



M A G N U S M I N E R A L S

Tanhua mafic complex

Central Lapland Greenstone Belt

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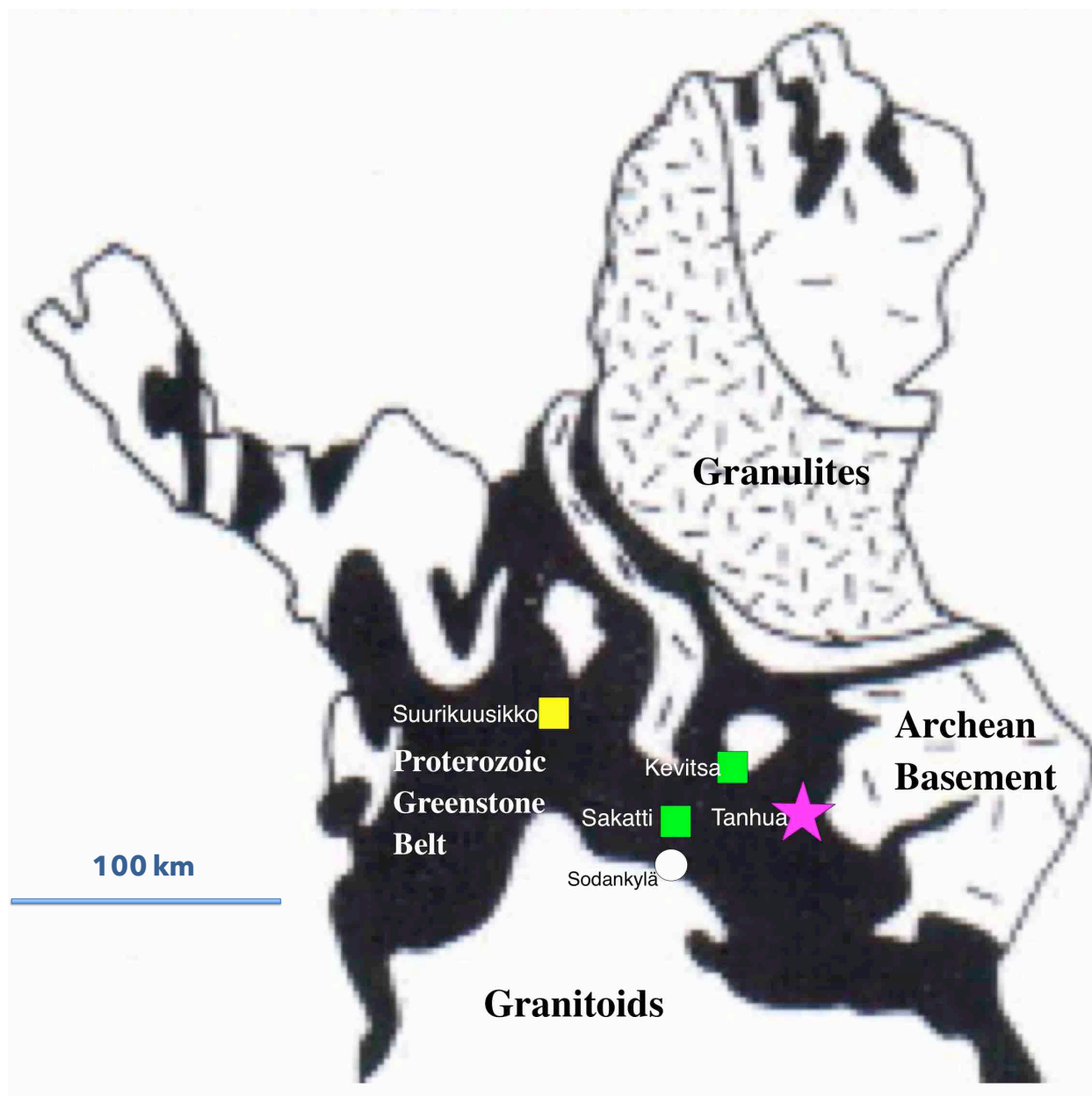


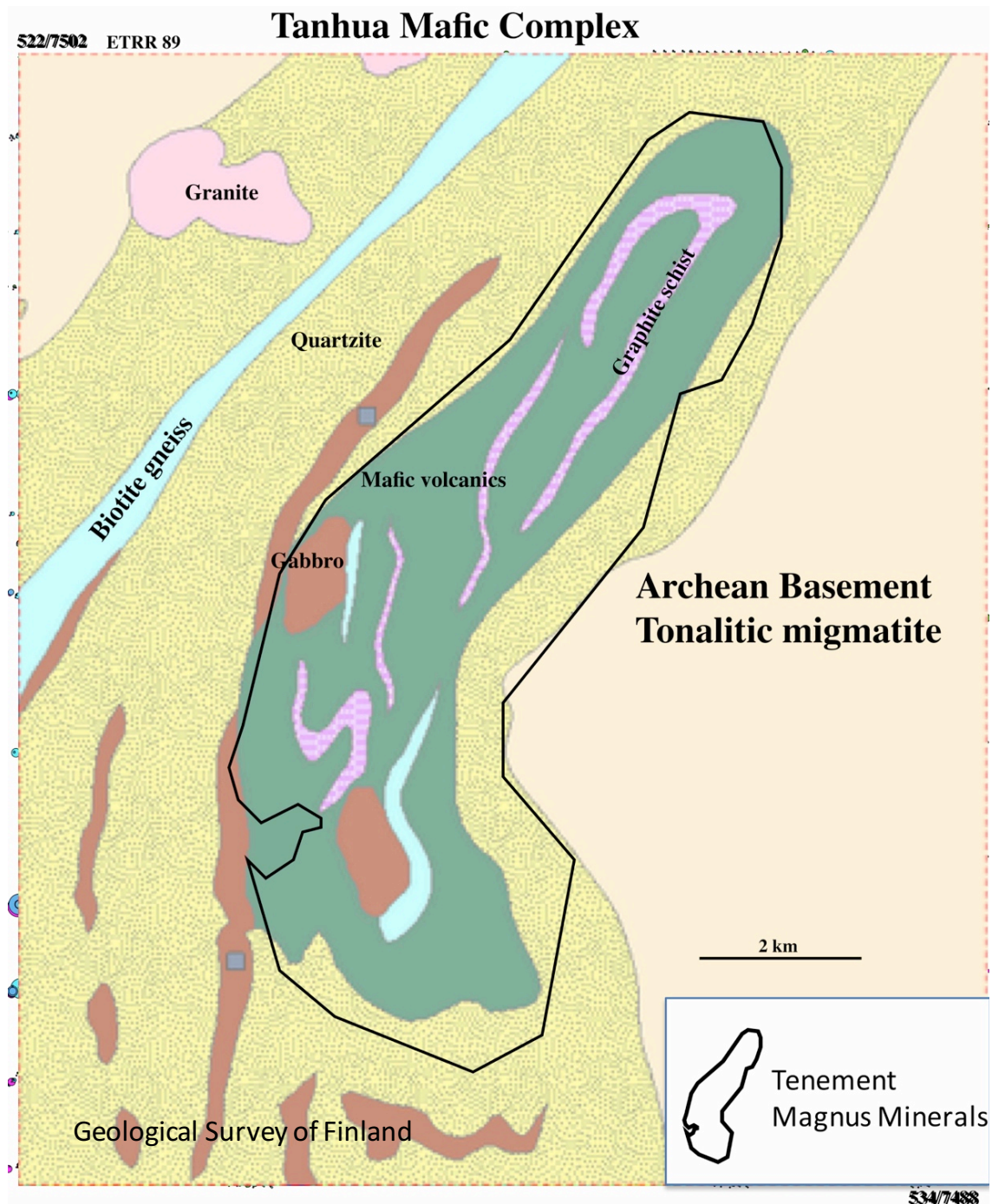
Background

- Tanhua Proterozoic mafic complex is at the **eastern border of the Central Lapland Greenstone Belt (CLGB)** surrounded mainly by metasedimentary rocks
- CLGB is hosting three major deposits (Suurikuusikko, Kevitsa and Sakatti) and a large number of ore bodies and prospects
- The major exploration effort in Finland now is focused on CLGB
- The Tanhua area has seen very limited exploration in the past. No diamond drill holes are known in the mafic complex.
- Magnus Minerals held a reservation over the Tanhua area in 2012 to 2014 as part of a JV project with Antofagasta. The area was part of **a VTEM survey in 2014**. (Proprietary to Magnus Minerals.)
- **The VTEM survey is showing a very strong and distinct EM anomaly over the Tanhua mafic complex**
- Only very limited boulder and outcrop mapping was conducted to follow up the VTEM anomaly during the JV. **Ultramafic outcrop with sulfide impregnation was found in the northern end of the complex** but this observation was not followed up
- **Magnus Minerals did limited orientation work in parts of the complex during 2017**

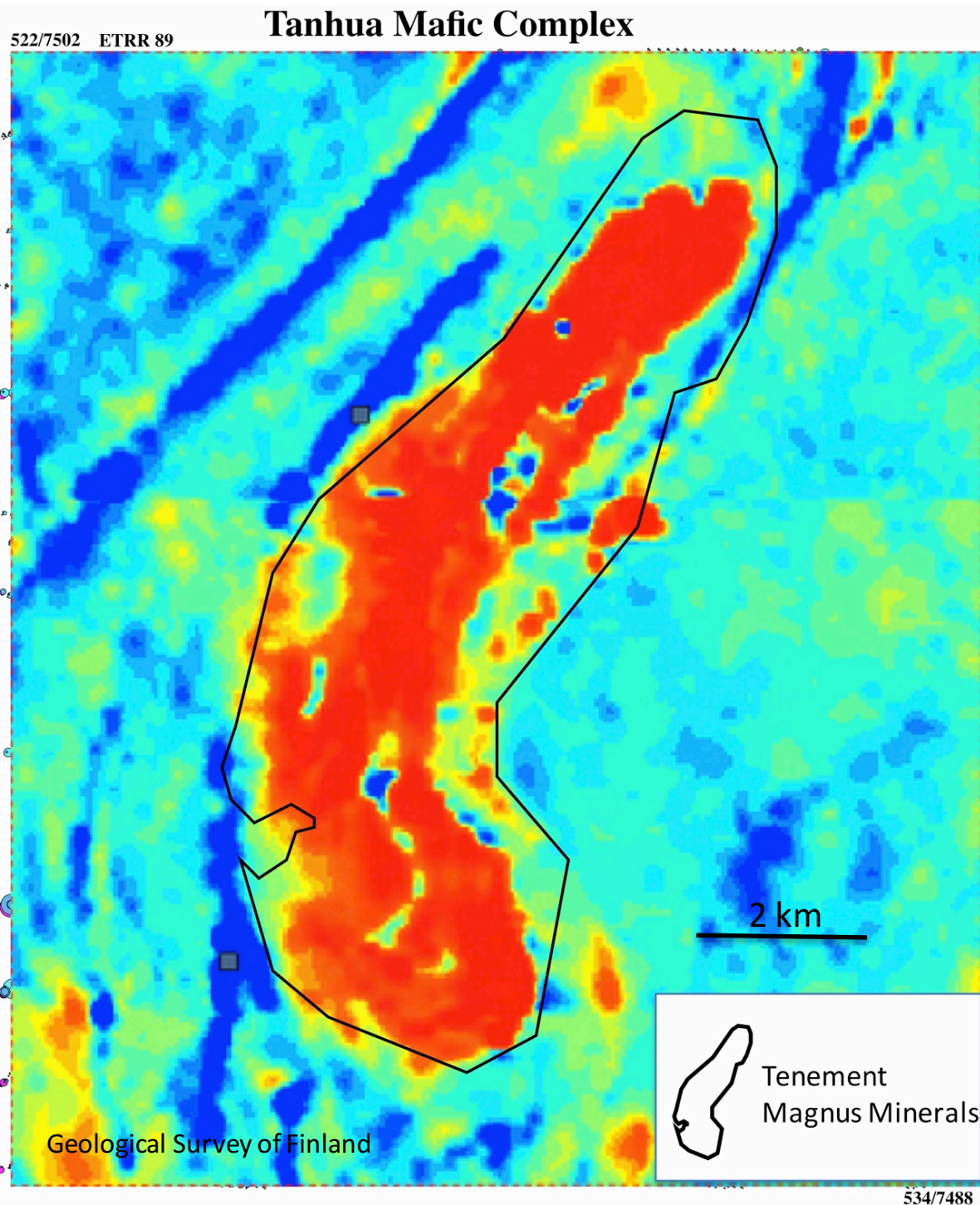
Major geological units in central Lapland.

After M.Saverikko 1987

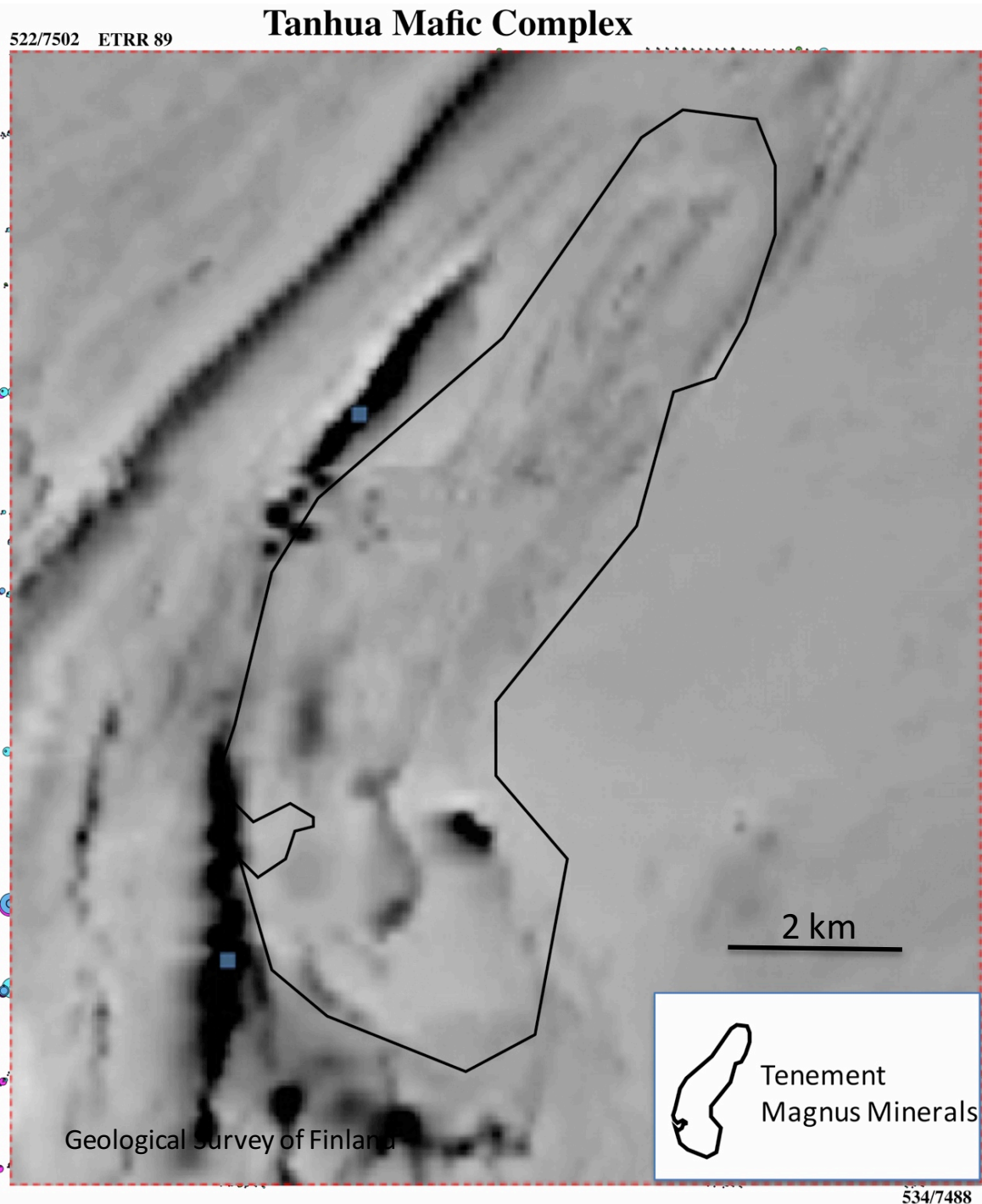




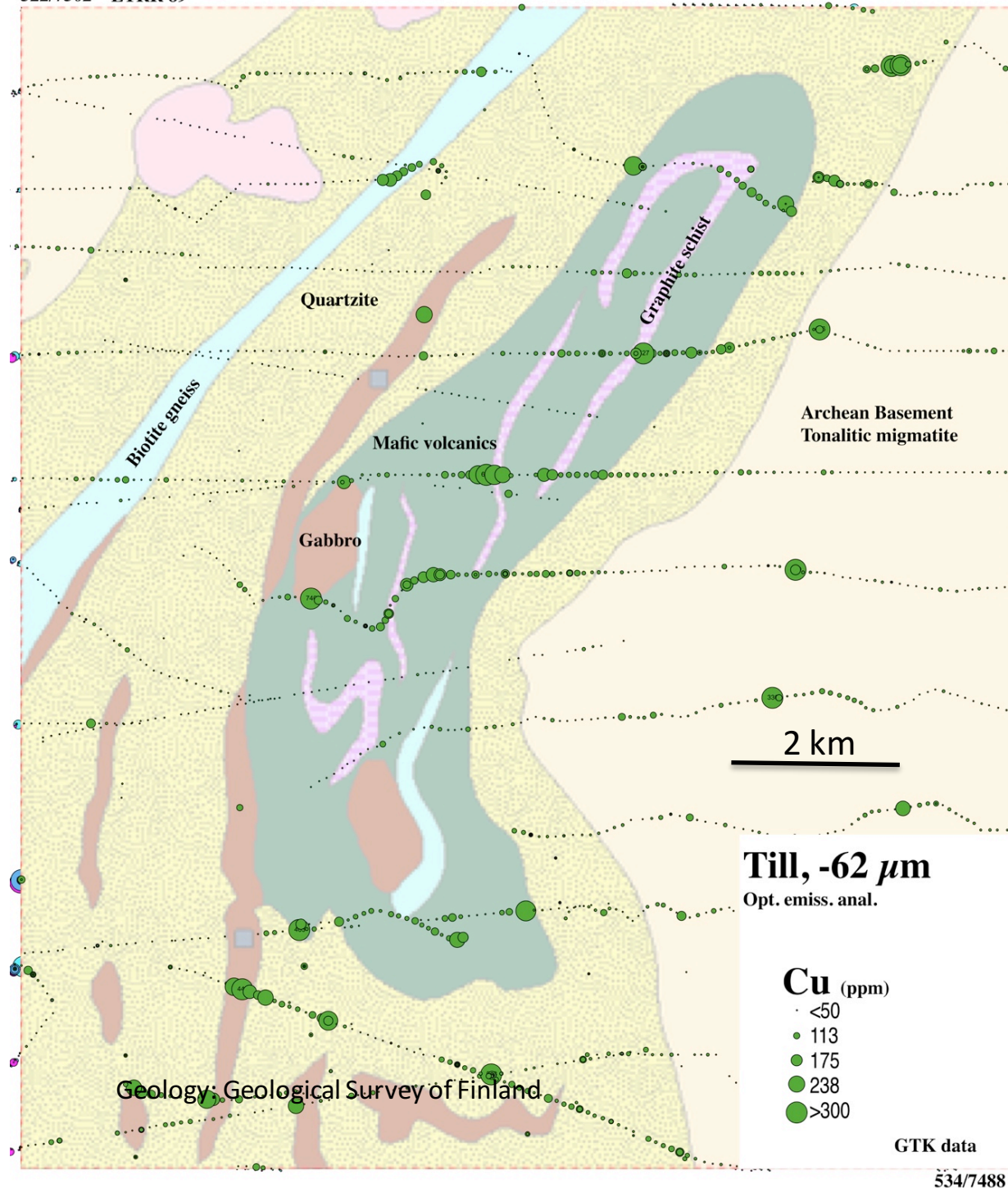
Geology of the Tanhua area



Aerogeophysical map. In-Phase EM



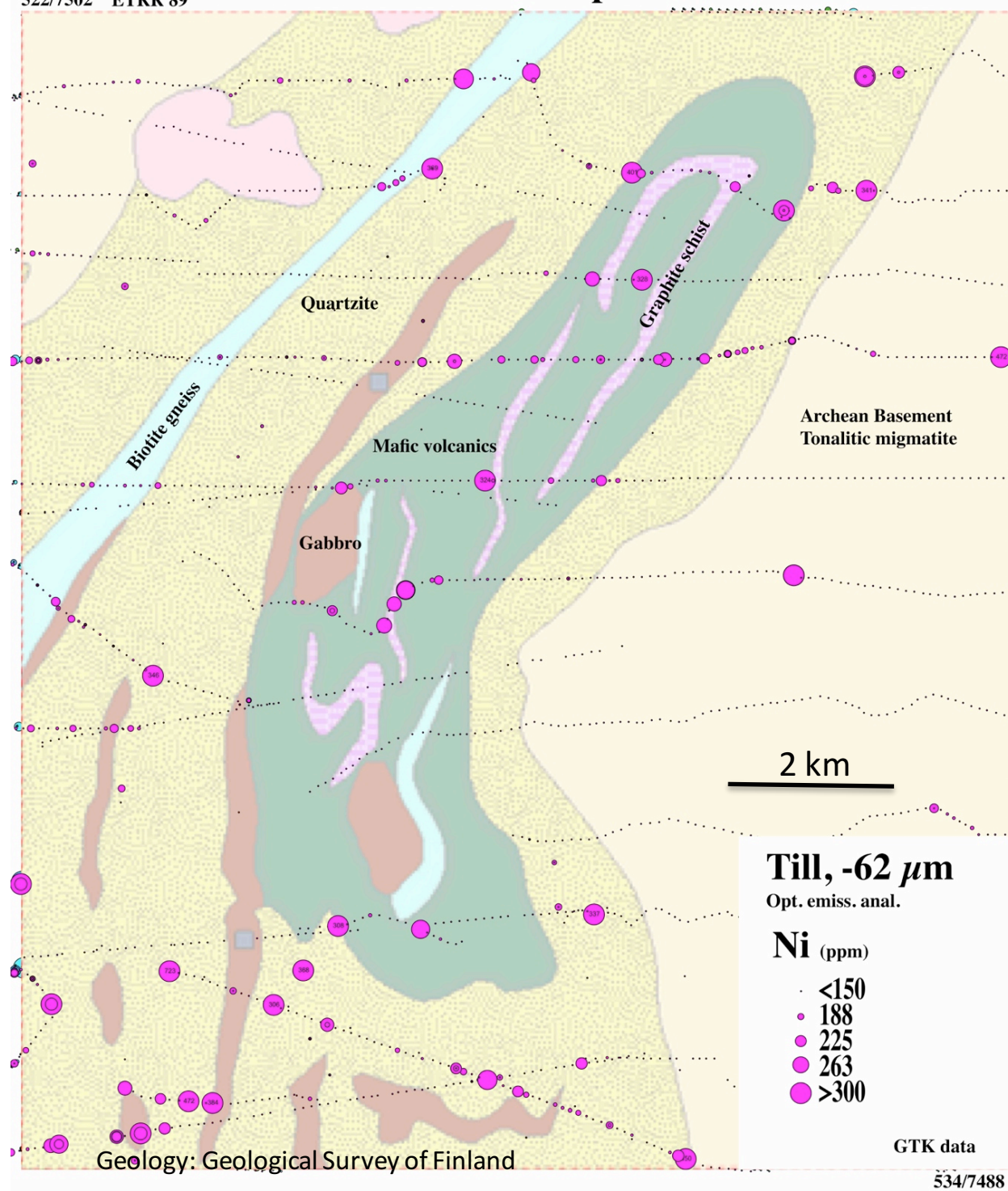
Aerogeophysical map. Magnetics



Geochemistry of the -62 μ m fraction of till

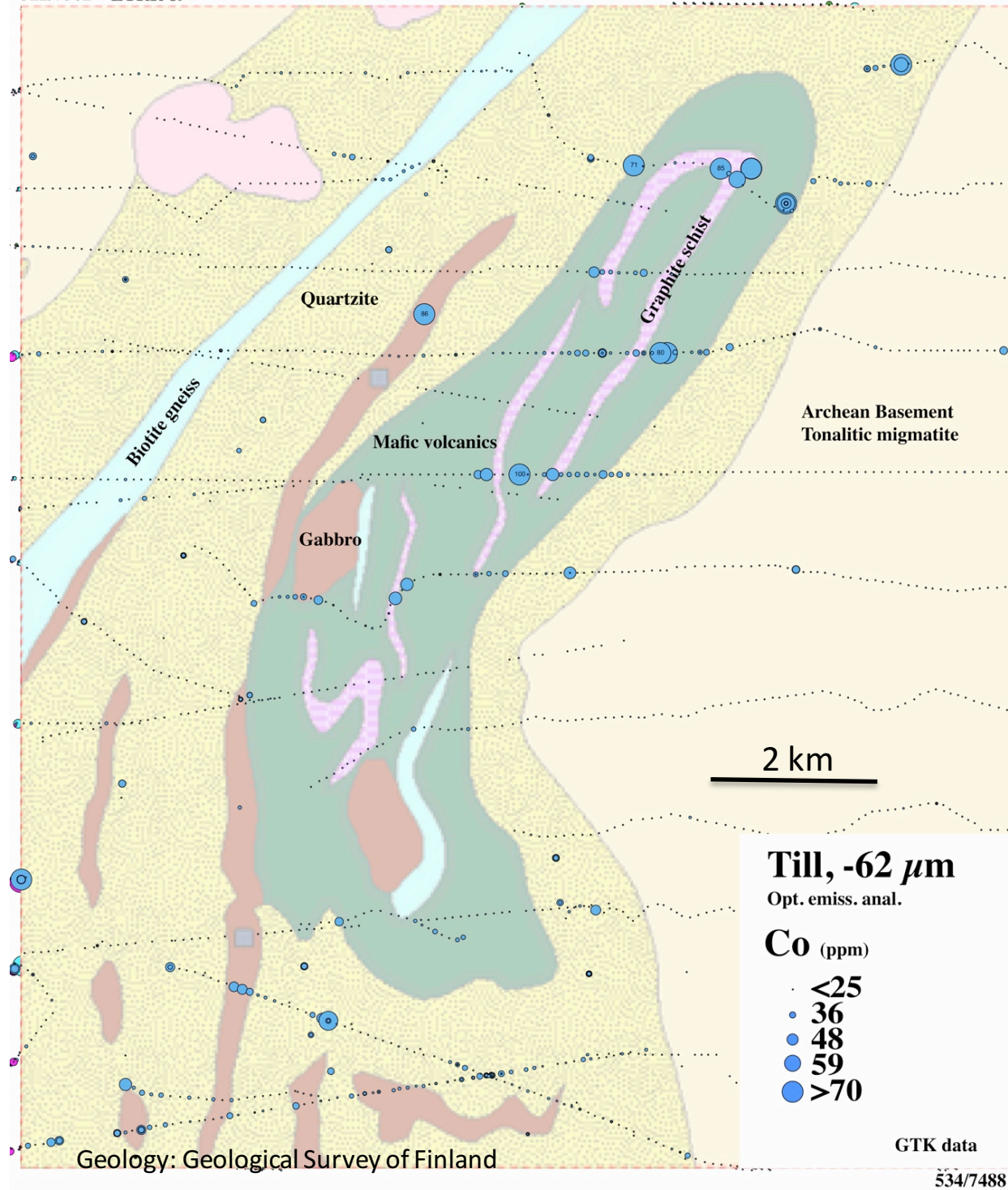
- Till samples were collected by the Geological Survey of Finland at 100 m spacing along lines spaced at 1 km in a regional geochemical survey
- Semi-quantitative analysis was done with a tape-fed emission spectrometer
- Very strong Cu anomalies (max 740 ppm) occur in the mafic complex

Tanhua Mafic Complex



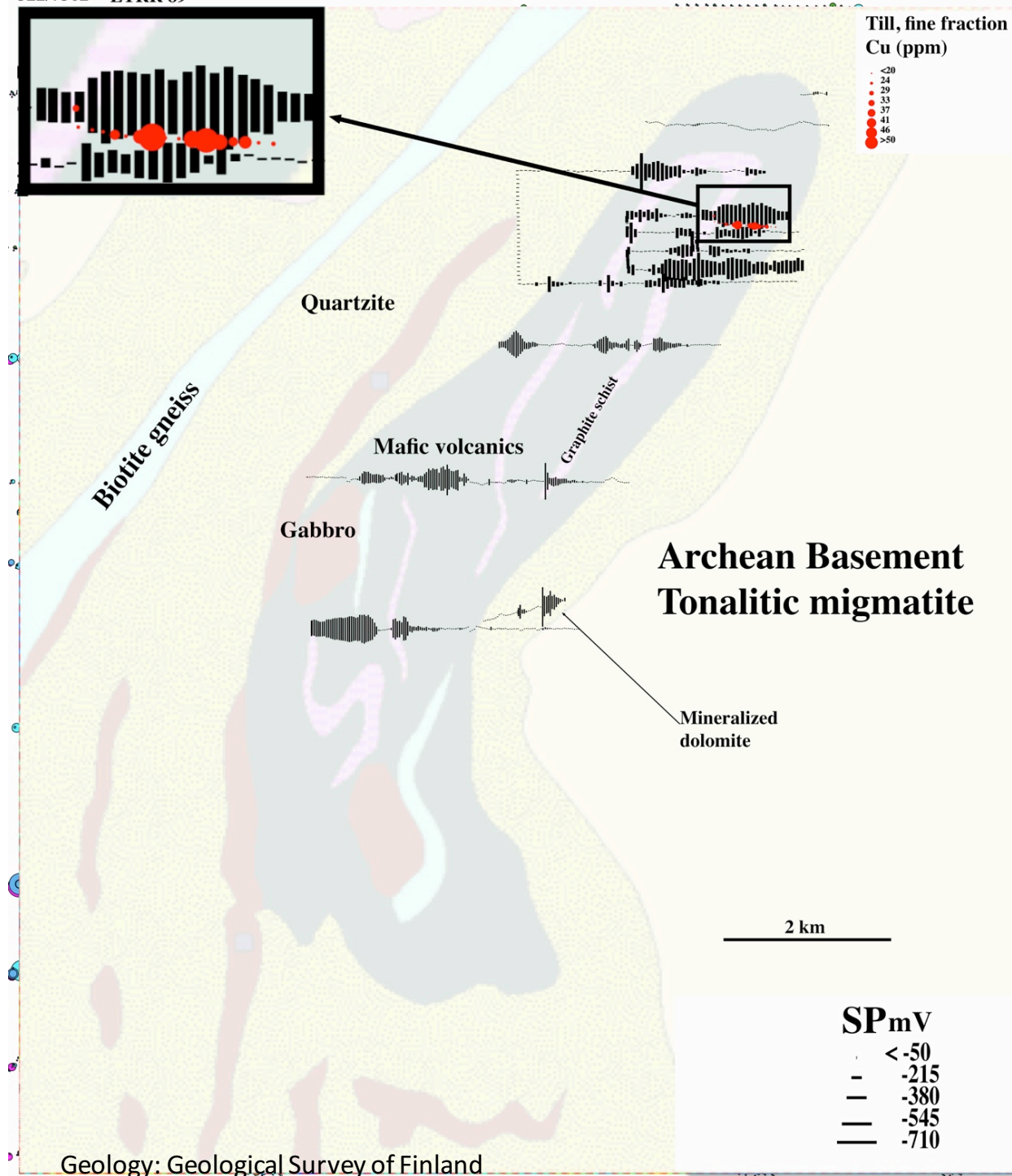
There are also peaking Ni contents (max 400 ppm) in many samples in the complex.

Tanhua Mafic Complex



Also the Co contents are up to a maximum of 100 ppm

Tanhua Mafic Complex



SP measurements and Cobra sampling

- Magnus Minerals carried out a SP survey along widely spaced lines in 2017 in the northern part of the mafic complex.
- Very strong conductivity was encountered on all lines, The most negative values being some 700 mV.
- In only one SP anomaly a limited boulder and outcrop survey was done in 2017. A sulfide bearing dolomite was found to be the reason for the conductivity
- Till sampling with a Cobra percussion drill was done in 17 sites in the northern end of the complex. Anomalous Cu contents were found in the strongest parts of an SP anomaly.

Conclusions

- **As part of the Central Lapland Greenstone Complex the rocks in the Tanhua mafic complex can be seen as prospective for Ni, Cu, Co, PGM ore.**
- This geological unit has seen very limited exploration in the past
- The data of the VTEM survey, in the possession of Magnus Minerals, shows that **the unit has very strong conductors.**
- Also the **geochemistry** of till is anomalous in several parts for **Ni, Cu** and **Co**.
- A limited **SP survey shows that very strong negative anomalies (conductors) can be outlined**
- **As SP is measuring the conductivity in a vertical direction and EM in a horizontal direction,** anomalies found with the two methods are not always superimposed
- Measurement of SP in a large number of areas has shown examples where airborne EM does not respond on ore but SP is giving very strong anomalies. The mineralized ore body at Sirkka, western Lapland is an outstanding example of this

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