Regional Geological Mapping of the Hollinger Lake Area (NTS 23J/16), Labrador Trough
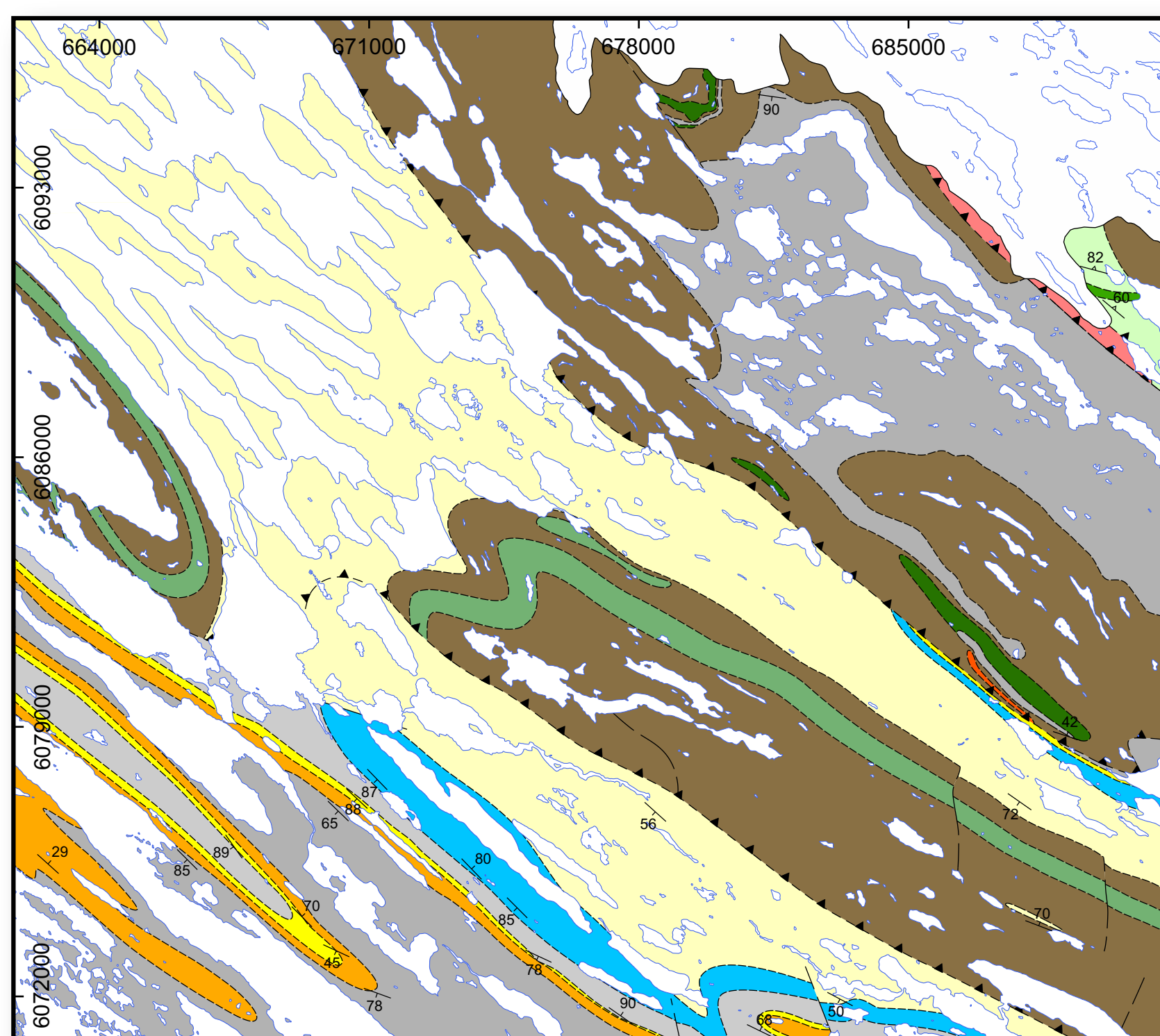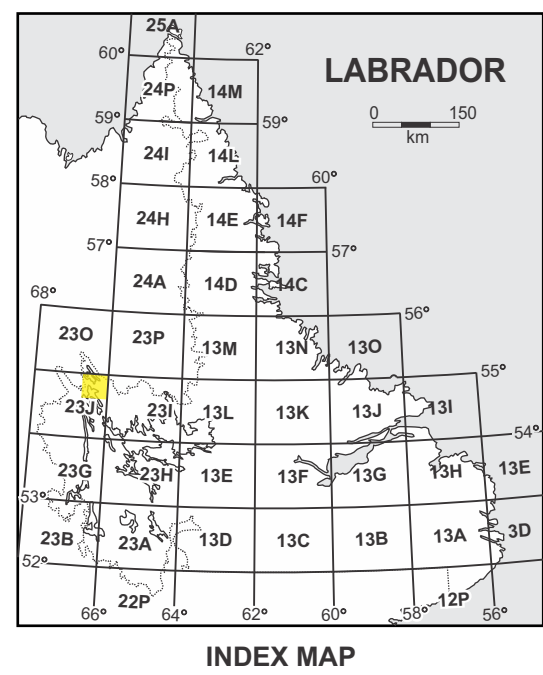
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Natural Resources

Regional, 1:50,000-scale bedrock mapping was carried out in summer 2017 in the Hollinger Lake map sheet (NTS 23J/16), south-central Labrador Trough. The area is underlain by Paleoproterozoic supracrustal rocks of the Kaniapiskau Supergroup, which were deposited along the eastern margin of the Superior Craton and later deformed during Trans-Hudsonian collision. The southwestern portion of the map sheet comprises low-metamorphic grade sedimentary rocks including shale, siltstone, dolomite, quartzite, and iron formation, with minor intercalated basalt. To the northeast, the map sheet is primarily underlain by shale/siltstone and basalt intruded by numerous 10- to 100-m-thick hornblende- and olivine-gabbro sills. K-feldspar porphyritic rhyolite, chlorite phyllite, and deformed volcaniclastic rocks also crop out locally. All of the above rocks were affected by shallow crustal deformation during Hudsonian collision that produced generally southeast-trending folds and thrust faults apparent in geophysical data.

Notable mineralization within the map area includes locally enriched iron formation (Sokoman Formation), and common disseminated sulphides (generally pyrite and pyrrhotite) within the gabbro sills. Quartz veins containing pyrite, chalcopyrite, and malachite locally cut the gabbro. Numerous sulphide-rich gossan zones are developed in thin sedimentary xenoliths (Menihek Formation) within the gabbro.

A scenic view of the Hollinger Lake area. Foreground outcrop is medium-grained equigranular gabbro of the Montagnais Sills.

INDEX MAP

Paleoproterozoic Kaniapiskau Supergroup

Montagnais Group
- Rhyolite
- Glomeroporphyritic gabbro
- Gabbro, diabase

Doublet Group
- Murdoch Formation - Phyllite
- Murdoch Formation - Basalt

Ferriman Group
- Menihek Formation - Basalt
- Menihek Formation - Grey shale, siltstone
- Sokoman Formation - Iron formation
- Wishart Formation - Quartzite
- Denault Formation - Dolomite

Swampy Bay Group
- Le Fer Formation - Basalt
- Le Fer Formation - Grey shale, siltstone

- Bedding
- Foliation
- Thrust fault

Preliminary geological map of the Hollinger Lake area based on Summer 2017 mapping season.
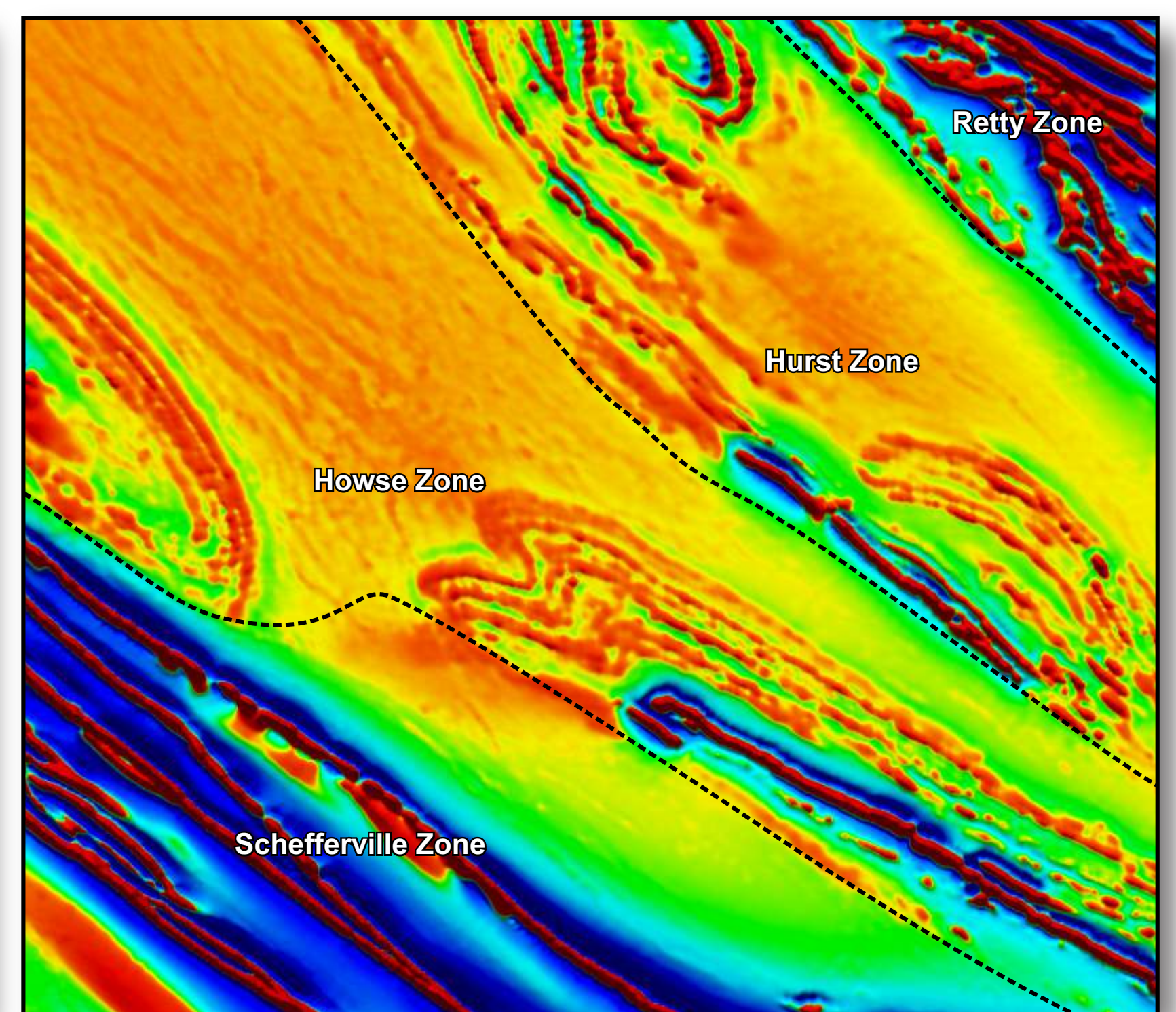
First vertical derivative of aeromagnetic data for the Hollinger Lake area. Dashed lines separate tectonic zones inferred to represent southeast-directed thrust sheets.

Retty Zone

Hurst Zone

Howse Zone

Schefferville Zone

Jasper- and hematite-banded ironstone of the Sokoman Formation.

Rhythmically laminated siltstone of the Dolly Formation.

Sulhpide-rich gossan zone developed in Menihek Formation siltstone associated with a gabbro sill.

Cross-bedded feldspathic quartzite of the Wishart Formation.

Massive, K-feldspar porphyritic rhyolite from the Martin Lake area.

Medium-grained, equigranular gabbro of the Montagnais Group.