

# Noranda Collection

L. Cathles, September 3, 2019

The Noranda collection consists of rock, powdered rock, thin sections, bulk chemical analyses, and 588 oxygen isotopic analyses at 478 sites from the Noranda district of the Abitibi greenstone belt. Two reports (Economic Geology paper and an internal COFRC report) summarize the results.

## Documentation: Metal Box and Box of X-ray notebooks

### Metal Box

The metal box is the place to start. It contains:

1. Read me Index Notebook
  - a. This overall description of the project
  - b. Chevron release letter and Project related memos
  - c. Cathles, L., 1993, Oxygen Isotope Alteration in the Noranda Mining District, Abitibi Greenstone Belt, Quebec, 88, 1483-1511.
  - d. Hannington, M. D., et al., 2003, Regional-scale hydrothermal alteration in the Central Blake River Group, western Abitibi subprovince, Canada: implications for VMS prospectivity, Mineralium Deposita (2003) 38: 393-422, DOI 10.1007/s00126-002-0298-z
2. COFRC Technical Memorandum TM87000729: Use of Oxygen Isotopes in Massive Sulfide Exploration
  - a. Full background and full analysis details and sample listing (1983-1985), 43p and 4 appendices.
3.  $\delta^{18}\text{O}$  Isotope Notebook
  - a. Analysis reports of all oxygen isotopic analyses
4. Chemical Analysis Notebook
  - a. Whole rock chemical analyses by various vendors
  - b. Beswick report on correction of chemical analyses for metasomatism
  - c. Selected analyses for Boron
  - d. Magnetic susceptibility relationship to  $\delta^{18}\text{O}$
5. Thin Section Overview Lab Notebook
  - a. Pictures of thin section with notes on each
6. Seven Petrographic reports on thin sections (two tension binders)
  - a. Noranda Suite 27A-36B
  - b. Selected Noranda Samples
  - c. Intake Profile
  - d. Intake Profile Supplement
  - e. Discharge #1 (samples 1-18)
  - f. Connection to Discharge
  - g. Intrusive
7. Uzmann Interim Report: Noranda Geophysical Imaging Project
8. Uzmann ms thesis: Compilation Methods and a Preliminary Analysis of a Regional High Resolution Geological Data Compilation within the Southern Volcanic Zone of the Abitibi Greenstone Belt, Quebec, Canada
  - a. Gravity, aeromag, and rock type GIS-style analysis

## X-Ray notebooks

1. Four notebooks with X-ray patterns for 41983 and 43412 samples

## Samples

The samples were collected in the Noranda area over 4 field seasons as indicated in the table below. In addition, published oxygen isotopic analyses by Beaty were included.

Table 1. Rock sample collection.

Field Season	Field Notebook Numbers	COFRC Sample Numbers	Kruger powdered Sample numbers	COFRC Report Numbers	Publication numbers
1983	Nor 1 to 151	41983- 1 to 151	ORS 31xxxx, 34xxxx	A-	1xxxx
1984	COFRC nrs	43412- 1 to 157	ORS 34xxxx, 32xxxx, 33xxxx	B-	2xxxx
Beaty				C-	3xxxx
1985	COFRC nrs	44723- 44724-	ORS 38xxxx	D-	4xxxx
1987	88- nrs	88- 1 to 105	ORS 47xxxx, 48xxxx	E-	5xxxx

### Box 1: Field notes and sample locations

1. Four field notebooks describe the sample sites.
2. Outcrop maps locate the sites.
3. Pictures document the outcrops, but are not (for the most part) tied to the sample collection sites. It might be possible to do this, with some effort.
4. Surrounding outcrop maps are included in Box 1.
5. Air Photos

### Boxes 3-15: Powdered rock samples

1. Fifteen 13x19x3 inch boxes contain the powdered rock samples that were isotopically and chemically analyzed in small 1x2 inch plastic capsules.
2. Powdered rock samples are mostly from field season 1983 to 1985, but there are a few from the 1987 field season (88- series).

### Metal Drums 1-3: Rock Samples

1. Three metal drums contain rock samples.
2. The samples are mostly (all?) from the 1987 field season (88- series).

### Box 2 and 16: Thin sections

1. ~475 thin sections
2. Thins section billets

