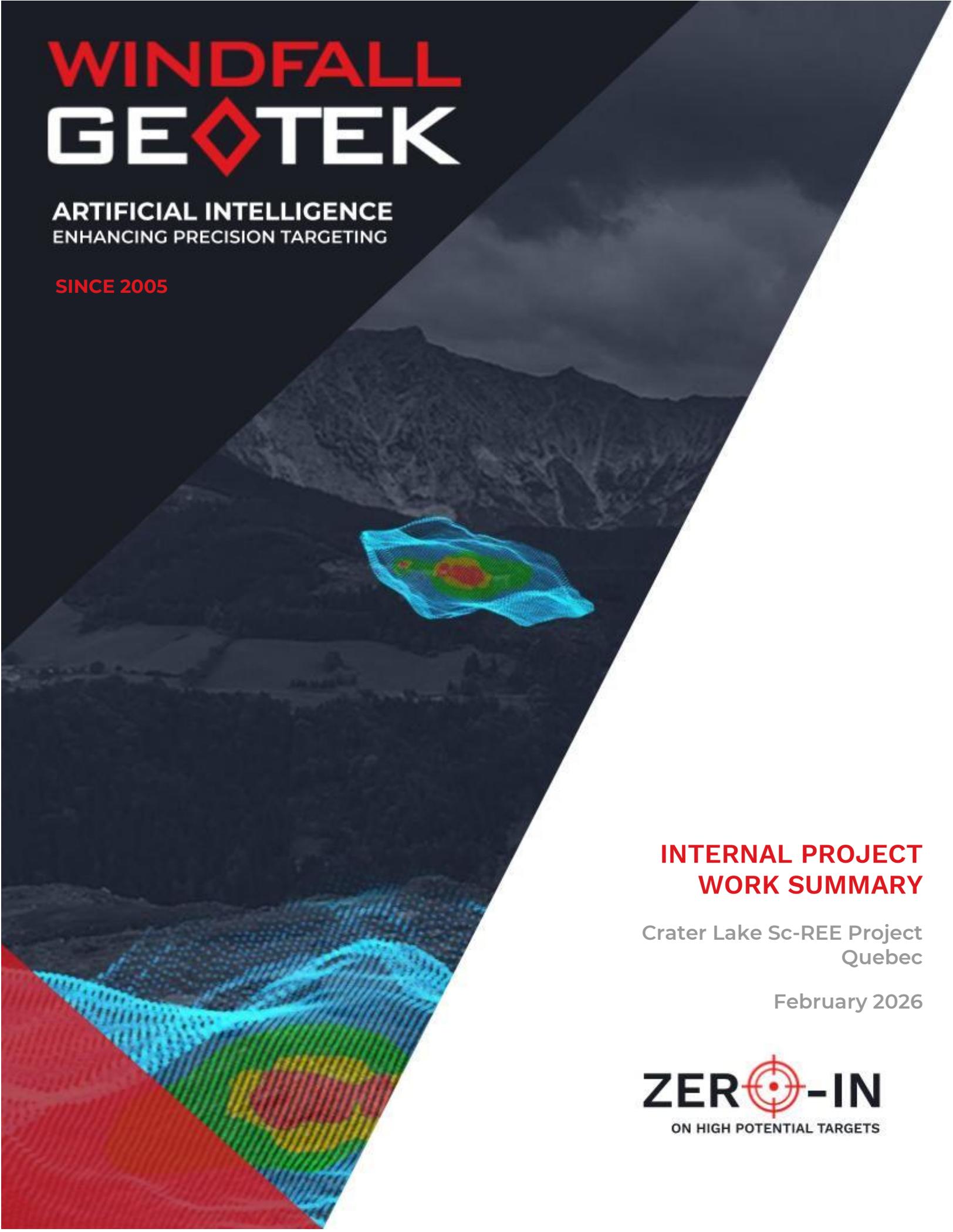# WINDFALL GEOTEK

ARTIFICIAL INTELLIGENCE
ENHANCING PRECISION TARGETING

SINCE 2005

**INTERNAL PROJECT
WORK SUMMARY**

Crater Lake Sc-REE Project
Quebec

February 2026

ZER◎-IN
ON HIGH POTENTIAL TARGETS

WORK PROPOSAL SUMMARY

WINDFALL GEOTEK proposes to use its proprietary AI System to develop scandium (Sc) and REE exploration targets over the Crater Lake Internal Project located near the Quebec-Labrador provincial border, approximately 200 km northeast of the city of Schefferville, Quebec (Figure 1).

Geological Context

"The Crater Lake Deposit is a large, scandium- and REE-bearing alkali igneous intrusive complex. Carbonatite and alkaline intrusive complexes (as well as their weathering products) are the primary sources of REE. Apart from REE, these rock types can also host deposits of niobium, phosphate, titanium, vermiculite, barite, fluorite, copper, calcite, and zirconium. The Crater Lake intrusion displays a gradational contact with its host, the Mistastin rapakivi granite. Both have an A-type affinity and similar trace element composition. The Crater Lake syenites are therefore interpreted to be a late differentiate product of the Mistastin Batholith." (*MDO, https://miningdataonline.com*)

"The dominant exposed lithology (much of the intrusion is covered by a lake) is coarse- to medium-grained, massive syenite, which is mainly composed of perthitic K-feldspar and 1 to 10% by volume of interstitial ferromagnesian minerals, namely fayalite (iron chrysolite, Fe_2SiO_4), hedenbergite, ferro-pargasite and annite (iron-rich biotite), accompanied by accessory quartz, iron oxides (magnetite, titanium-rich magnetite, and ilmenite), zircon, fluorite, apatite and britholite (Petrella 2012). A magnetic and melanocratic unit, ferro-syenite, which commonly contains greater than 50% by volume of ferromagnesian minerals, including cumulate fayalite, hedenbergite and ferro-pargasite, occurs as large continuous to discontinuous subvertical and conical bodies, sills, narrow dikes and inclusions in the felsic syenites. The large ferro-syenite bodies are elongated and concordant to subconcordant to the main contact between the Crater Lake syenite and the Mistastin granite intrusions. These large bodies can reach up to 700 m long, up to 120 m wide, and are open at depth. Three large ferro-syenite bodies have been found on the property: TGZ, Boulder Lake and STG. Petrella (2012) interpreted the narrow ferro-syenite dikes as having formed by fractional crystallization of ferromagnesian minerals, leaving behind a residual magma that produced the felsic syenites". (*MDO, https://miningdataonline.com*)

"At Crater Lake, scandium was enriched in the residual liquid of the parent Mistastin granite magma following extensive fractionation of feldspar, in which scandium is incompatible. This residual liquid became the Crater Lake quartz monzonite magma, which was enriched in scandium and iron. Fluorapatite, zircon, fayalite, and the cores of zoned hedenbergite crystals saturated in this magma chamber. Ring faults developed as a result of caldera collapse, and the magma and minerals were emplaced as a slurry into these faults. The ferro-syenite

formed by in situ fractionation of unzoned hedenbergite crystals, magnetite and hastingsite, and their physical segregation with the previously crystallized minerals. The extremely high FeO/FeO+MgO content of the quartz monzonite liquid resulted in high partition coefficients for scandium in the hedenbergite and hastingsite, allowing scandium to be incorporated into these minerals at exceptionally high concentrations under magmatic conditions." (*MDO, https://miningdataonline.com*)

"The REE mineralization is contained in small primary idiomorphic zircon and hydroxyapatite crystals (identified by XRD analysis). The latter locally form aggregates that were wholly or partly replaced by britholite-(Ce). Two types of hydroxyapatite and one type of britholite-(Ce) have been identified. The first type of hydroxyapatite is magmatic and occurs as euhedral to subhedral, unzoned, transparent crystals that do not show evidence of having been altered. This type of apatite is very frequently observed in the other rock types of the intrusion. The second type of hydroxyapatite also occurs as primary, magmatic crystals but is compositionally zoned, with its core similar in composition to unzoned hydroxyapatite 1. This indicates that hydroxyapatite 2 continued to crystallize after hydroxyapatite 1. Crystals of hydroxyapatite 2 are commonly replaced in their outer parts by britholite-(Ce). Both types of hydroxyapatite commonly occur as inclusions in pyroxene, amphibole and, less commonly, fayalite." (*MDO, https://miningdataonline.com*)

Available Data

Public Databases:

- 2010 High Resolution Aeromagnetic and Gamma-ray Spectrometric Survey Lake Ramusio, Québec and Newfoundland and Labrador data at 50m resolution (DP 2010-01, Sigeom, Québec), (Figures 2 to 4)
- 2 605 rock samples data from Sigeom, Québec (Figure 5)
- 46 drillholes data from Sigeom, Québec (Figure 5)
- Best scandium (Sc) and REE drillhole's results on the Crater Lake Property from the 2025 NI 43-101 Technical Report and Updated Mineral Resource Estimate for the Crater Lake Project, Quebec, Canada (*prepared for Scandium Canada by InnovExplo*)

Proposed AI Model

MODEL: Crater Lake Mag-Rad-Dem Model

Project Area: 8 803.53 sq/km

Model Resolution: 50 m

Total Variables: 460

Total Data Points: 3 529 702

Elements to identify: Two distinct signatures will be created:
1. Sc (threshold Sc above 50ppm)
2. REE (threshold REE above 2000ppm)

Proposed Work

Step 1: Data Verification
- Review of all the geophysical, drillhole assays and rock samples data available in a digital format
- Ensure data characterize the similar geological context
- Verify the quality and quantity of the data for target generation

Step 2: Data Preparation
- Data prep. for magnetic and topographic data
- Data prep. for primary magnetic, radiometric, topography, derivative and neighbouring variables
- Compilation of variables dataset
- Compilation of training dataset using drillhole and surface samples assays data

Step 3: Target Generation

- Use AI Proprietary method to perform high similarity scandium (Sc) and REE exploration targets

WINDFALL GEOTEK

For further information or explanation, don't hesitate to contact WINDFALL GEOTEK.

Respectfully submitted

Grigor Heba, Chief Geologist, P.Geo., Ph.D.

Figure 1: Crater Lake scandium (Sc) & REE Internal Project Location
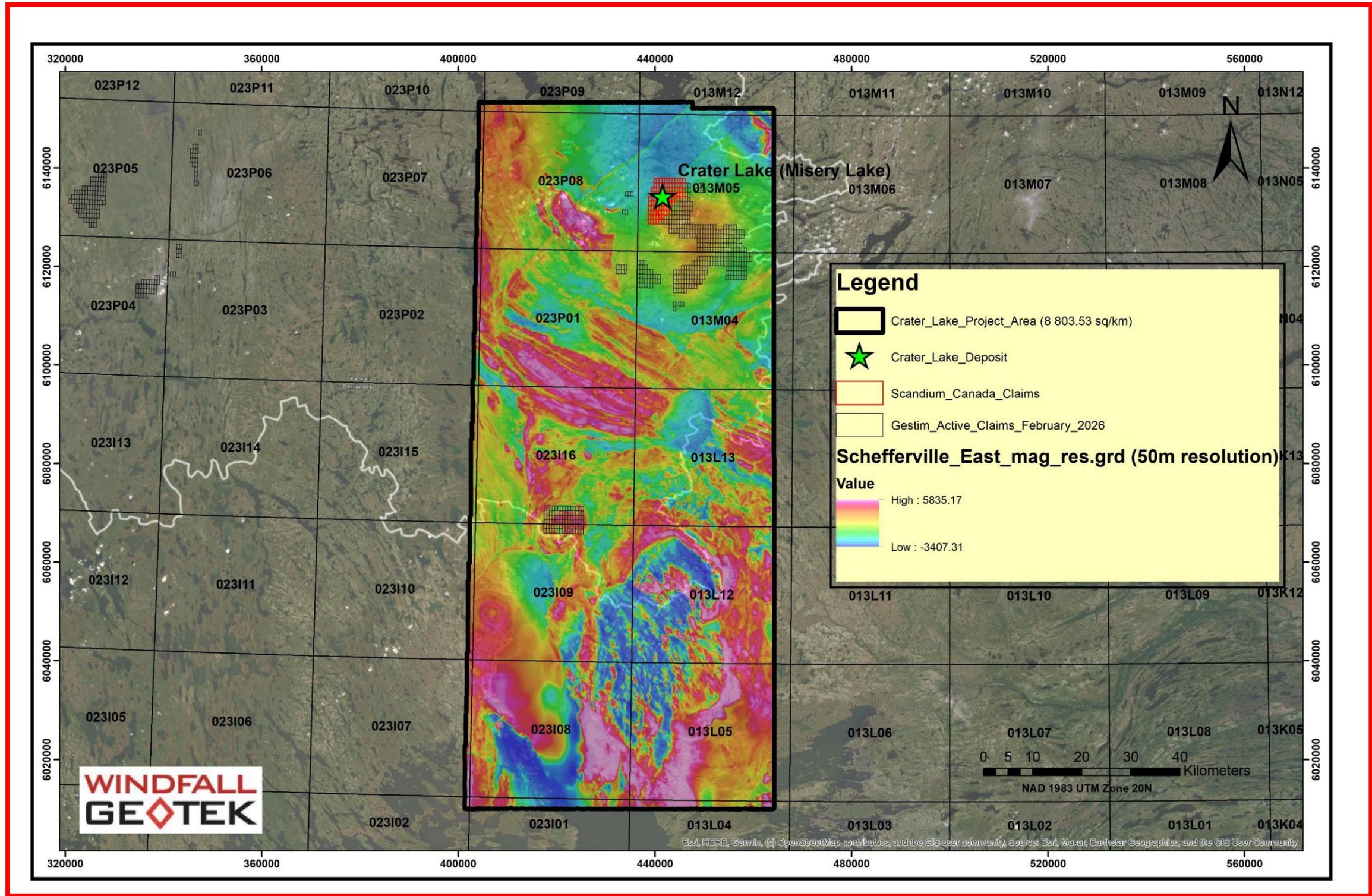
Figure 2: Magnetic data (mag_res) from 2010 High Resolution Aeromagnetic and Gamma-ray Spectrometric Survey

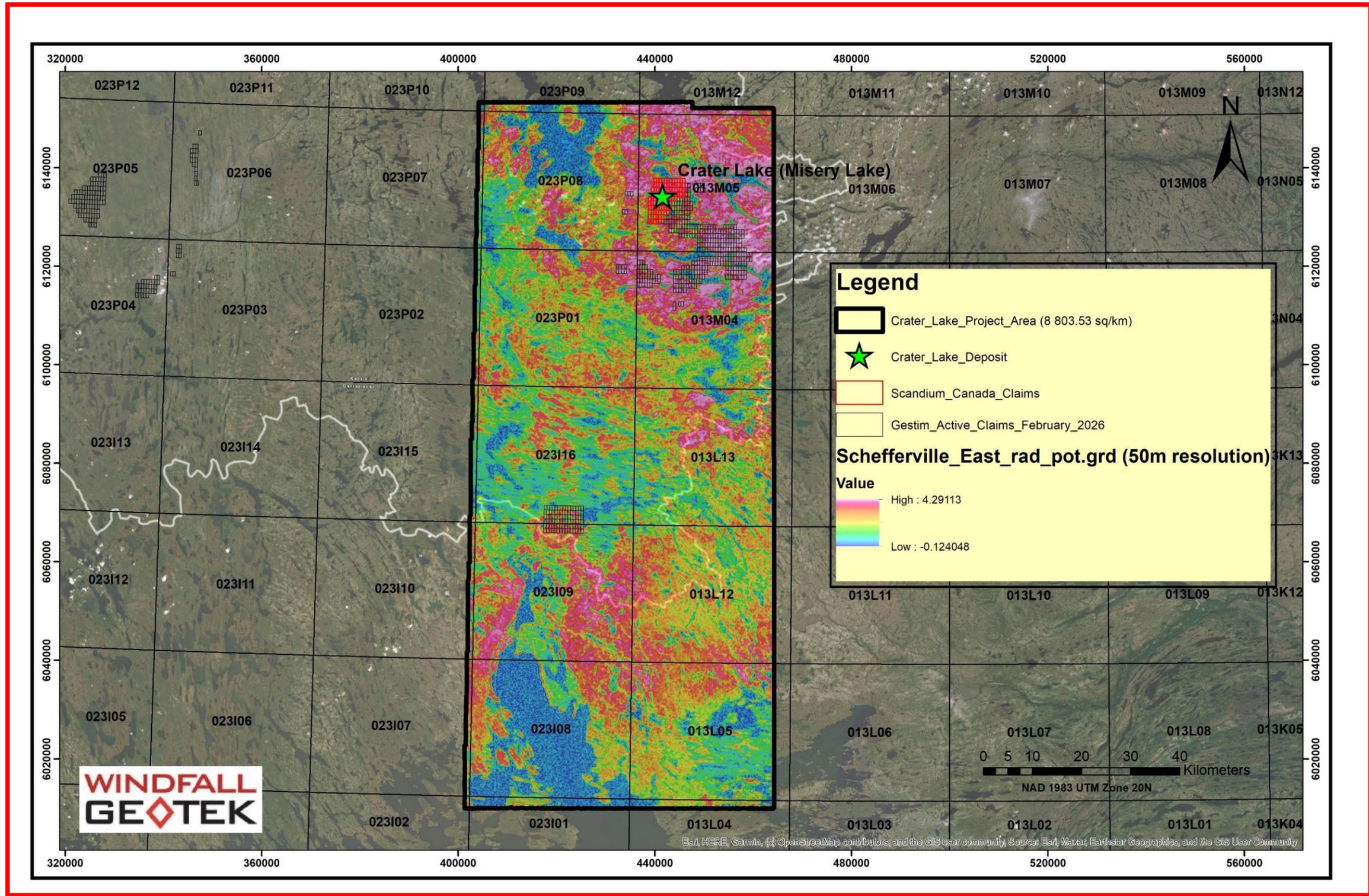Lake Ramusio, Québec and Newfoundland and Labrador at 50m resolution (DP 2010-01, Sigeom, Québec)
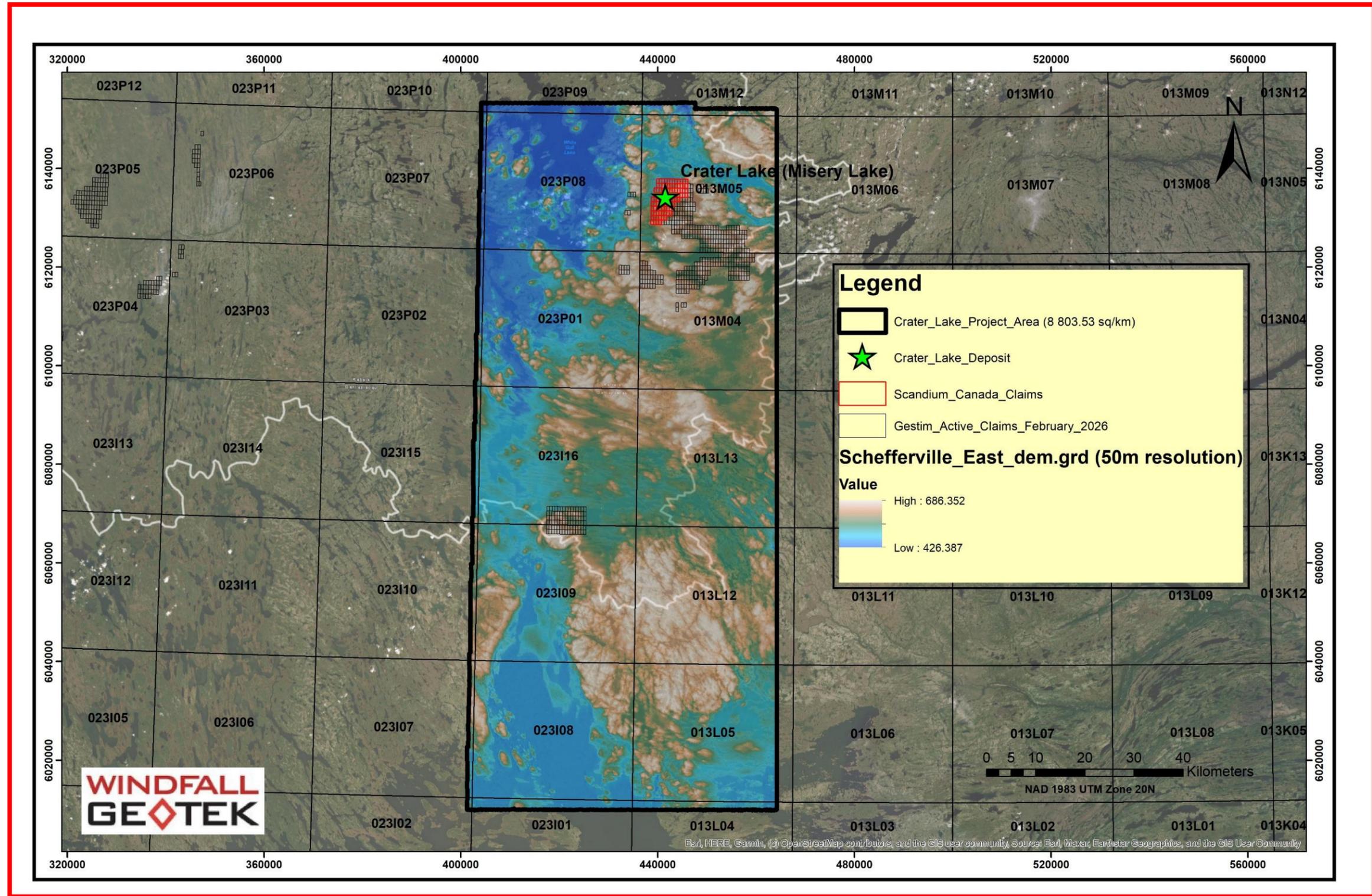
Figure 3: Potassium data (rad_pot) from 2010 High Resolution Aeromagnetic and Gamma-ray Spectrometric Survey

Lake Ramusio, Québec and Newfoundland and Labrador at 50m resolution (DP 2010-01, Sigeom, Québec)

Figure 4: Topography data (dem) from 2010 High Resolution Aeromagnetic and Gamma-ray Spectrometric Survey
Lake Ramusio, Québec and Newfoundland and Labrador at 50m resolution (DP 2010-01, Sigeom, Québec)
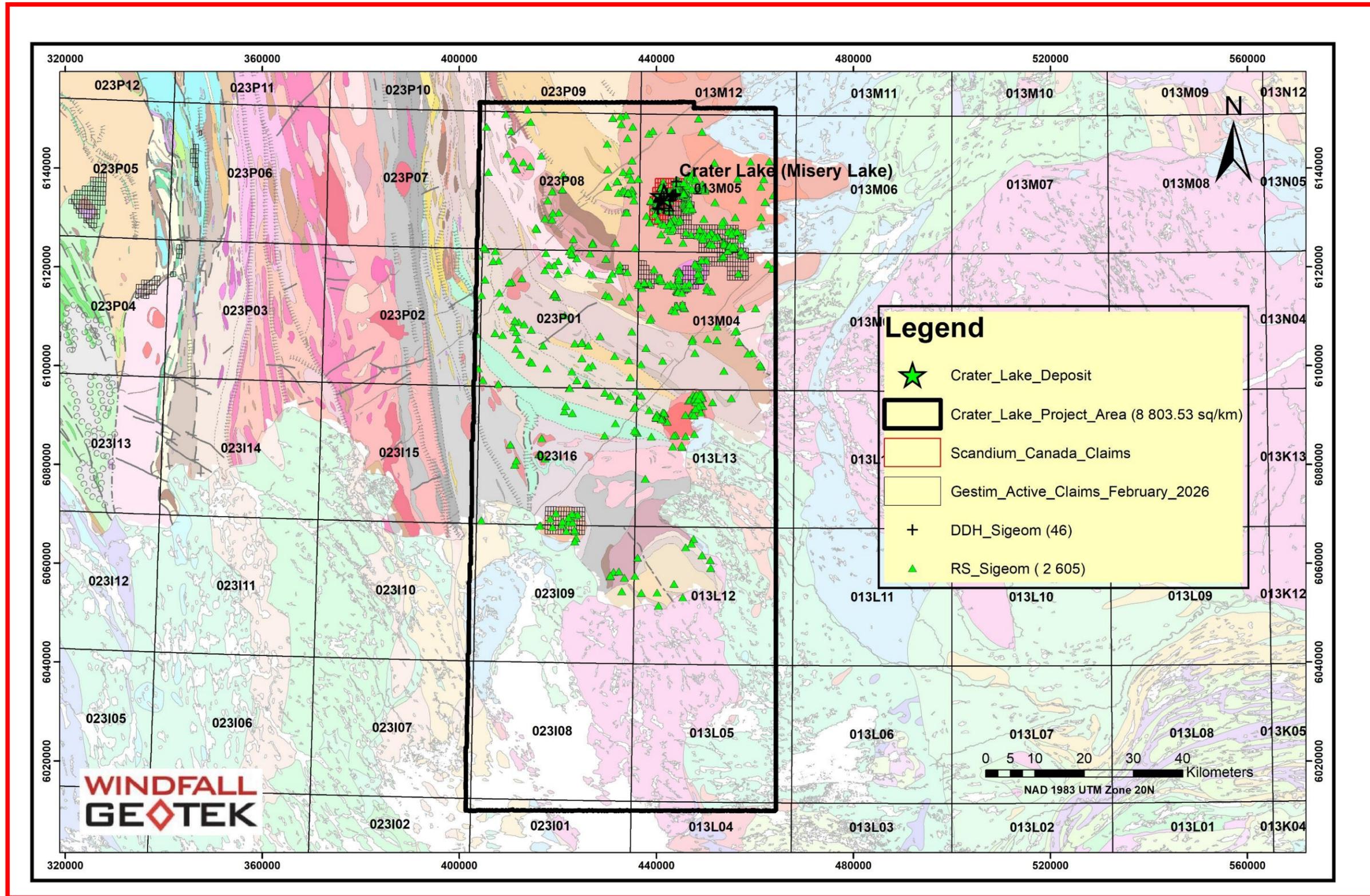
Figure 5: Distribution of Drillholes and Rock Samples data (Sigeom, Québec)