EIS

Exploration
Information
System

How exploration/mining industry partners are currently using EIS to enhance their exploration activities, plans, and achieve their CRM objectives

Jamie Newall Golden PET

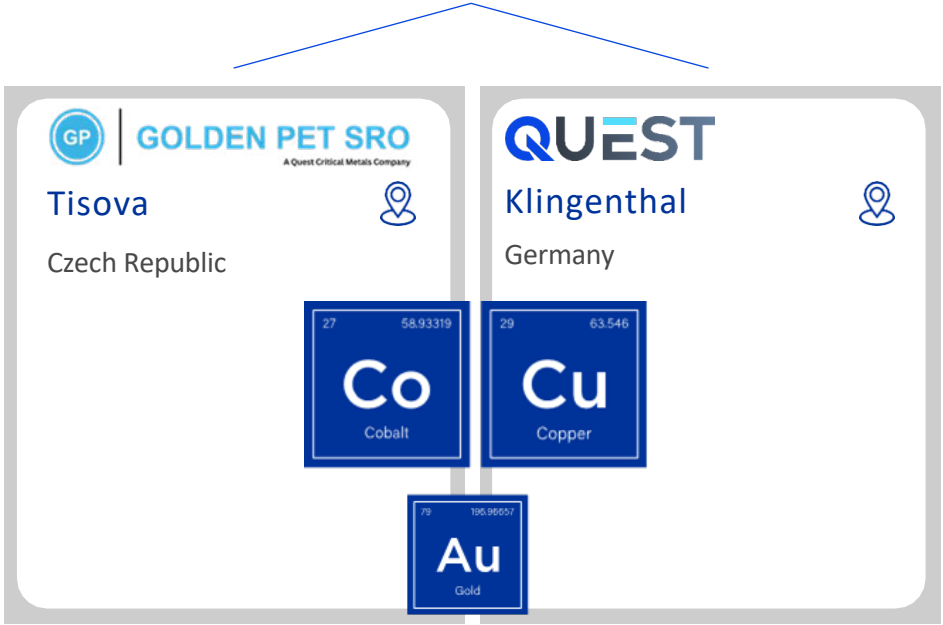
EU Raw Materials Week December 13th 2024

Funded by
the European Union

Who is Golden Pet s.r.o

QUEST CRITICAL METALS INC

A Canadian listed company CSE:BULL



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Tisová-Klingenthal Site Overview

- Over 110km^2 on the Czech-Germany border
- Historical production on Czechia side of Property (Tisova Mine - Pink Polygon)
- Tenure along strike and down dip of ore-bearing structure of historic Tisova Mine included in land package
- Located 140 km west of Prague, 270 km east of Frankfurt
- Rail, road, water and power run through the licence area

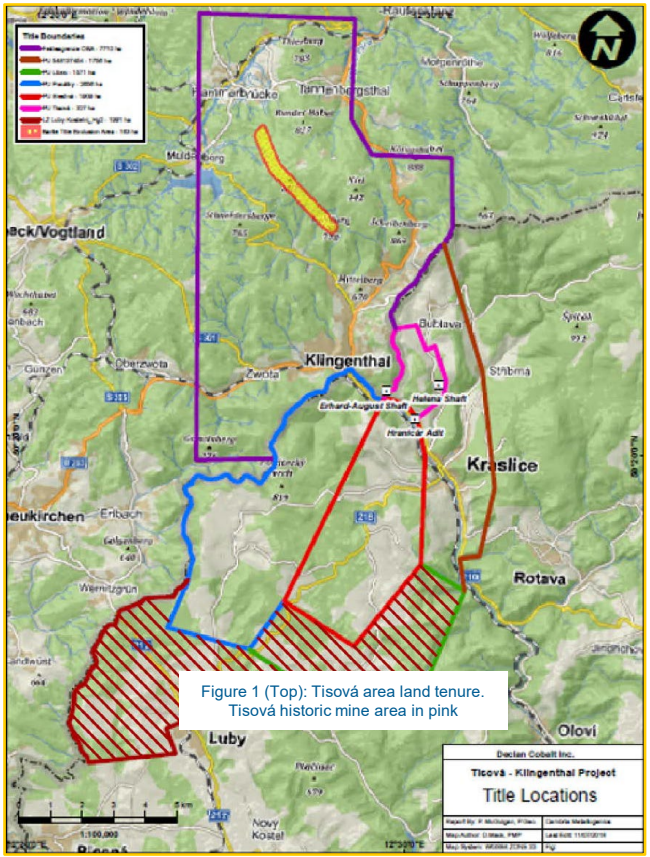
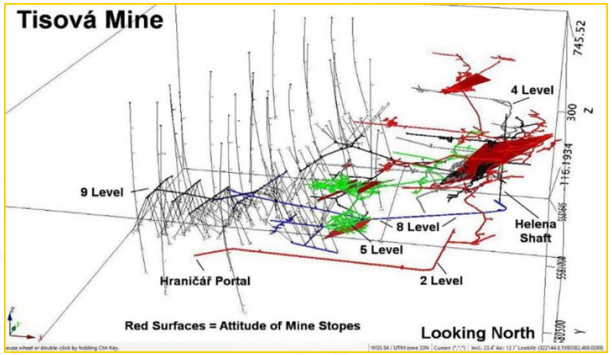


Figure 1 (Top): Tisová area land tenure. Tisová historic mine area in pink

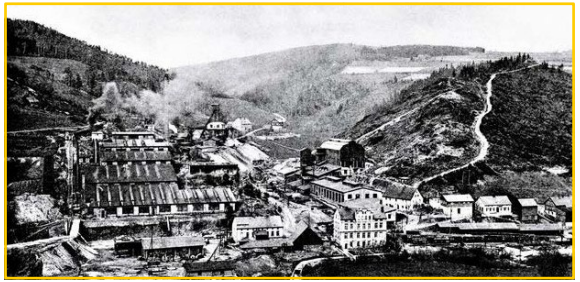
Tisova & Klingenthal – A historic mining district

- Mining first recorded in the region in the 13th Century
- Western end of Ezerberge mountains (literally ore mountain)
- Tisova mine opened 1627 and produced copper until 1970 with exploration work continuing until early 1990's
- Given limitations of early milling and metallurgy grade would have been 20% Cu or higher
- Sulphide zones more than 100m true thickness, grades up to 17.1% Cu, 0.69% Co, 3.7g/t Au
- More than 30 Km of underground development including the 400m Helena Shaft down to 9 level (400m below surface)

Mine portal present day

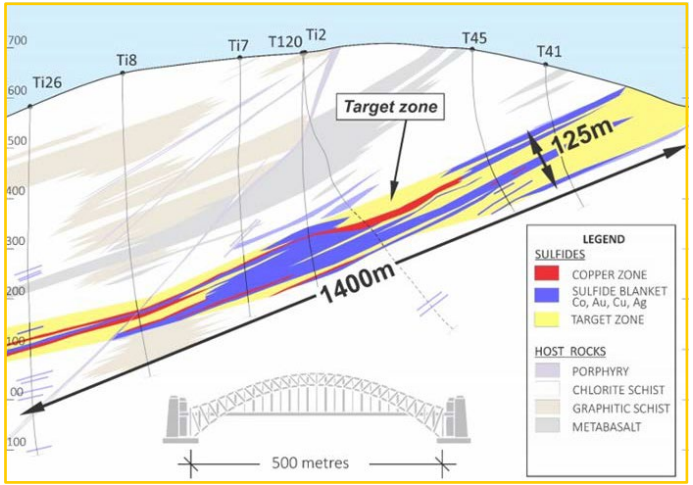


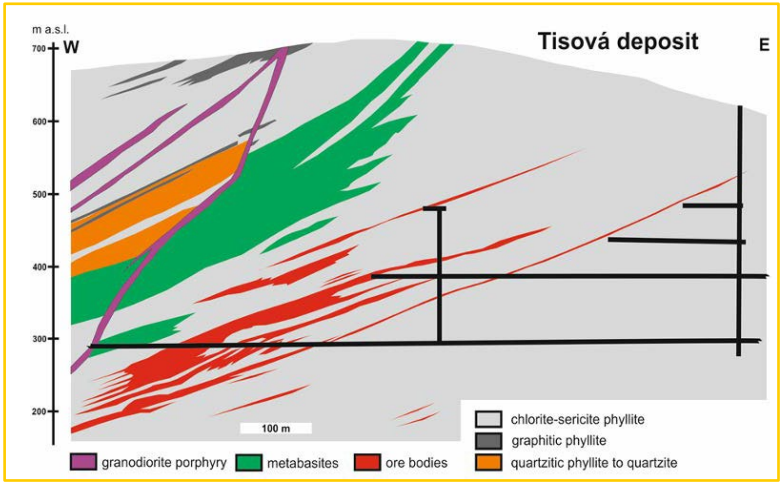

Erhard August Shaft Head frame 1902

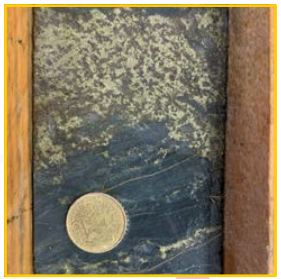

Graslitz-Klingenthaler Kupferbergwerk Milling plant in 1912

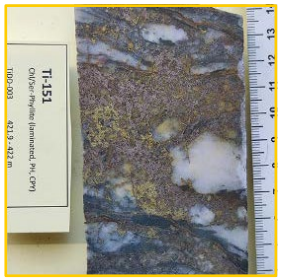
Tisova/Klingenthal Deposit

Stratified Ore Horizons









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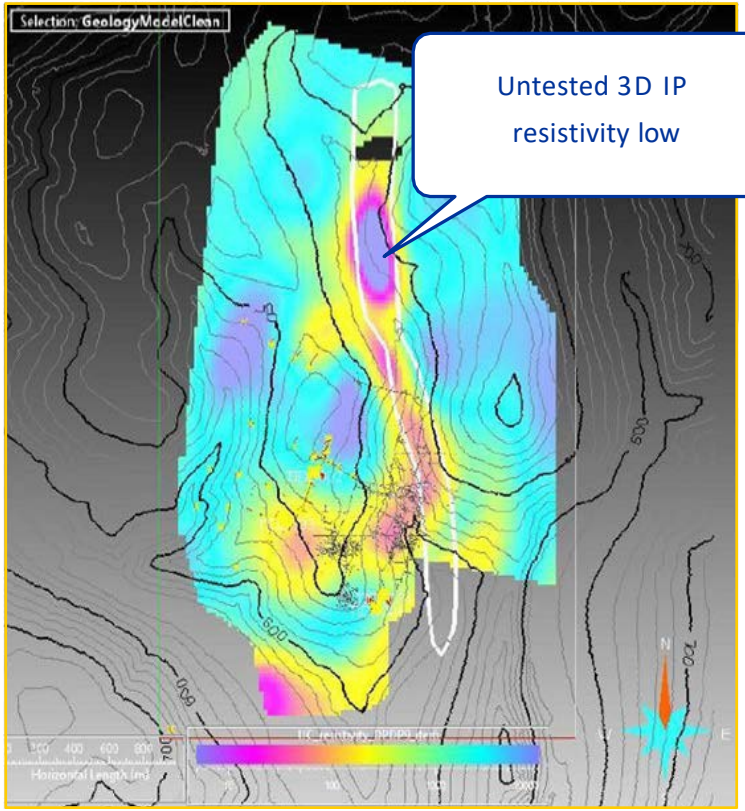
2019 DIAS Geophysics Survey – VMS not Stratified

(Anomalies & Trend)

- 2km North of Tisova mine portal
- North-South resistivity trend
- Largely untested over 2000 m extent
- Aligns with surficial geology



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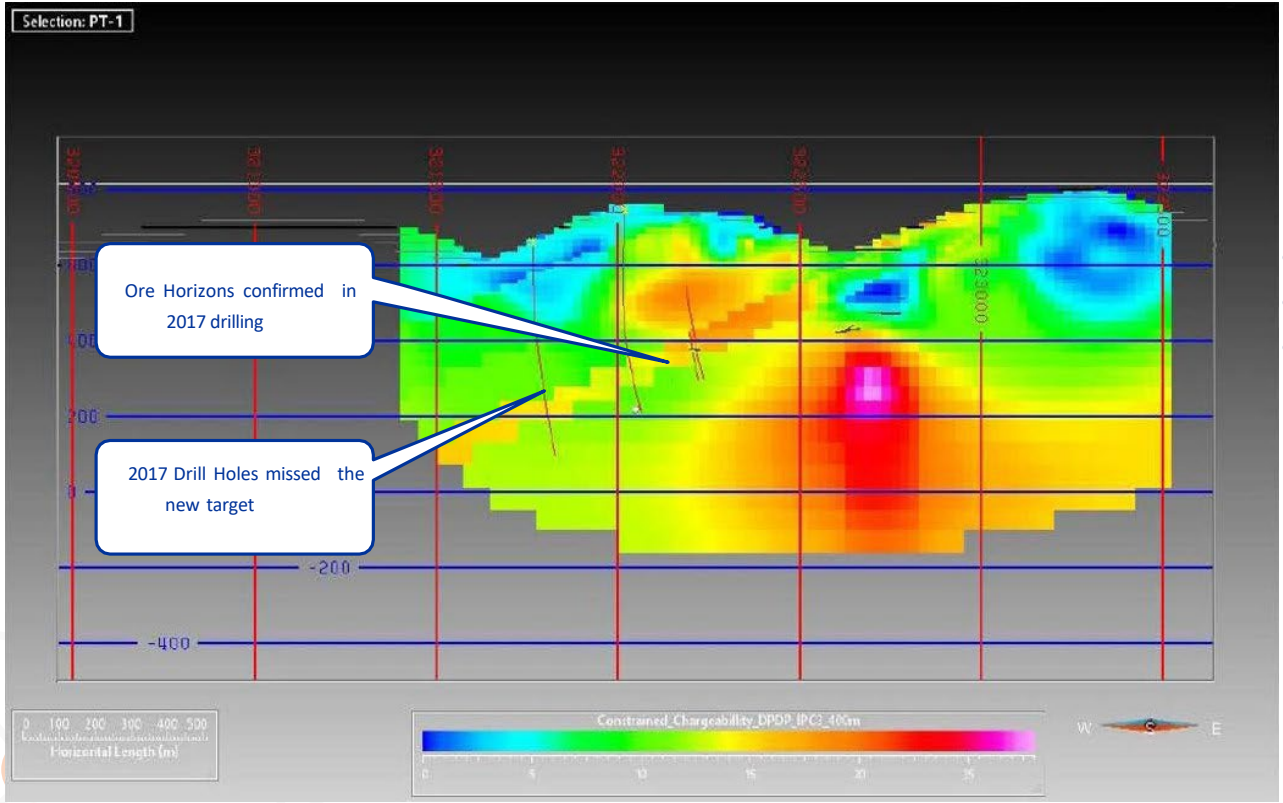
What did we find?
Is it a Besshi type VMS?



- 500m wide, 2km long
- Around 400m below surface
- 800m from Nothernmost mine adit

EIS Project – An incredible collection of experts

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Rovanemi, Finland
June 2022
EIS Kick off Meeting

GTK beak brgm LTU CSIC SGU
KELIBER LGi GISPO UFS UNIVERSITY OF TURKU UNIVERZITA KARLOVA
DEUTSCHE GIG talga GOLDEN PET SRO UNICAMP

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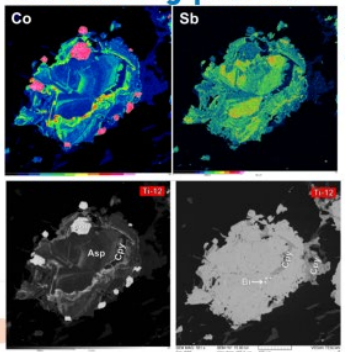
EIS Project – Technical Exploration work

WP2 – Tisová – mineralogical study

Laboratory work performed on samples from the Tisová test site

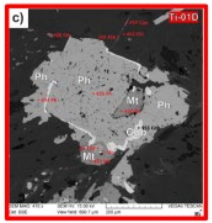
- Optical microscopy (transmitted and reflected light) – Jiří Zachariáš
- Scanning electron microscopy and microanalyses (ED, WD) – Jiří Zachariáš, Martin Racek – almost 1000 analyses performer till now

Co-bearing phases



Cobaltite (CoAsS)

Arsenopyrite (FeAsS, up to 16 wt.% Co)



Pyrrhotite pseudomorph (?) after pyrite rimmed by cobaltite

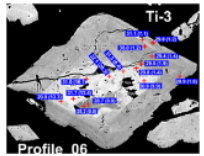
Complex evolution of arsenopyrite

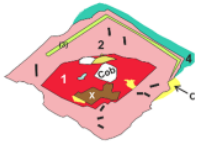
Up to 7 generations of arsenopyrite

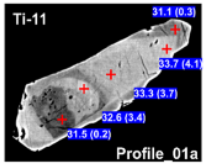
- Ore-related (5)
- Ore-unrelated (2)

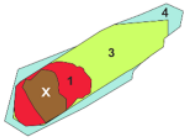
Admixtures:

- Co (up to 15 wt.%)
- Sb (up to 6 wt.%)
- Ni (up to 4 wt.%)
- Bi (800 ppm)
- Au (< D.L., 265 ppm)



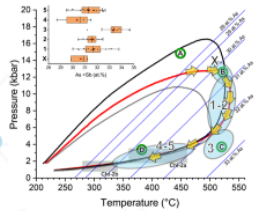






Summary of ore evolution

original VMS ores → early fluids (prograde) → metamorphosed VMS ores (peak P-T) 10-12 kbar, 550°C → Contact metamorphism and veining → Late fluids (veining)



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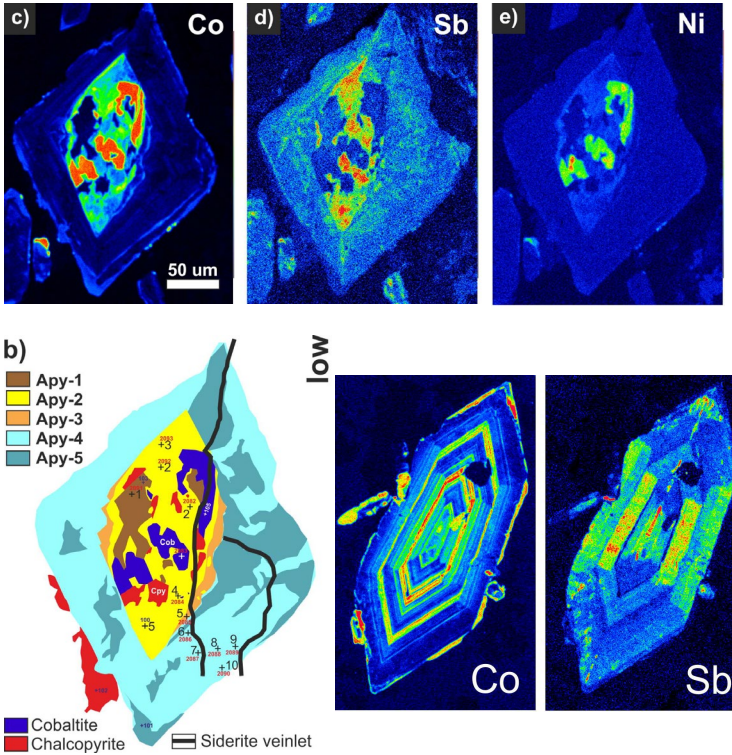
Technical Exploration work – Mineralogical study

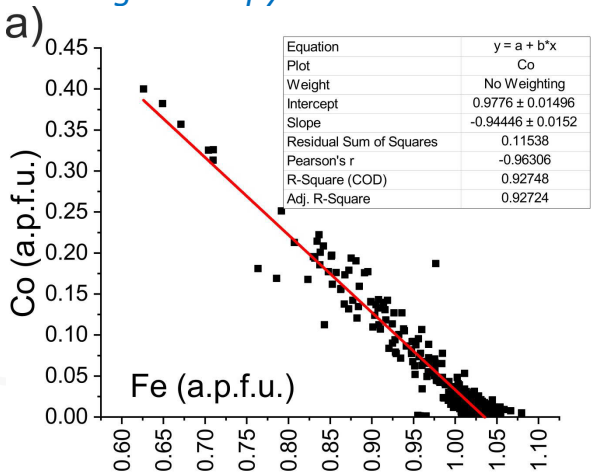
- **<u>new samples analyzed</u>** (WD; major and minor elements /Au, Ag, Se, Cd, Bi, Sb/) – **main focuss on element distribution maps of arsenopyrite**
- **<u>Arsenopyrite „story“ upgraded and finallized in manuscript submitted to Ore Geology Reviews, EIS Volume:</u>**

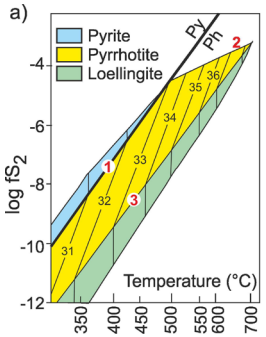
- *Zachariáš J, Clark P., Köhler M (under review): Tracing the origin and P-T metamorphic history of the VMS Besshi-type Tisová-Klingenthal deposit using arsenopyrite textures and chemistry*

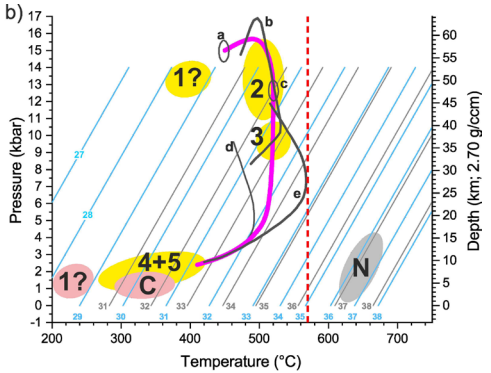


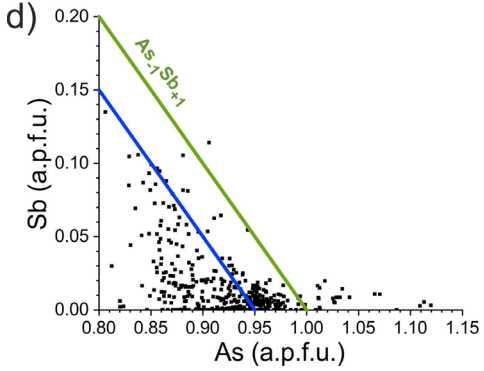
Technical Exploration work – Arsenopyrite PT evolution and element substitution trends

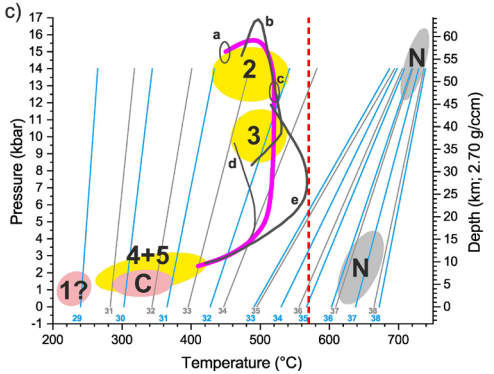
- *Zachariáš J, Clark P., Köhler M: Tracing the origin and P-T metamorphic history of the VMS Besshi-type Tisová-Klingenthal deposit using arsenopyrite textures and chemistry*





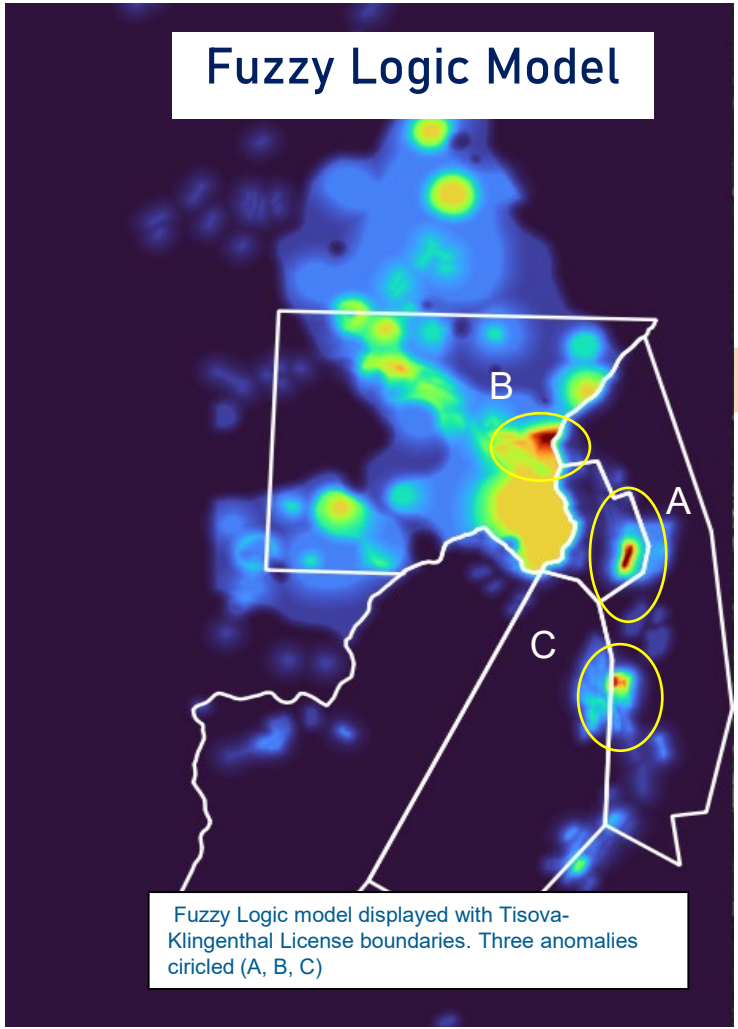






Initiql Results – Proof of Concept?

- Initial Results
  - A- High anomaly on top of Tisova anomaly and deposit (Least surprising)
  - B- High anomaly on top of large ‘lesser’ anomaly, along strike of Tisova deposit and Brunndobra formation (containing Meta-basalts)
  - C- South of Tisova deposit. Along strike and hosted in the Brunndobra formation (Most surprising)
- Implications
  - Better targeted exploration (saving money and impact, environmental and on general public)
  - New discoveries
- A grant funded project with a tangible deliverable and real-world applications that will actually help exploration companies in the EU



Fuzzy Logic model displayed with Tisova-Klingenthal License boundaries. Three anomalies ciricled (A, B, C)

Additional EU Projects

DeepBEAT – A €4.8m EU grant funded project

- Golden Pet/Quest is an Associate Partner in a further EU grant funded Project called DeepBeat
- DeepBEAT is using novel geochemical processes and analysis to identify deep ore bodies
- Tisova/Klingenthal will be a test site for DeepBEAT with significant geochemical work planned to be carried out on our licence areas
- The work will commence in early 2025, in conjunction with the Czech Geological Survey and 14 other Partners

Summary

EIS Project– A truly special experience

- People - Knowledge and network
- Technical work on licences
- Initial results – Proof of Concept and a tangible deliverable
- New EU Horizon funded Projects

Thank you!

Jamie Newall

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www.eis-he.eu

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