivalent), Halfway River map area (94B/14). British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-12, 5 p.

GF2019-13

Mihalynuk, M.G., 2019. Reconnaissance mapping in the Lardeau Group, southeastern British Columbia, with implications for Outokumpu-style deposits and high-technology battery metals, Ni and Co. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-13 (Poster).

GF2019-14

Rukhlov, A.S., Fortin, G., Kaplenkov, G.N., Lett, R.E., Lai, V. W.-M., and Weis, D., 2019. Supplementary data for multi-media geochemical and Pb isotopic evaluation of modern drainages on Vancouver Island. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey GeoFile 2019-14, 1 p.

Information Circulars

IC 2019-01

Provincial overview of exploration and mining in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey, Information Circular 2019-01, 133 p.

Clarke, G., Northcote, B., Katay, F., and DeGrace, J.R., 2019. Exploration and mining in British Columbia, 2018: A summary. In: Provincial Overview of Exploration and Mining in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey, Information Circular 2019-01, pp. 1-37.

DeGrace, J.R., 2019: Exploration and mining in the North Central and Northeast regions, British Columbia. In: Provincial Overview of Exploration and Mining in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey, Information Circular 2019-01, pp. 39-56.

Katay, F., 2019. Exploration and mining in the Southeast Region, British Columbia. In: Provincial Overview of Exploration and Mining in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources British Columbia Geological Survey, Information Circular 2019-01, pp. 57-82.

Northcote, B., 2019. Exploration and mining in the South Central Region, British Columbia. In: Provincial Overview of Exploration and Mining in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey, Information Circular 2019-01, pp. 83-99.

Northcote, B., 2019. Exploration and mining in the Southwest Region, British Columbia. In: Provincial Overview of Exploration and Mining in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources British Columbia Geological Survey, Information Circular 2019-01, pp. 101-113.

Clarke, G., 2019. Exploration and mining in the Northwest Region, British Columbia. In: Provincial Overview of Exploration and Mining in British Columbia, 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey, Information Circular 2019-01, pp. 115-133.

IC 2019-02

British Columbia Geological Survey, 2019. British Columbia coal industry overview 2018. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Information Circular 2019-02, 13 p.

Peer-reviewed journal publications

Akam, C., Simandl, G.J., Let, R., Paradis, P., Hoshino, M., Kon, Y., Araoka, D., Green, C., Kodama, S., Takagi, T., and Chaudhry, M., 2019. Comparison of methods for the geochemical determination of rare earth elements: Rock Canyon Creek REE–F–Ba deposit case study, SE British Columbia, Canada. *Geochemistry: Exploration, Environment, Analysis* 19, 414-430. <https://doi.org/10.1144/geochem2018-044>.

Febbo, G.E., Kennedy, L.A., Nelson, J.L., Savell, M.J., Campbell, M.E., Creaser, R.A., Friedman, R.M., van Straaten, B.I., and Stein, H.J., 2019. The evolution and structural modification of the supergiant Mitchell Au–Cu porphyry, northwestern British Columbia. *Economic Geology* 114, 303-324. <https://doi.org/10.5382/econgeo.2019.4632>.

Hickin, A.S., Best, M.E., and Levson, V.M., 2019. Electromagnetic resistivity anisotropy in till from the Kiskatinaw streamlined landform field, northeastern British Columbia, Canada. *Geomorphology*, 335, 14-27. <https://doi.org/10.1016/j.geomorph.2019.03.011>.

Ootes, L., Sandeman, H., Cousens, B.L., Luo, Y., Pearson, D.G., and Jackson, V.A., 2019. Pyroxenitic magma conduits (ca. 1.86 Ga) in Wopmay orogen and Slave craton: Petrogenetic constraints from whole rock and mineral chemistry. *Lithos*, in press. <https://doi.org/10.1016/j.lithos.2019.105220>.

Sheen, A., Heaman, L.M., Kjarsgaard, B., Ootes, L., Pearson, D.G., and Creaser, R.A., 2019. Athapuscow aulacogen revisited: geochronology and geochemistry of the 2046 Ma Union Island Group mafic magmatism, East Arm of Great Slave Lake, Northwest Territories, Canada. *Precambrian Research*, 321, 85-102. <https://doi.org/10.1016/j.precamres.2018.11.012>.

Toma J., Holmden C., Shakotko, L., Pan Y., and Ootes L., 2019. Cr isotopic insights into oxidative weathering of the continents at 1.9 Ga utilizing the Beaverlodge Lake paleosol, Northwest Territories, Canada. *Geobiology*, 17, 467-489. <https://doi.org/10.1111/gbi.12342>.

Contributions to partner publications

Miller, E.A., Kennedy, L., and van Straaten, B.I., 2019. Preliminary field results from Kinskuch Lake, northwestern British Columbia(NTS 103P/11): a study of the boundary between the Stuhini and Hazelton groups. In: *Geoscience BC Summary of Activities 2018: Minerals and Mining*, Geoscience BC, Report 2019-1, pp. 75-86.

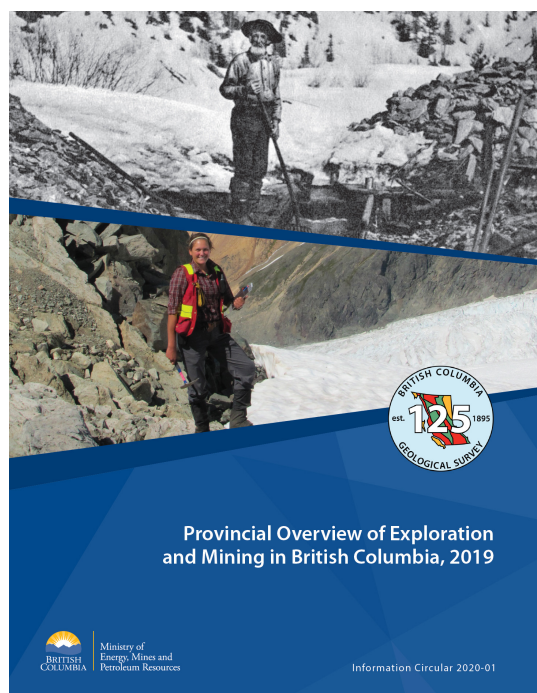
Nixon, G.T., Milidragovic, D., and Scoates, J.S., 2019. Convergent margin Ni-Cu-PGE-Cr ore systems: temporal and magmatic evolution. In: *Targeted Geoscience Initiative 5, Grant Program Interim Reports 2018-2019*. Geological Survey of Canada Open File 8620, pp. 49-61. <https://doi.org/10.4095/314997>.

Ootes, L., Castonguay, S., Friedman, R., and Devine, F., 2019. Superimposed auriferous structural events along the Llewellyn-Tally Ho deformation corridor in southern Yukon and northwest British Columbia. In: Rogers, N., (Ed.), *Targeted Geoscience Initiative: 2018 Report of Activities*, Geological Survey of Canada Open File 8549, pp. 49-58.

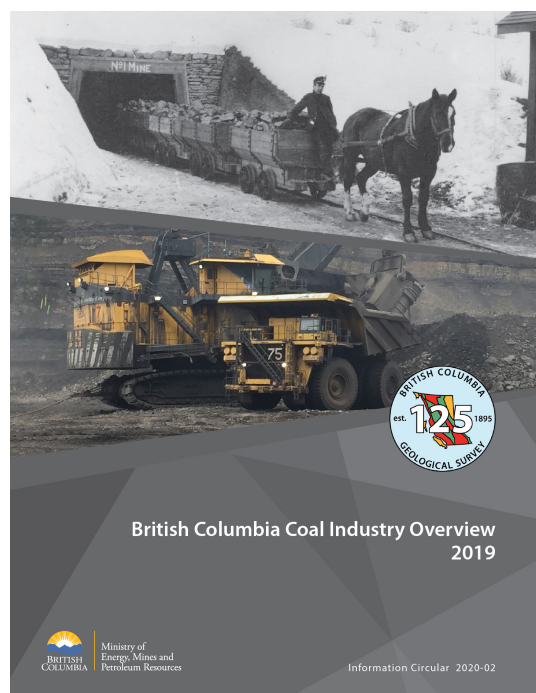
Paradis, S., and Simandl, G.J., 2019. Preliminary carbon and oxygen isotope analyses of hydrothermal carbonates from Mississippi Valley-type and REE-F-Ba deposits of the southern Canadian Rocky Mountains—a comparison. In: Rogers, N., (Ed.), *Targeted Geoscience Initiative: 2018 Report of Activities*, Geological Survey of Canada Open File 8549, pp. 205-216. <https://doi.org/10.4095/313652>.

Plouffe, A., Kjarsgaard, I.M., Kobylinski, C.H., Hattori, K., Petts, D.C., Venance, K.E., and Ferbey, T., 2019. Discovering the next generation of copper porphyry deposits using mineral markers. In: Rogers, N., (Ed.), *Targeted Geoscience Initiative: 2018 Report of Activities*, Geological Survey of Canada Open File 8549, pp. 321-331. <https://doi.org/10.4095/313666>.

The British Columbia Geological Survey is celebrating its 125th anniversary in 2020. Each year it publishes *Geological Fieldwork*, a *Summary of Fieldwork and Current Research* (this volume), the *Provincial Overview of Mining and Exploration in British Columbia*, and the *British Columbia Coal Industry Overview*. All British Columbia Geological Survey publications can be downloaded, at no cost, from www.BCGeologicalSurvey.ca



Provincial Overview of Mining and Exploration in British Columbia volume, Information Circular 2020-01. Top photo of a “forty-niner” tending a dumpbox, Lightning Creek, South Central Region circa 1860, from Royal BC Museum Archives. Bottom photo of British Columbia Geological Survey field assistant mapping in the Golden Triangle, Northwest Region by JoAnne Nelson.



British Columbia Coal Industry Overview volume, Information Circular 2020-02. Top photo of the entrance to the No.1 mine of the Nicola Coal and Coke Company at Merritt in 1908, from Royal BC Museum Archives. Bottom photo of shovel and truck operations at Fording River, Kootenay coalfields, southeastern British Columbia by Fiona Katay.