

# Q&A Panel Discussions – 2021 Geoscience Forum

Wednesday, November 24, 2021

Time	Panel title	Moderator(s)	Presentation title
<b>11:15am (MST)</b>	Overview of exploration & Geological Survey mandates	Charlene Squibb & Julie Ward	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.
			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.
<b>3:15pm</b>	Gold exploration in Northwest Territories & Nunavut	Bernadette Knox & Rebecca Canam	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.
			U-Pb geochronology, zircon mineral chemistry, and litho-geochemistry 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., 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.
<b>4:15pm</b>	Slave craton geological mapping & research	Bernadette Knox & Rebecca Canam	Resource estimation at the Mon Gold Mine. Bulk sampling gold deposits, revisiting an old idea – Webb, D.R.
			Determining gold mineralization style at Salmita Mine, Northwest Territories – Poulette, S.L.
			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, 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.

Thursday, November 25, 2021

Time	Panel title	Moderator(s)	Presentation title
8:00am (MST)	Rae craton bedrock mapping & magmatic mineralization research	Bernadette Knox & Rebecca Canam	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., Martel, E., Pehrsson, S.J.
11:30am	Paleozoic strata & base metal mineralization of the Mackenzie Mountains	Merilie Reynolds & Gideon Lambiv	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.
			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.
			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.
12:00pm	Critical minerals of Northwest Territories	Merilie Reynolds & Gideon Lambiv	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.
			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.
			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.
			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.
			ESG & CSR performance of the Cheetah’s Nechalacho Rare Earth Mine during its first year of construction and operation – Connelly, D.M.

Thursday, November 25, 2021

Time	Panel title	Moderator(s)	Presentation title
3:15pm	Mine tailings science	Heather Jamieson	Analysis of long-term stability of filtered tailings at the Cantung Mine, Northwest Territories, Canada – Surette, 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.
			Study of metal mobility from mine tailings - Any risk to the environment? – Kumkron, P., Dy, E., Mercier, P.
4:15pm	Energy in Canada's North	Viktor Terlaky & Mike Harlow	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.			

Friday, November 26, 2021

Time	Panel title	Moderator(s)	Presentation title
8:00am (MST)	Environmental change	Anna Coles & Tim Ensom	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.
11:15am	Groundwater & winter flow in permafrost settings	Anna Coles & Tim Ensom	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., Spence, C.
1:00pm	Changing permafrost landscapes: Group 1	Steve Kokelj & Ashley Rudy	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.
			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.			
2:15pm	Changing permafrost landscapes: Group 2	Steve Kokelj & Ashley Rudy	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.