

Magnus Minerals Oy

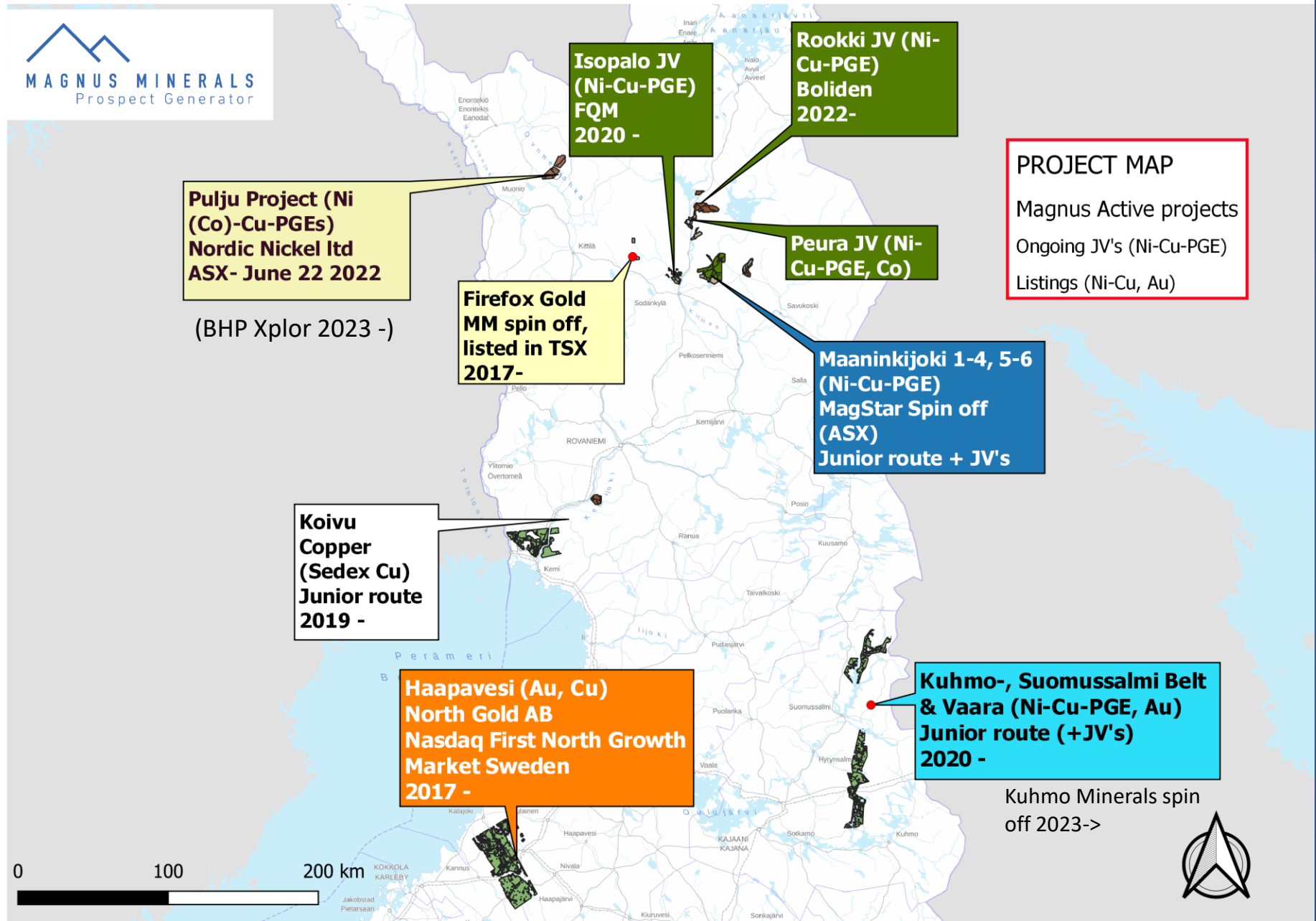
2024

Juho Haverinen, malminetsintäpäällikkö

Magnus Minerals Oy



- Team size 5 geologists, 1 geophysicist, 2 geotechnicians.
- **We actively engage with local stakeholders**
- Current Joint Ventures (JV)-> Boliden, FQM, NNL
- Listed entities ->FinnAust (London), Nordic Nickel (ASX), North Gold AB (Stockholm), Firefox Gold (Toronto)
- **Active projects** -> Peurasuvanto JV, Rookki JV, Isopalo JV, Maaninkijoki 1-2 JV, Maaninkijoki 4-6, Maaninkijoki 3 (NNL), Pulju Belt (NNL)
- Development stage -> Kuhmo Belt Ni-Cu, Koivu SedEx



Pulju Project (Ni (Co)-Cu-PGEs)
Nordic Nickel Ltd
ASX- June 22 2022

(BHP Xplor 2023 -)

Firefox Gold
MM spin off,
listed in TSX
2017-

Isopalo JV (Ni-Cu-PGE)
FQM
2020 -

Rookki JV (Ni-Cu-PGE)
Boliden
2022-

Peura JV (Ni-Cu-PGE, Co)

PROJECT MAP
Magnus Active projects
Ongoing JV's (Ni-Cu-PGE)
Listings (Ni-Cu, Au)

Maaninkijoki 1-4, 5-6 (Ni-Cu-PGE)
MagStar Spin off (ASX)
Junior route + JV's

Koivu Copper (Sedex Cu)
Junior route
2019 -

Haapavesi (Au, Cu)
North Gold AB
Nasdaq First North Growth
Market Sweden
2017 -

Kuhmo-, Suomussalmi Belt & Vaara (Ni-Cu-PGE, Au)
Junior route (+JV's)
2020 -

Kuhmo Minerals spin off 2023->

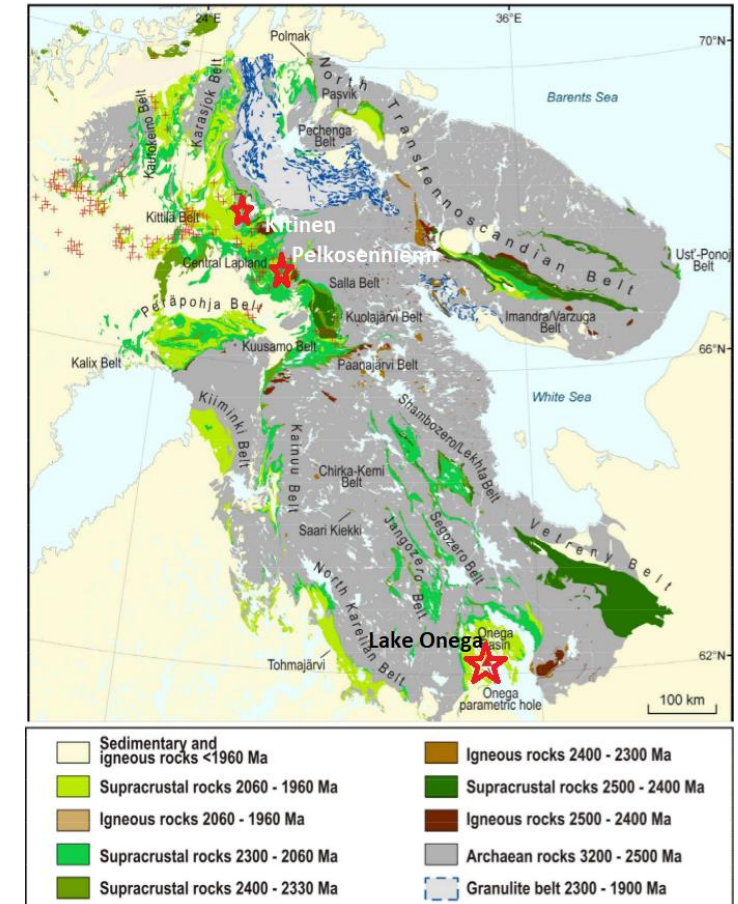


• Exploration Thesis – Part 1

• Theory behind

DESCRIPTION

- Recent discovery of two-billion-year-old evaporites has been the “Game Changer” in nickel exploration in Central Lapland Greenstone Belt (CLGB)
- Paleoproterozoic (PPZ) evaporites, the world’s first, extensive sulfate bearing sediments, formed into shallow seas in the aftermath of the Great Oxidation Event
- At CLGB, the Rift related, fertile and metal rich magmas intruded into, and through the easiest pathways, most likely through the newly formed, easily dissolving evaporite sequences
- Interaction between magma and evaporites resulted release of aggressive components sulfur, and oxygen into system
- Dissolved evaporitic components caused the change in the magma, and fluid compositions, and changed also the settings of possible ore formation processes



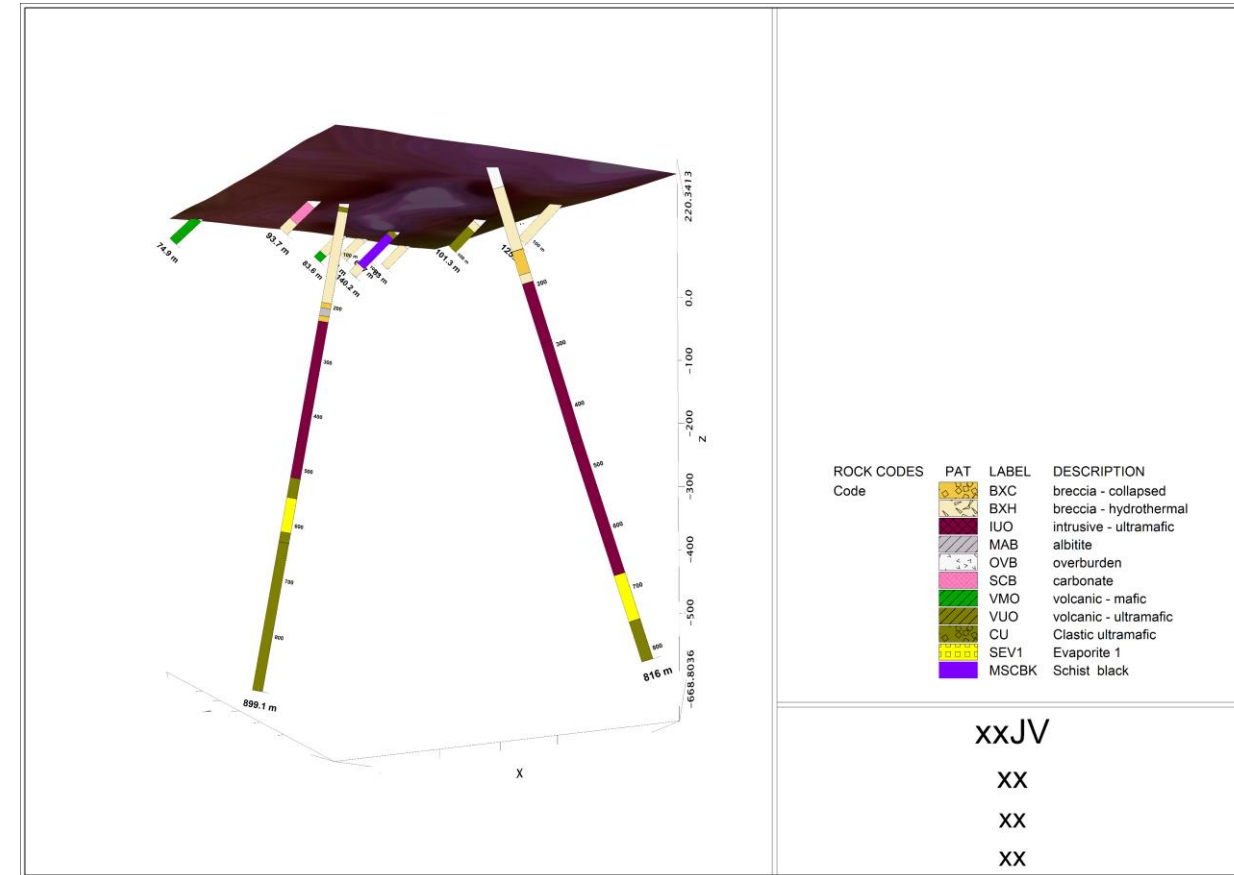
PPZ evaporites were first discovered at Lake Onega 2008, at the depth of 2.7km. Recent discoveries at CLGB followed up with Sakatti discovery and Magnus Minerals JV's. Known PPZ evaporite locations are shown in the map

• Exploration Thesis – Part 1

• Theory behind

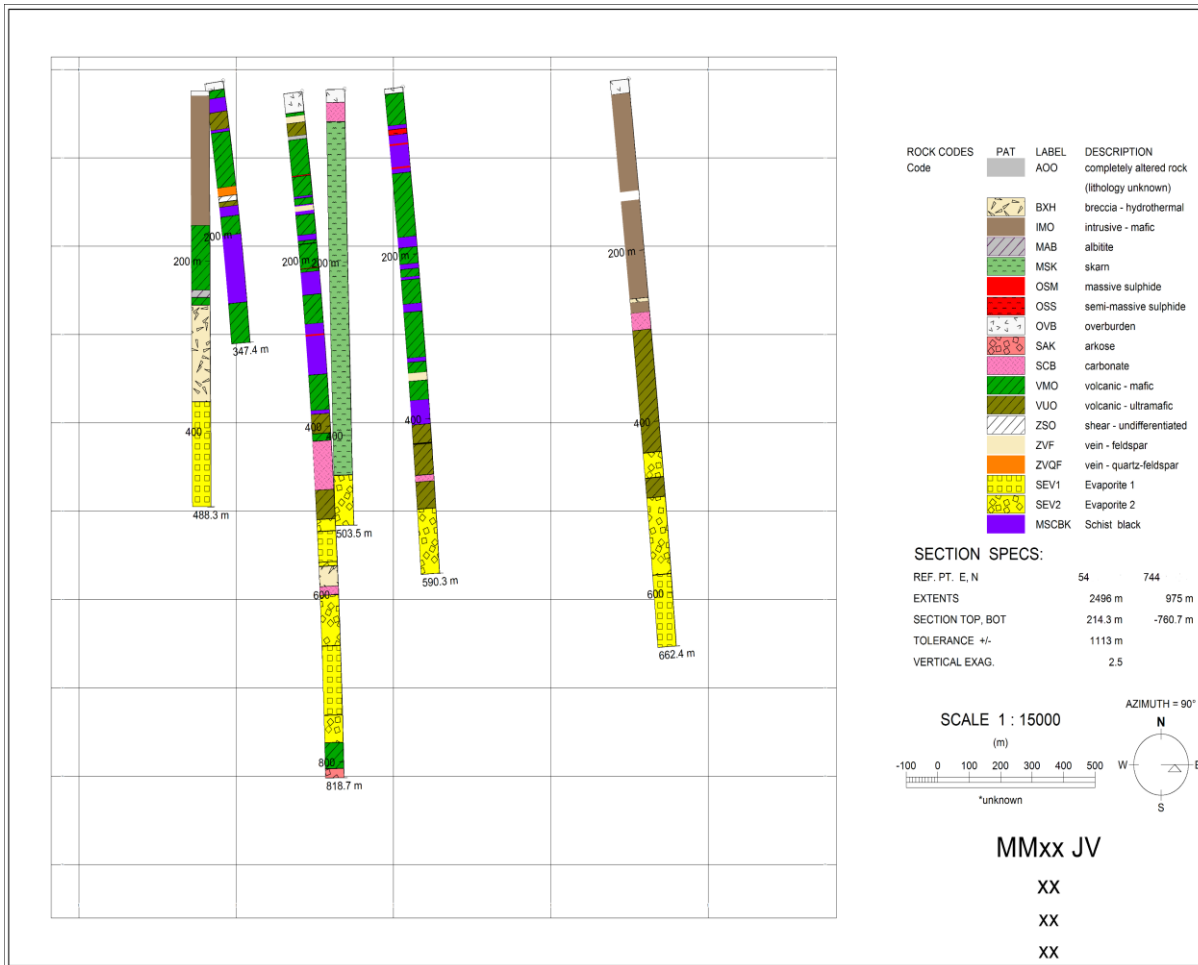
DESCRIPTION

- Ore Formation Process in simplified version is result of 3 components 1. Sulfates (S, O) 2. Dynamic, turbulent metal bearing magma 3. Reductant (C)
- By the interaction of evaporites and magma, the resulting contaminated, metal & volatile bearing magma was reduced by graphite bearing sediments (black shales), this then initiated metal grasping sulfide saturation
- O₂ will shift Fa -> Fo leaving Ni without the host -> longer in system
- Most well-known corresponding systems are probably Norilsk, followed by Central African Copper Belt
- At CLGB, Sakatti's mineralization is deep seated (>500m) hosted by 2.05Ga ultramafic cumulates, and confirmed to sit on top of the evaporitic rocks
- The "Game change" is best observed in the average depths of nickel exploration holes -> (see pic on right -> historical DD(2009) vs Magnus Minerals DD (2018))

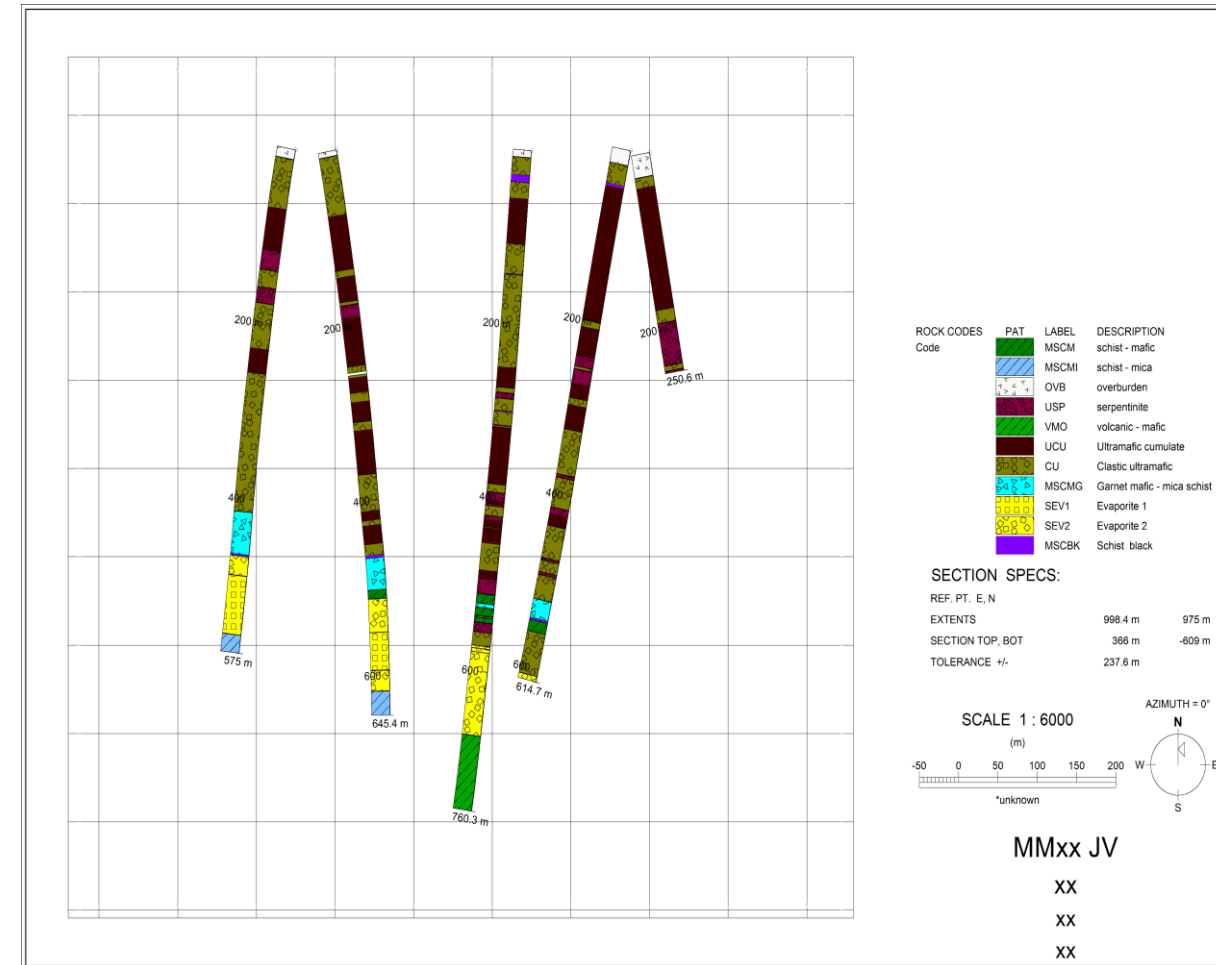


• Exploration Thesis – Part 2

- Different mineralization types in CLGB, formed by same components



Cu (Co) sediment hosted



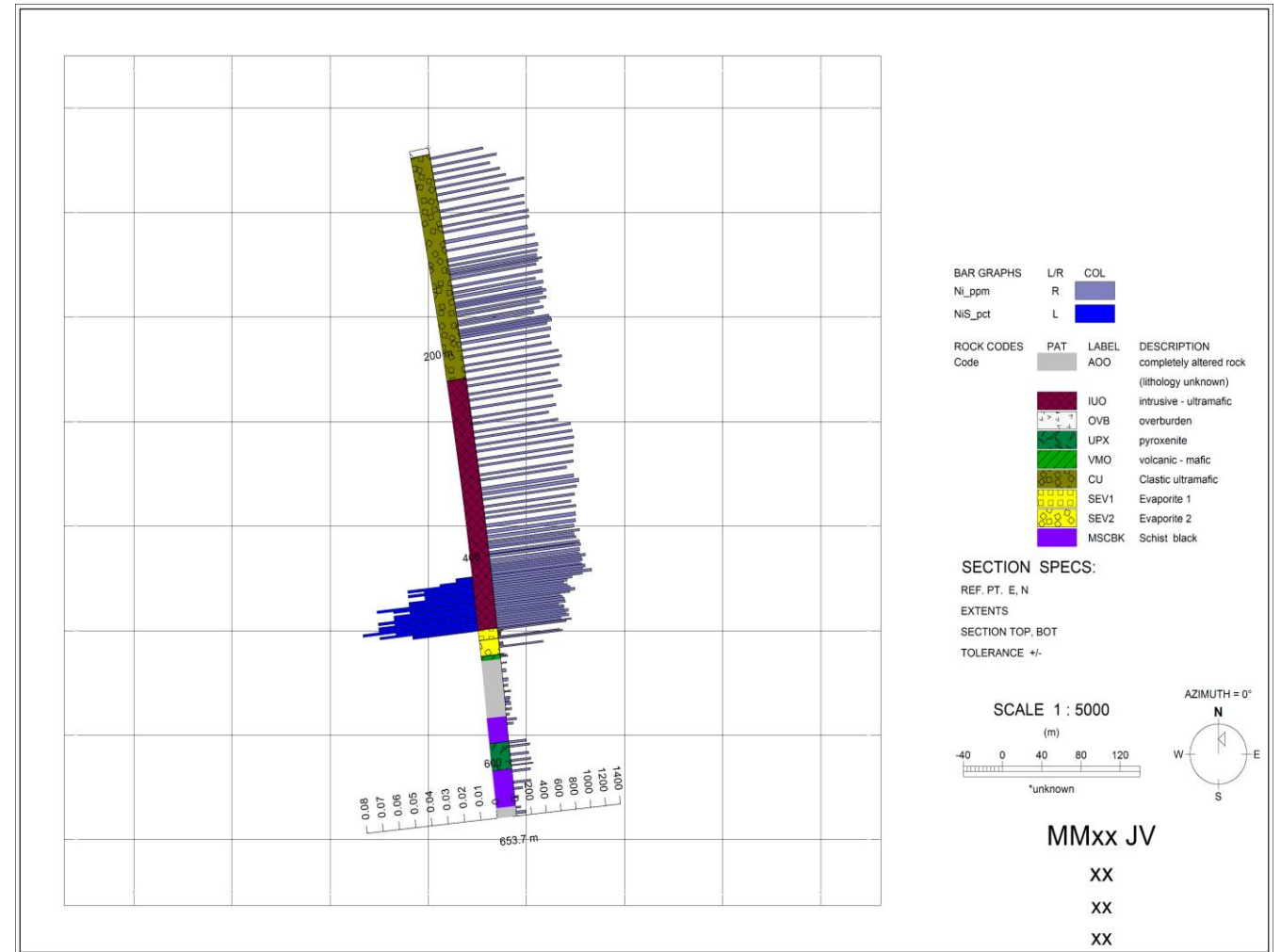
Ni hosted by ultramafic cumulates

• Exploration Thesis – Part 3

• Why we need to drill deep

DESCRIPTION

- Our exploration thesis of understanding the system first, will align also with common sense of testing the basal parts of hosting ultramafic, dunitic cumulates
- The extent of mineralization, and the size of the hosting cumulates are unknown
- The PPZ evaporites are deep seated (400-1000m), and relatively flat lying, not met in the upper layers of CLGB stratigraphy
- By testing the base of the system, team will also test, whether the disseminated sulfides have segregated into basal parts of hosting lithologies, this is tested by scoping the EM-response
- Nickel bearing massive sulfide lenses in Hotinvaara resemble segregating events, and possibly several pulses of magma, indicating also the analogues with Sakatti
- The depth of the systems and the Interaction of fertile magma with evaporites, and the resulting events are best shown by schematic picture on right (total nickel (4-acid digest) vs. nickel in sulfides (weak leaching))



Kiitos!

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