

Geoscience & Exploration

Title	Author(s)
Check in with GEM-GeoNorth: Updates and future planning	*Plouffe, M.
Northwest Territories mineral exploration and mining overview 2021	*Elliott, B., Reynolds, M.A., Lambiv Dezumua, G., Powell, L.
Nunavut Overview 2021: New tools for exploration	*Bigio, A.
U-Pb geochronology, zircon mineral chemistry, and lithochemistry of plutonic intrusions from the Yellowknife greenstone belt, Northwest Territories: insights into Archean magmatic evolution and the connection to the Townsite Formation and Banting Group	*Speight, S.C., McFarlane, C.R.M., Hanley, J.J.
Re-interpretation of the geology suggests the Campbell Shear extends north of the Giant Mine along the west shore of Walsh Lake	*Hébert, E.
Banded iron formation–hosted gold deposits in Nunavut and a new prospect	*Lebeau, L.E., Mercier-Langevin, P.
The Mispickel Gold Deposit: A one-off system, or one of many?	*Bachynski, R.
Determining gold mineralization style at Salmita Mine, Northwest Territories	*Poulette, S.L.P.
Geophysical data enhancements	*Mirza, A.M.
Reconstruction of the depositional, structural and metamorphic history of the Arrowhead outlier, Northwest Territories, Canada	*Champagne, L.S., DeWolfe, Y.M., Partin, C.A., Knox, B.
Evaluation of the metasedimentary rocks within the Archean Winter Lake greenstone belt, Slave craton, Northwest Territories, Canada	*MacMillan, E.J., DeWolfe, Y.M., Partin, C., Knox, B., Cairns, S.R.
Bedrock mapping in the “Arrowhead outlier” of the Point Lake greenstone belt	*Knox, B., Champagne, L.S., DeWolfe, Y.M., Canam, R.
Updates on surficial geology and glacial history of the Birch Lake area, in the Dessert Lake drumlin field, Northwest Territories	*Normandeau, P.X., Ross, M., Liang, W., Lambiv Dzemua, G., Reynolds, M.A.
The provenance of the Exeter Lake Esker and its application in mineral exploration	*Bilak, G., Cummings, D.
Titanite as a U-Pb geochronometer for gold mineralization in the Yellowknife Greenstone Belt	*Cho, V., Lecumberri-Sanchez, P., Falck, H.
Chemical characterization and timing of uranium mineralization in the Nonacho Basin, Northwest Territories	*Landry, K., Roy-Garand, A., Adlakha, E., Terekhova, A., Hanley, J., Falck, H., Martel, E.
Linkages between Paleoproterozoic magmatism and Fe-Oxide mineralization in the Nonacho Basin, Northwest Territories	*Roy-Garand, A., Landry, K., Adlakha, E., Terekhova, A., Hanley, J., Falck, H., Martel, E.
The timing of deformation and kinematics of shear zones in the Nonacho Lake area, Northwest Territories	*Canam, R., Gibson, H.D., Martel, E., Kellett, D.
Late Archean to early Paleoproterozoic tectono-magmatic evolution of the southwestern Rae craton, Northwest Territories, Canada	*Neil, B.J.C., Chacko, T., Heaman, L.M., Martel, E.

Sedimentology of the Paleoproterozoic Nonacho Basin, Northwest Territories, Canada: Results from the 2021 field season	*Lockie, J.H., Ielpi, A., Fischer, B.J., Martel, E., Pehrsson, S.J.
Chemostratigraphic and biostratigraphic analysis of the Duo Lake Formation at Howards Pass in the Selwyn Basin region, Northwest Territories	*Melchin, M.J., Flower, A.F., Fischer, B.J.
Chemostratigraphy of Late Ordovician to Early Devonian strata hosting the Prairie Creek Zn-Pb-Ag deposit, Southern Mackenzie Mountains, Northwest Territories	*Reynolds, M.A., Falck, H., Paradis, S.
Tracking the source of fluids and fluid-rock interaction at the Cantung and Mactung tungsten skarn deposits, Northwest Territories/Yukon, Canada	*Elongo, V., Lecumberri-Sanchez, P., Falck, H., Legros, H., Sarkar, C., Pearson, D.G., Creaser, R.A., Adlakha, E.
An evaluation of magmatic processes responsible for tungsten enrichment in the Canadian Tungsten Belt: Evidence in melt inclusions of granitoids associated with the Cantung and Mactung W-Cu deposits	*Gomez Garcia, G., Adlakha, E., Hanley, J.J., Falck, H., Lecumberri-Sanchez, P., Rasmussen, K.

Critical Minerals Geology & Exploration

Title	Author(s)
Mineralogy and chemistry of V-bearing shales at the Van Property, Mackenzie Mountains, Northwest Territories	*Green, T.A.P., Brueckner, S.M., Reynolds, M.A.
The origin of barite and formation of 'superheavy pyrite' in the Late Devonian Canol Formation, Selwyn Basin, Canada: Insight from pyrite ($\delta^{34}\text{S}$) and barite ($\delta^{34}\text{S}$; $\delta^{18}\text{O}$) in-situ stable isotope analyses	*Grema, H.M., Magnall, J.M., Whitehouse, M.J., Gleeson, S.A., Schulz, H-M.
Unravelling the effects of deformation on clastic-dominated Zn-Pb deposits: A case study of the Howard's Pass XY deposits	*Kamal, D., Hickey, K.A., Reynolds, M.A.
U-Pb and Lu-Hf characterization of zircon from granites associated with tungsten mineralization, Mackenzie Mountains, Canada	*Rasmussen, K.L., Lecumberri-Sanchez, P., Falck, H.
Hydrothermal and structural controls on lead-zinc mineralization at Pine Point, Northwest Territories	*Adair, R., Garcelon, E., Hansen, J.
Carbonatite-associated REE exploration in the Squalus Lake alkaline complex	*Bachynski, R.
Analysis of long-term stability of filtered tailings at the Cantung Mine, Northwest Territories, Canada	*Surrette, A., Jamieson, H.E.
Characterization of rare earth element ore and dissolution rates in near-surface conditions at the Nechalacho deposit, Northwest Territories	*Taylor, A.E., Jamieson, H.E., Harrison, A.L., Leybourne, M.I.
A TGI-6 task force to help de-risk exploration for IOCG, IOA and affiliated primary critical metal deposits	*Corriveau, L., Montreuil, J-F., Blein, O., Beaulieu, D., Goad, R.

Mining & Advanced Project Updates

Title	Author(s)
Resource estimation at the Mon Gold Mine. Bulk sampling gold deposits, revisiting an old idea	*Webb, D.R.

Energy in Canada's North

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Modelling the Devonian Horn River Group of central Northwest Territories	*Rocheleau, J.
Thermal histories of Cambrian strata and basement rocks from the Great Slave Lake region, Northwest Territories	*Pinto, T.F., Enkelmann, E., Terlaky, V.
GHG Grant Program: An opportunity to lower energy costs and reduce emissions in the mining sector	*Nhuchhen, D.R., *Chalker, E.
Geothermal potential of closed underground mines: Numerical study of the Con Mine, Northwest Territories, Canada	*Ngoyo Mandemvo, D., Raymond, J., Comeau, F-A., Grasby, S., Terlaky, V., Grabke, D.
2021-22 Activity Update – Energy Geosciences Group	*Terlaky, V.
Liard Geothermal Reservoir Project Update	*Terlaky, V.
Ocean, marine life, and anoxic events during warm ice-free epochs: what Devonian rocks of Northwest Territories can tell us	*Kabanov, P.B.

Regulatory & Policy Updates

Title	Author(s)
Development of Regulations under the Mineral Resources Act	*Faryna, L.
Update on recent and planned activities of the Office of the Regulator of Oil and Gas Operations (OROGO)	*de Jung, P.

Community Engagement & Education

Title	Author(s)
ESG & CSR performance of the Cheetah's Nechalacho Rare Earth Mine during its first year of construction and operation	*Connelly, D.M.

Changing Permafrost Landscapes

Title	Author(s)
Permafrost science capacity in the Northwest Territories	*Kokelj, S.V., Karunaratne, K.C., Rudy, A.C.A., Weiss, N., Wilson, A.
Snow compaction and the influence on ground temperatures at sites along the Inuvik-Tuktoyaktuk Highway	*Wilson, M.A., Kokelj, S.V., McAlister, J.
Assessing the temporal and spatial impact of accelerated thermokarst activity on fluvial processes and biogeochemistry within the Willow River catchment, Northwest Territories	*Smith, J.L.J., Tank, S.E., Kokelj, S.V.
Characterization of permafrost cores along the Inuvik - Tuktoyaktuk Corridor	*Alvarez, A., Kokelj, S.V., Froese, D.G.
Permafrost core characterization using gamma ray attenuation and industrial computed tomography scanning	*Pumple, J., Monteath, A., Alvarez, A., Froese, D.
Contrasts in Northwest Territories community sensitivity to permafrost thaw from broad-scale thermokarst mapping	*Weiss, N., Kokelj, S.V., Rudy, A.C.A., Baltzer, J.L., Daly, S.V., Ferguson, C., Gingras-Hill, T., Morse, P.D., Paul, J.R., Pope, M., Wilson, A., Wolfe, S.A.
Yellowknife - Grays Bay Corridor permafrost geohazards mapping	*Morse, P., O'Neill, H.B., Smith, S., Wolfe, S.A., Kokelj, S.V., Rudy, A.C.A., Blade, M., Tremblay, T.
Preliminary modelling of ground ice abundance in the Slave Geological Province	*O'Neill, H.B., Wolfe, S.A., Duchesne, C.
Increases in permafrost mass-wasting driven by failure at the base of permafrost in the central Mackenzie Mountain foothills	*Young, J.M., Alvarez, A., Andersen, B., van der Sluijs, J., Rudy, A.C.A., Kokelj, S.V., Froese, D.
Initial investigations of degrading dendritic peat plateaus in the central Mackenzie Valley, Northwest Territories	*Chiasson, A., Andersen, B., Alvarez, A., Kokelj, S.V., van der Sluijs, J., Rudy, A.C.A., Froese, D.
Regional assessment of the occurrence of taliks below Arctic lakes	*LeBlanc, A-M., Chartrand, J., Smith, S.L.
Linking ice wedge cracking and degradation to catastrophic thermokarst lake drainage	*Tutton, R., Marsh, P., Thorne, R.

Environmental Monitoring & Research

Title	Author(s)
Study of metal mobility from mine tailings - Any risk to the environment?	*Kumkrong, P., Dy, E., Mercier, P.
The influence of water source on trace metals concentrations in the wetlands of the Slave River Delta	*Doig, L., MacKay, S., Fordy, K., Jardine, T., Wade, A., Cunada, C.
Protecting Ts'udé Niljné Tuyeta: What can wetlands tell us about ongoing environmental change?	*Masuzumi, D., Gurney, K., McLeod, J., Tanguay, M., Edgi-Masuzumi, T., Gully, B., Tobac, John, Tobac, Joseph.
Developing an integrated environmental monitoring program to detect road impacts along the Dempster-Inuvik-Tuktoyaktuk Corridor	*Musetta-Lambert, J., culp, J.M.
Broad scale aufeis mapping in the Northwest Territories	*Ensom, T.P., de Grandpré, I., Kokelj, S.V., Gingras-Hill, T.
Characterizing groundwater flow within a discontinuous permafrost environment	*Rudolph, D.L., Wicke, A., Glass, B.
Carbon dynamics and microbial communities associated with winter flow in a lake dominated discontinuous permafrost environment	*Alsafi, N., Tank, S., Palmer, M., Kokelj, S.V., Ensom, T.P., Spence, C.