Sepponen

Occurence type: occurrence

Commodity	Rank	Total measure	Total production	Total resource	Importance
gold	1	NA	NA	NA	NA

Easting EUREF: 636152,775
Northing EUREF: 7083877,184
Easting YKJ: 3636380
Northing YKJ: 7086844

Discovery year: 1992
Discovered by: Geological Survey of Finland
Comments: Discovery: The first indications were the auriferous glacial erratic boulders detected during regional till geochemical survey; this led to the discovery of the mineralisation in outcrop
References: 3, 5, 7, 8

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)

Dimension

Expression: exposed
Form: discordant
Shape: NA
Length (m): NA
Width (m): NA
Thickness (m): NA
Depth (m): NA
Area (ha): NA
Dip azim: NA
Dip: NA
Plunge azim: NA
Plunge dip: NA
Orientation method: NA

Holder history

Current holder: EMX Finland Oy
Years: 2023
Holding type: Application for reservation

Previous holders:

Company	Years	Holding type	Comments
Geological Survey of Finland	NA	NA	NA
Karelian Diamond Resources Plc	2020	Reservation	NA
Mineral Exploration Network (Finland) Limited	2011-2012	Claim reservation (old law)	NA
Karelian Diamond Resources Plc	2004	NA	NA

EXPLORATION ACTIVITY

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1993-1993	regional geophysics	Timo Heino	key geological features	
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			
1987-1987	detailed geology	Timo Heino	key geological features	2, 4, 6
1987-1987	excavation	Timo Heino	mineralized zone identified	2, 4, 6
1987-1987	regional geochemistry	Markku Tenhola	geochemical anomaly	4
	Country-wide till-geochemical survey. The first indications for the occurrence were the auriferous glacial erratic boulders detected during regional till geochemical survey.			
NA	detailed geophysics	Timo Heino	key geological features	2, 4, 6
	ground slingram and IP survey			

GEOLOGY

Host rock: Quartz vein, Amphibolite

Quartz vein (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 2, 4, 6
Comments: Auriferous quartz ± K feldspar, calcite, hornblende, arsenopyrite veins

Amphibolite (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 1, 2, 4, 6
Comments: Banded amphibolites.

Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	major	
Gold	minor	
	Gold is closely associated with arsenopyrite.	
Pyrrhotite	major	

Other minerals:

Mineral	Proportion	Mineral texture
Calcite	present	
Hornblende	present	
K-Feldspar	present	
Quartz	present	

Alteration:	Distribution:	Degree:	Relation to mineralization:
sulphidation	Disseminated	Moderate	Syn
calcsilicate alteration	Banded	Strong	Syn
Comments: Hornblende selvages, 1-3 cm wide, on the mineralisation-related quartz veins			

Metamorphic description:

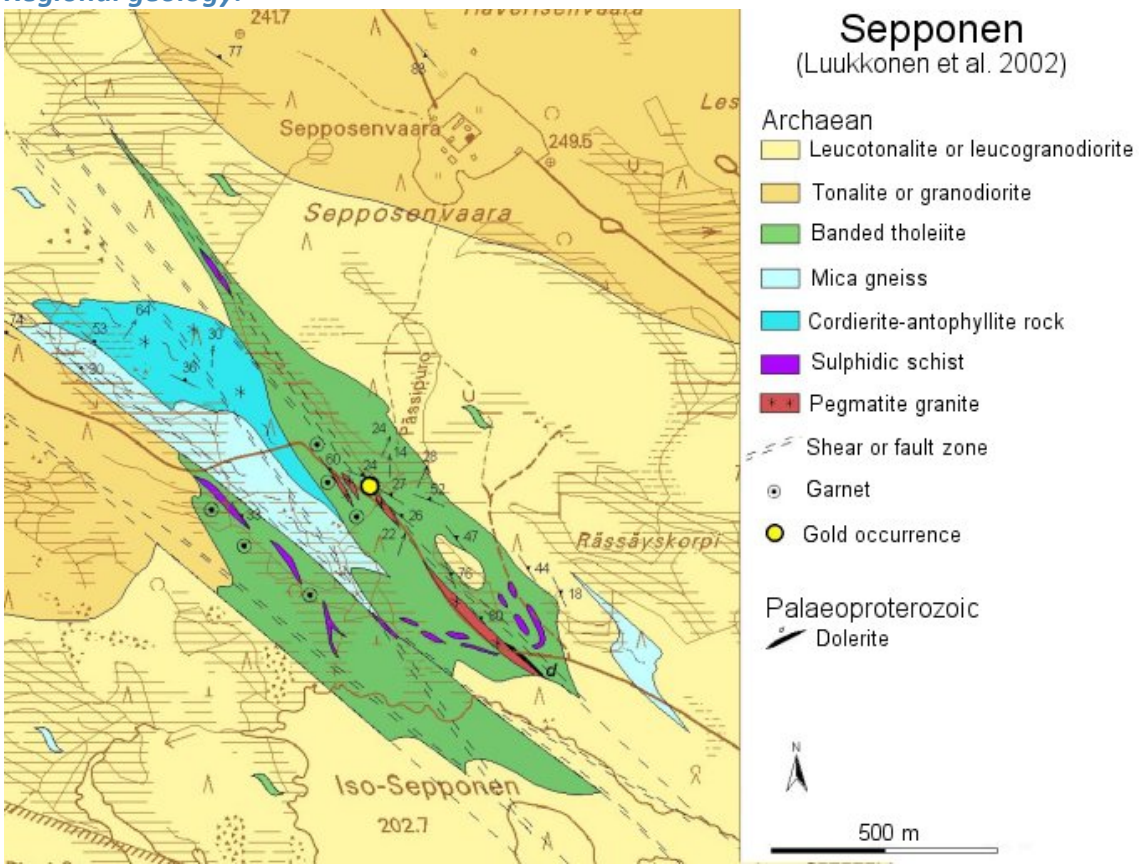
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	amphibolite metamorphic facies	medium metamorphic grade	NA		
Comments: A relatively strong, but unevenly distributed Palaeoproterozoic overprint; Hornblende-plagioclase.					

Geological age:

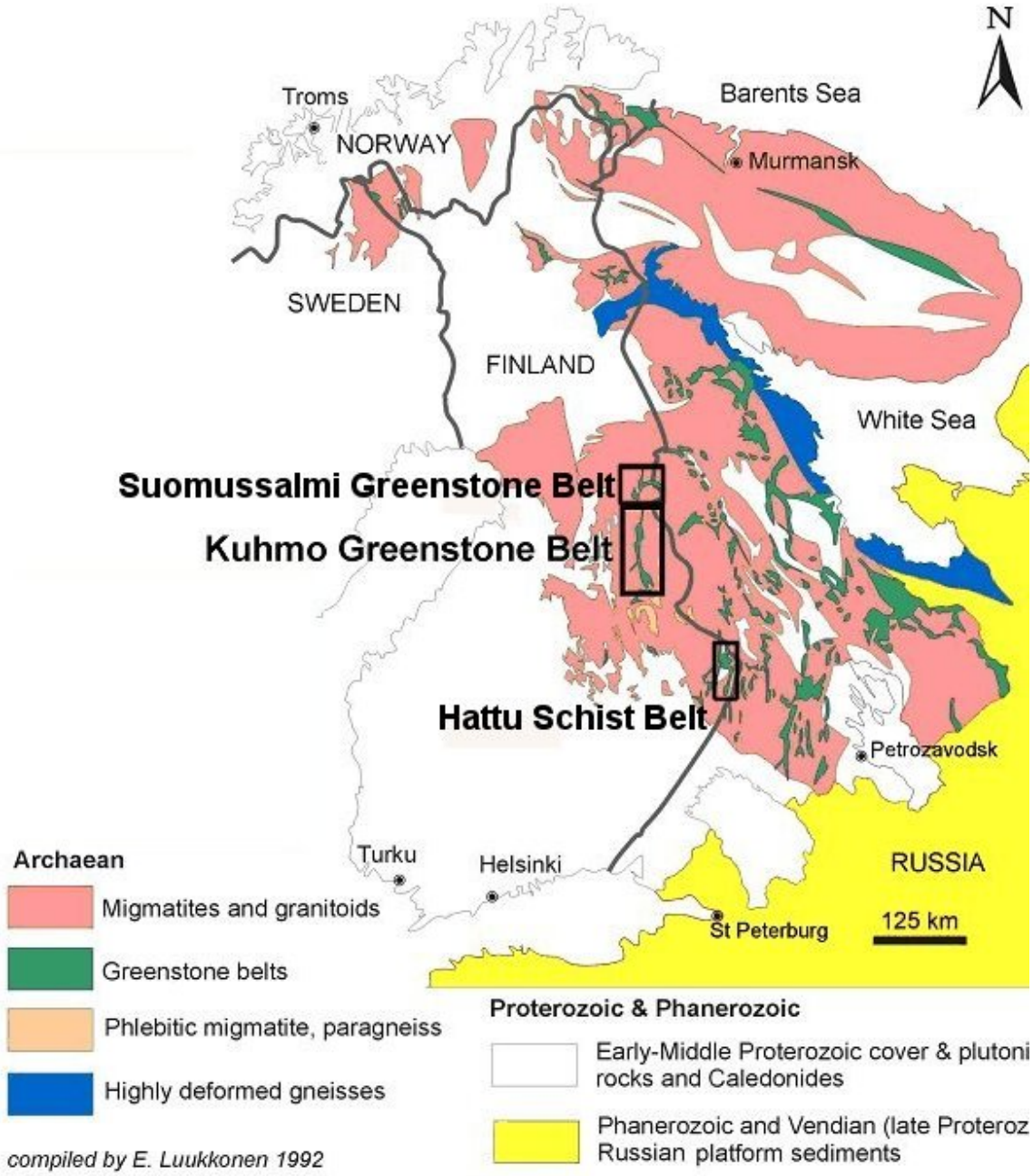
Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Archean (4000-2500 Ma)	2500-4000		N

Figures

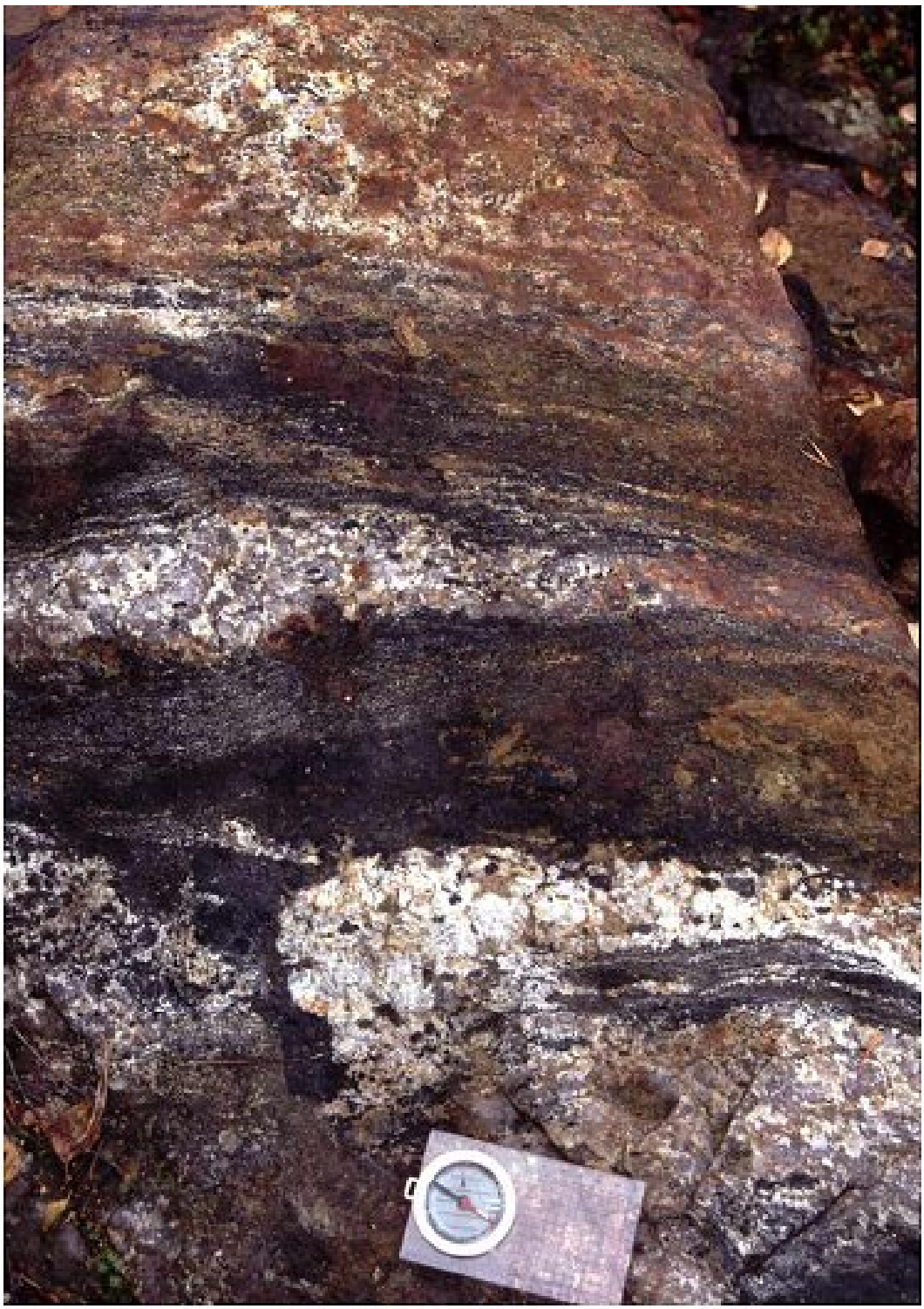
Regional geology:



East Finland greenstone belts in the Archaean of Fennoscandia:



Vein:

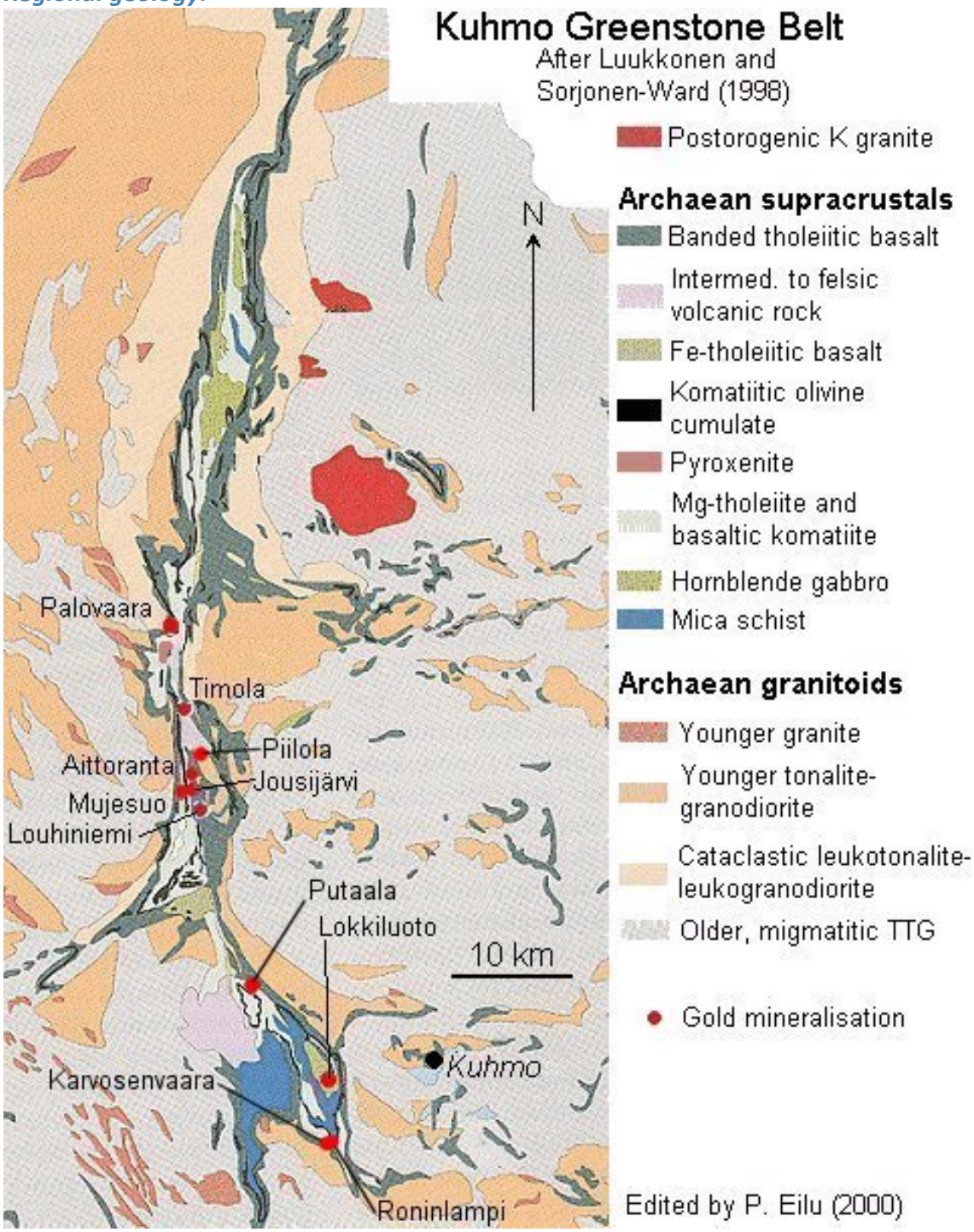


Mineralised veins and proximal alteration at Sepponen. Rusty rock surface due to initial weathering. The compass plate is 11 cm long. Photo Pasi Eilu 14/9/1998.

Outcrop photo:

Outcrops at Sepponen. Photo Pasi Eilu 14/9/1998.

Regional geology:



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