

# Korpilampi

**Alternative Names:** Korpi

**Occurrence type:** prospect

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

**Easting EUREF:** 713582,779  
**Northing EUREF:** 6995309,641

**Easting YKJ:** 3713841  
**Northing YKJ:** 6998240

**Discovery year:** 1988

**Province:** Ilomantsi (Au)

**District:** Hattu (Au)

**References:** 1, 4

## Mineral deposit type

**Group:** Metallogenic deposit

**Main type:** Orogenic (metamorphic hydrothermal)

**Comments:** Precipitation of gold by desulphidation of fluid and, possibly, by decomposition of Au-bisulphide, -thiosulphide and -telluride complexes of fluid due to cooling and/or changes in pH and fO<sub>2</sub>. Probably, gold precipitated just below 500°C with sulphides due to reaction between the mineralising fluid and wall-rock (chiefly by sulphidation). The formation of the present low-temperature Te and Bi minerals probably took place as subsolidus reactions with cooling temperature.

**References:** 10

## Dimension

**Expression:** exposed

**Form:** discordant

**Shape:** NA

**Length (m):** NA

**Width (m):** NA

**Thickness (m):** NA

**Depth (m):** NA

**Area (ha):** NA

**Dip azimuth:** NA

**Dip:** 5

**Plunge azimuth:** NA

**Plunge dip:** NA

**Orientation method:** NA

**Dimension comments:** The deposit comprises a set of gently-dipping lenses

## Holder history

**Current holder:** Endomines Oy

**Years:** 2019

**Holding type:** Exploration permit

**Previous holders:**

Company	Years	Holding type	Comments
Endomines Oy	2014-2019	Claim (old law)	NA

Endomines Oy	2010-2011	Claim reservation (old law)	NA
Endomines Oy	2002-2007	Claim (old law)	NA
Endomines Oy	1994-2000	Claim (old law)	NA
Geological Survey of Finland	1987-1994	Claim (old law)	NA

## EXPLORATION ACTIVITY

### Endomines Oy

Years	Activity type	Geologist	Exploration result	Ref
2011-2011	detailed geophysics	Jaakko Liikanen	geophysical anomaly	
	<i>Airborne low-altitude [VTEM] geophysical surveys were completed over the entire permit area</i>			
2004-2004	core drilling	Jaakko Liikanen	NA	2
	<i>Core drilling (reconnaissance drilling): one diamond-drill hole.</i>			

### Scan Mining Oy

Years	Activity type	Geologist	Exploration result	Ref
2002-2008	percussion drilling	NA	NA	
2002-2003	core drilling	NA	NA	
	<i>Core drilling (reconnaissance drilling): diamond drilling 7665 m.</i>			

### Endomines Oy

Years	Activity type	Geologist	Exploration result	Ref
1996-1996	percussion drilling	Jaakko Liikanen	NA	2, 8

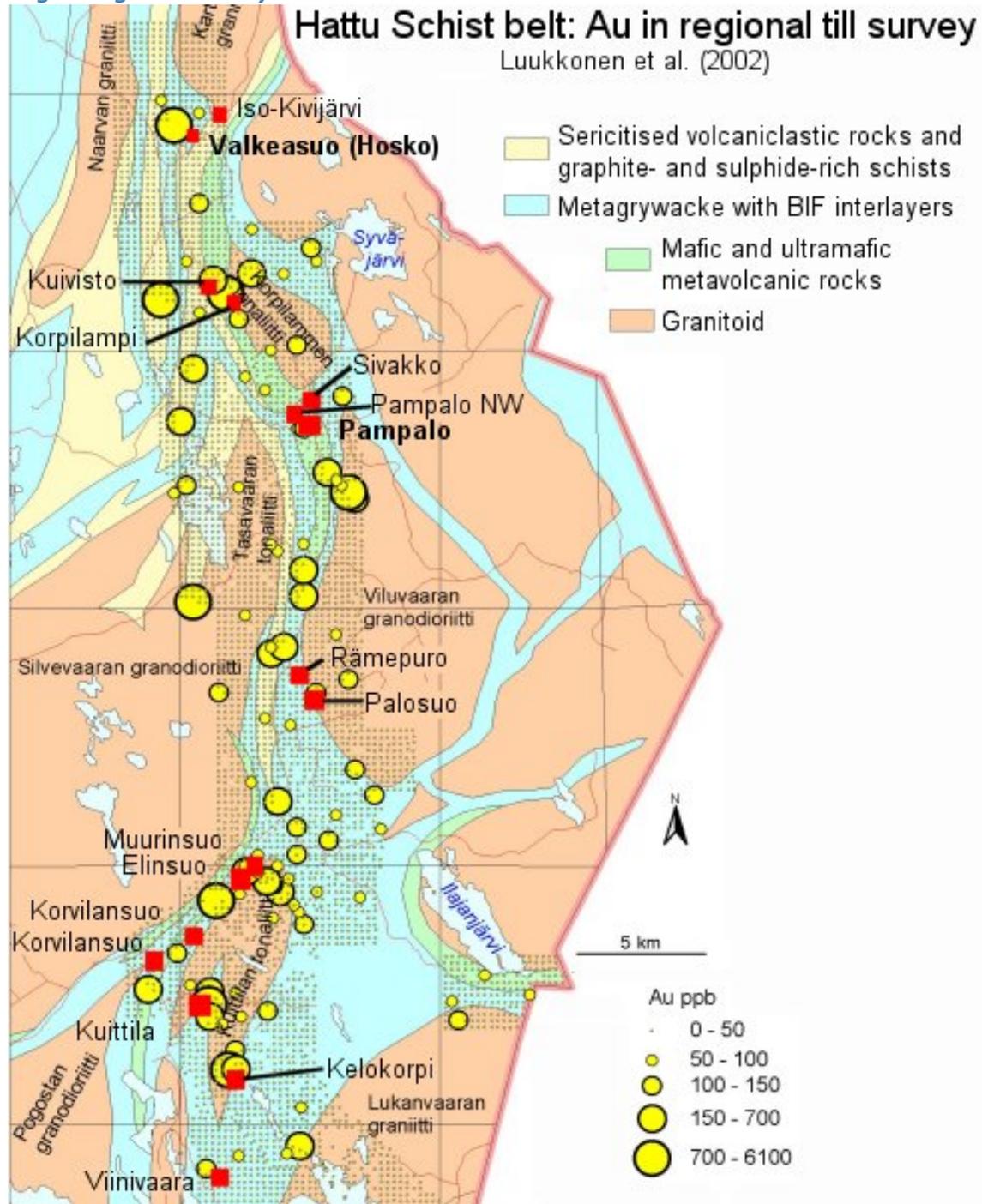
### Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1993-1993	regional geophysics	NA	key geological features	4, 9
	<i>Low-altitude airborne magnetic, electromagnetic and radiometric survey</i>			
1987-1993	core drilling	Martti Damsten	NA	4, 9, 10, 11
	<i>The occurrence was found by drilling into an area defined as the locally most significant Au anomaly in till. Core drilling (reconnaissance drilling): 12 diamond-drill holes, total 1056 m.</i>			
	<b>Intersections</b>			
	HoleID	NA		
	From-To	NA		
	Length	2,4m		
	gold	1,1ppm		
	HoleID	NA		
	From-To	NA		
	Length	1m		
	gold	1,4ppm		
	HoleID	NA		
	From-To	NA		
	Length	1m		

	gold		1,7ppm	
1987-1994	detailed geophysics	Martti Damsten	NA	10
	<i>No response on magnetic, slingram or IP methods. Magnetic and electric methods do show the structural features of the area, including those which control gold mineralisation.</i>			
1987-1995	detailed geochemistry	Martti Damsten	geochemical anomaly	10
	<i>Regional Au, As and B till anomaly, local Au, Te and Bi anomaly. Au content within the till anomaly is from tens of ppb to &gt;1 ppm. Best combination for defining exploration targets: Au + Te + Bi - better than Au alone.</i>			
1987-1995	detailed geology	Martti Damsten	NA	3, 4, 6, 9, 10, 11, 12, 15
	<i>First indication was the discovery of an auriferous, sulphidised and tourmalinised outcrop in a road cut. Special studies done on Quaternary geology, ore mineralogy [8] and geochemistry, and petrogenesis</i>			
1987-1995	excavation	Martti Damsten	NA	3, 4, 9, 10, 11, 12, 15
1984-1984	regional geochemistry	Aimo Hartikainen	geochemical anomaly	3, 9
	<i>Country-wide till-geochemical survey</i>			
1983-1989	regional geochemistry	Aimo Hartikainen	geochemical anomaly	
	<i>Greenschist belt-wide till-geochemical survey with 16 sampling sites per one sq.km</i>			

## Figures

**Regional gold anomaly in till:**



## GEOLOGY

**Host rock:** Schist, Komatiite, Basaltic rock, Tonalite, Pegmatite

### Schist (Host rock)

**Rock type:** Host rock

**Proportion:** major

**Grain size:** NA

**Color:** NA

**References:** 4, 5, 6, 7, 8, 10, 13

**Comments:** All lithological units show complicated folding and contain sulphide dissemination. The occurrence is at the contact with pegmatite dykes in a minor ductile shear zone in the Pampalo shear zone system.

#### Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	minor	Dissemination
Bismuth	minor	Dissemination
Bismuthinite	minor	Dissemination
Chalcopyrite	minor	Dissemination
Galena	minor	Dissemination
Gold	minor	Dissemination
		<i>Dissemination in the host rock at contact with pegmatite dikes, native Au intergrown with bismuth, galena and bismuthinite, locally as inclusions in garnet.</i>
Pentlandite	minor	Dissemination
Pyrite	major	Dissemination
Pyrrhotite	major	Dissemination
Rutile	minor	Dissemination

#### Other minerals:

Mineral	Proportion	Mineral texture
Albite	present	
Biotite	present	
Calcite	present	
Chlorite	present	
Epidote	present	Alteration product
Garnet	present	
K-Feldspar	present	
Muscovite	present	
Quartz	present	
Scheelite	present	
Titanite	present	
Tourmaline	present	

#### Structures

Folded

*Comments: Mineralisation related to the Pampalo shear system*

#### 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	Post		-550
<i>Comments: Progressive regional metamorphism on ca. 2750-2700 Ma, apparently peaked soon after gold mineralisation, at a temperature of about 550±50°C. Thermal peak was synchronous or outlasted deformation. A relatively strong, but unevenly distributed Palaeoproterozoic overprint. Hölttä e al. (2017): Regional metamorphism from 480-500C, 2-4 kbar to 560-570C, 6-7 kbar in the northernmost part of the Hattu belt; regional metamorphic timing: monazite gives 2664 Ma, 2620 Ma + late overprint at 1837 Ma</i>					

### Geological age:

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:		
Neoproterozoic (2800-2500 Ma)	2708-2708	2708	Y		
<i>Comments: This date is either pre-peak metamorphic and formed under greenschist-facies conditions, or syn-peak metamorphic.</i>					
Radiometric age:	Method:	Age:	Error (Ma):	Mineral:	Reference:
	U-Pb	2708		Titanite	10

## Komatiite (Host rock)

**Rock type:** Host rock

**Proportion:** minor

**Grain size:** NA

**Color:** NA

**References:** 4, 7, 8, 10, 13, 14

**Comments:** The hosting komatiitic and intermediate metavolcanic rocks are intruded by pegmatite dikes, all lithological units show complicated folding and contain sulphide dissemination.

### Other minerals:

Mineral	Proportion	Mineral texture
Chlorite	major	
Talc	major	

### Structures

Folded

### Textures

Disseminated

Alteration:	Distribution:	Degree:	Relation to mineralization:
biotite alteration	Disseminated	Moderate	Syn
<i>Comments: Biotite replaces talc-chlorite assemblage</i>			

### 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	Post		-550

*Comments: Progressive regional metamorphism on ca. 2750-2700 Ma, apparently peaked soon after gold mineralisation, at a temperature of about 550±50°C. Thermal peak was synchronous or outlasted deformation. A relatively strong, but unevenly distributed Palaeoproterozoic overprint.*

**Geological age:**

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Neoproterozoic (2800-2500 Ma)	2726-2754		N

**Basaltic rock (Host rock)**

**Rock type:** Host rock

**Proportion:** minor

**Grain size:** NA

**Color:** NA

**References:** 4, 7, 8, 10, 13

**Comments:** All lithological units show complicated folding and contain sulphide dissemination.

Structures
Folded

Textures
Disseminated

**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	Post		-550

*Comments: Progressive regional metamorphism on ca. 2750-2700 Ma, apparently peaked soon after gold mineralisation, at a temperature of about 550±50°C. Thermal peak was synchronous or outlasted deformation. A relatively strong, but unevenly distributed Palaeoproterozoic overprint.*

**Tonalite (Host rock)**

**Rock type:** Host rock

**Proportion:** minor

**Grain size:** NA

**Color:** NA

**References:** 4, 7, 8, 10, 13

**Comments:** All lithological units show complicated folding and contain sulphide dissemination.

Structures
Folded

Textures
Disseminated

**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	Post		-550

*Comments: Progressive regional metamorphism on ca. 2750-2700 Ma, apparently peaked soon after gold mineralisation, at a temperature of about 550±50°C. Thermal peak was synchronous or outlasted deformation. A relatively strong, but unevenly distributed Palaeoproterozoic overprint.*

**Geological age:**

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Neoproterozoic (2800-2500 Ma)	2726-2754		N

**Pegmatite (Host rock)**

**Rock type:** Host rock

**Proportion:** minor

**Grain size:** NA

**Color:** NA

**References:** 4, 7, 8, 10, 13

**Comments:** The hosting komatiitic and intermediate metavolcanic rocks are intruded by pegmatite dikes, all lithological units show complicated folding and contain sulphide dissemination.

**Ore minerals:**

Mineral	Proportion	Mineral texture
Arsenopyrite	trace	
Chalcopyrite	present	
Gold	trace	
Marcasite	rare	
Pyrite	minor	
Sphalerite	present	

Structures
Folded

Textures
Disseminated

**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	Post		-550

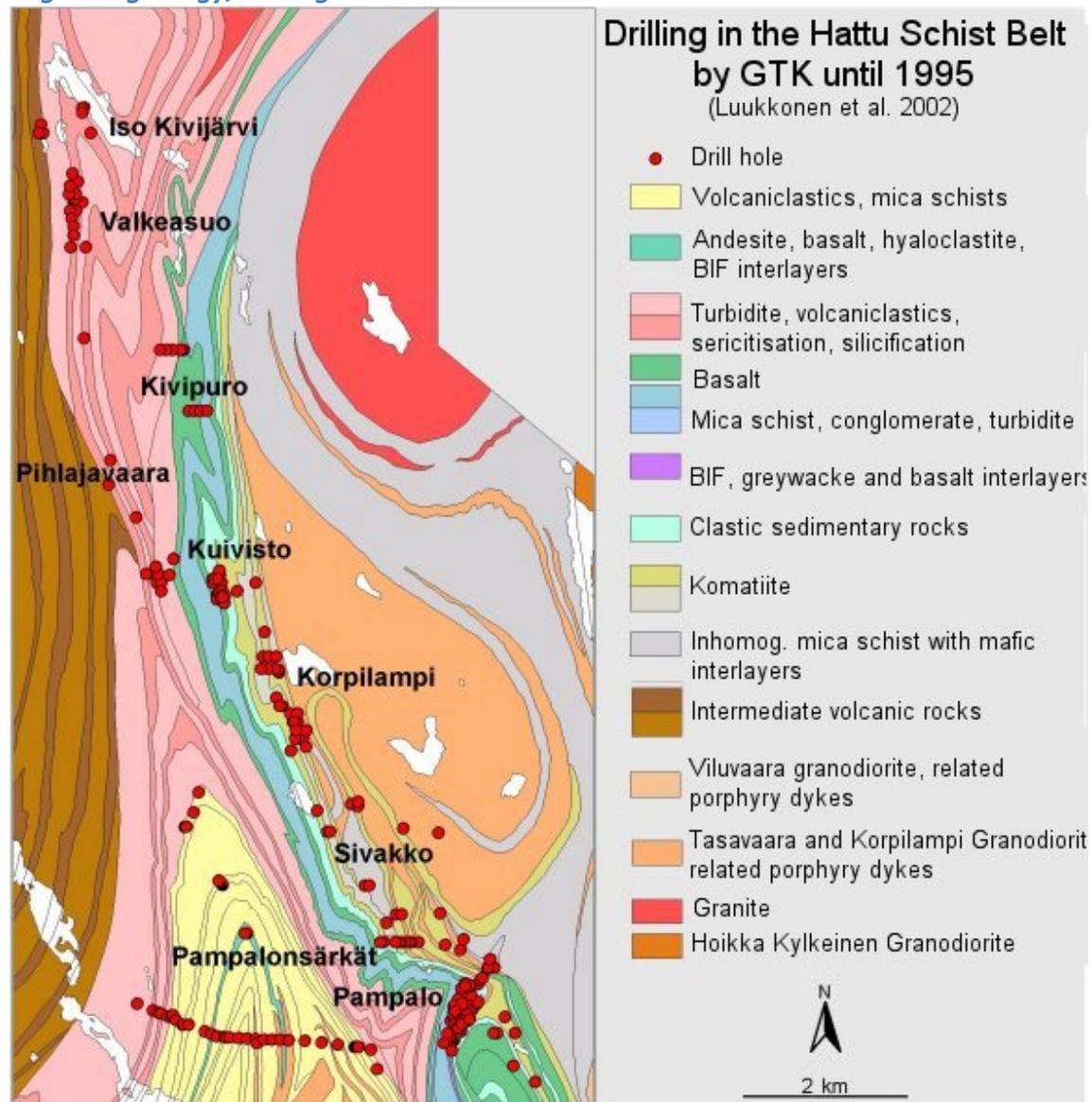
*Comments: Progressive regional metamorphism on ca. 2750-2700 Ma, apparently peaked soon after gold mineralisation, at a temperature of about 550±50°C. Thermal peak was synchronous or outlasted deformation. A relatively strong, but unevenly distributed Palaeoproterozoic overprint.*

**Geological age:**

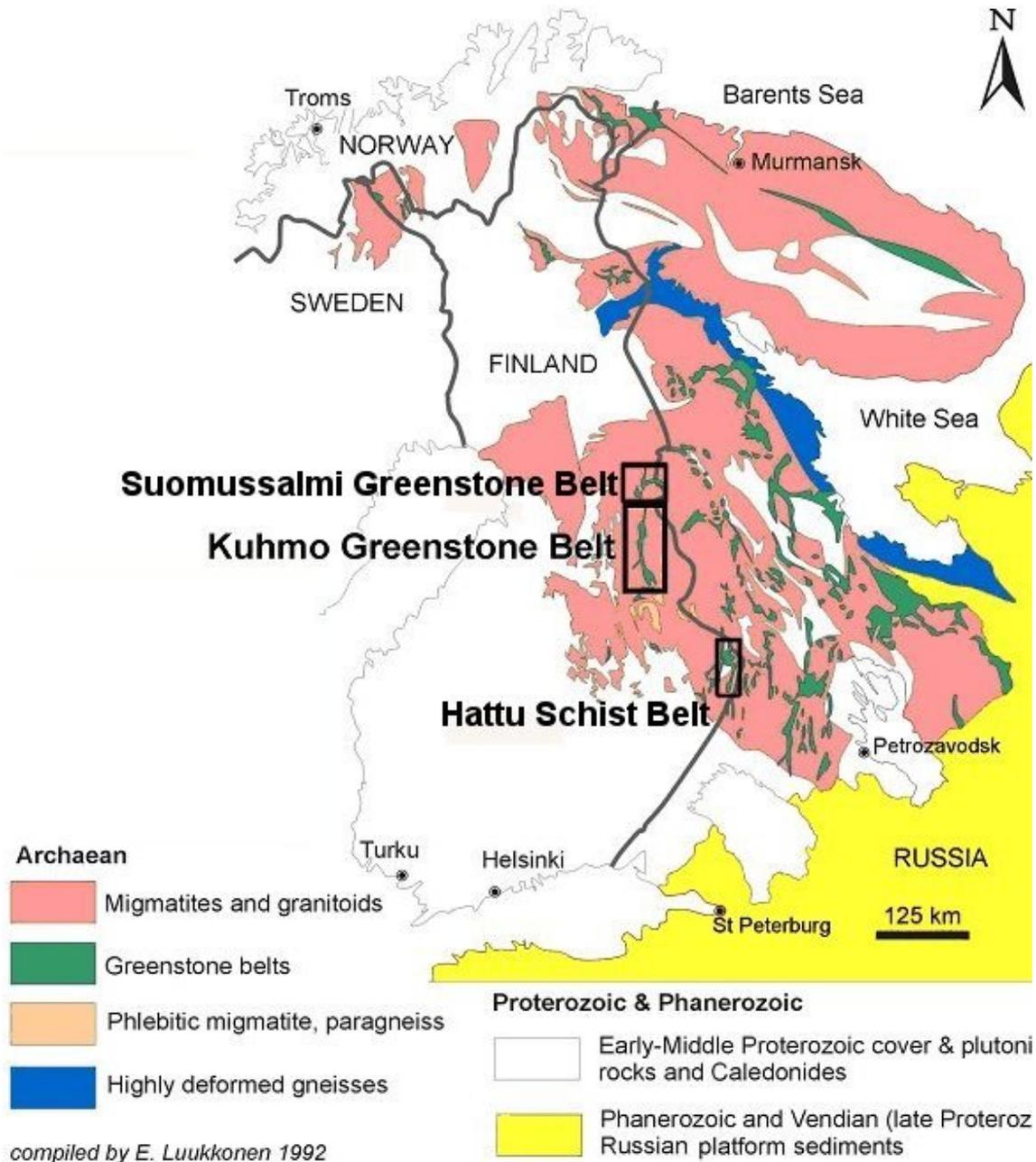
Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Neoproterozoic (2800-2500 Ma)	2726-2754		N
<i>Comments: Predate gold mineralisation</i>			

## Figures

### Regional geology, drilling:



*Location in the Carelian craton:*



*Tourmaline-bearing pegmatite with a very thin slice of tourmaline-rich, sulphidised*

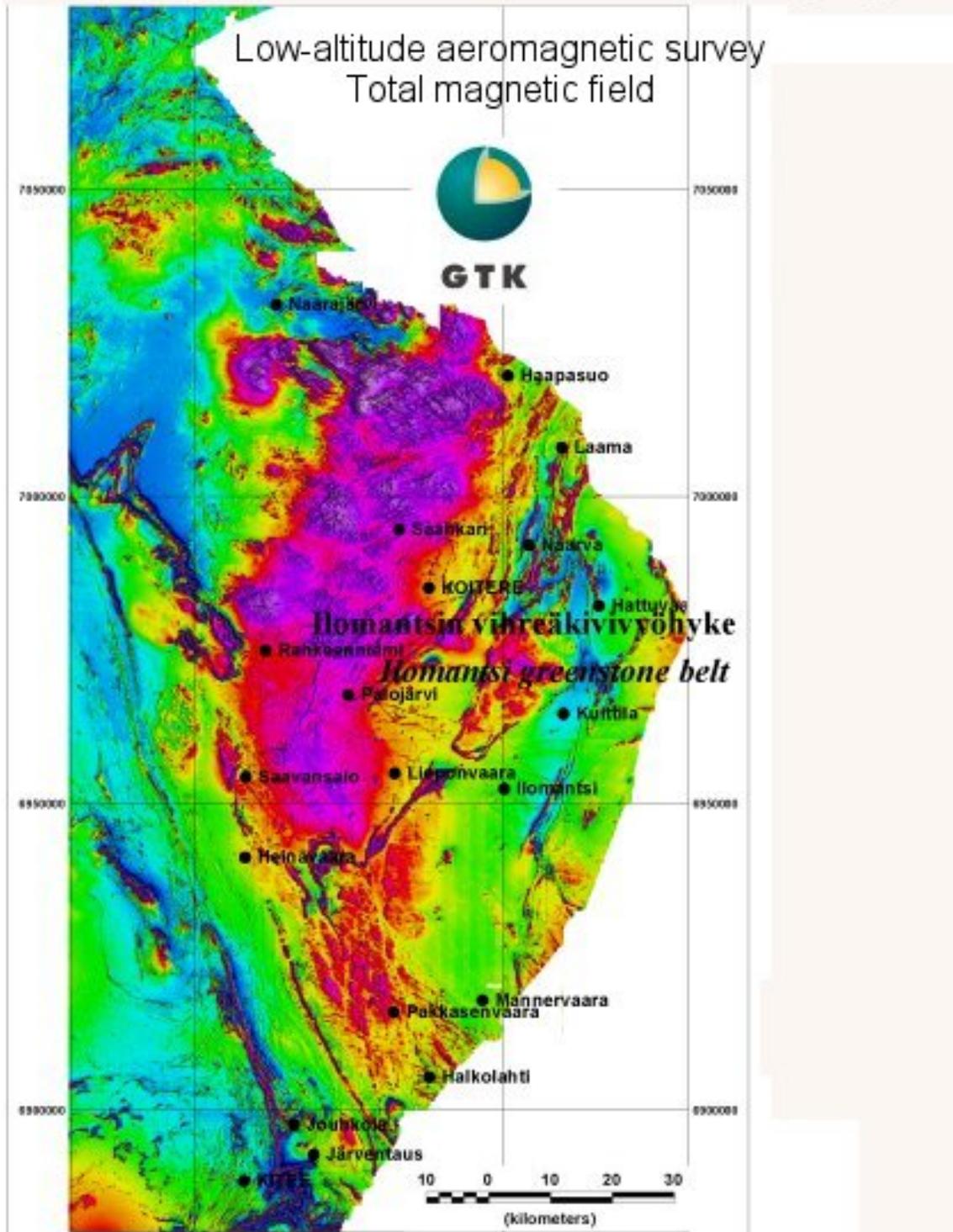
*wallrock. Polished surface of the sample is 6 x 7 cm. Photo Reijo Lampela, GTK:*



Korpilampi, Ilomantsi. Auriferous quartz-tourmaline vein in intermediate tuffite.  
Scale in cm. Photo Hannu Venho.

*Regional low-altitude airborne magnetic image:*

## Ilomantsi greenstone belt and surrounding region

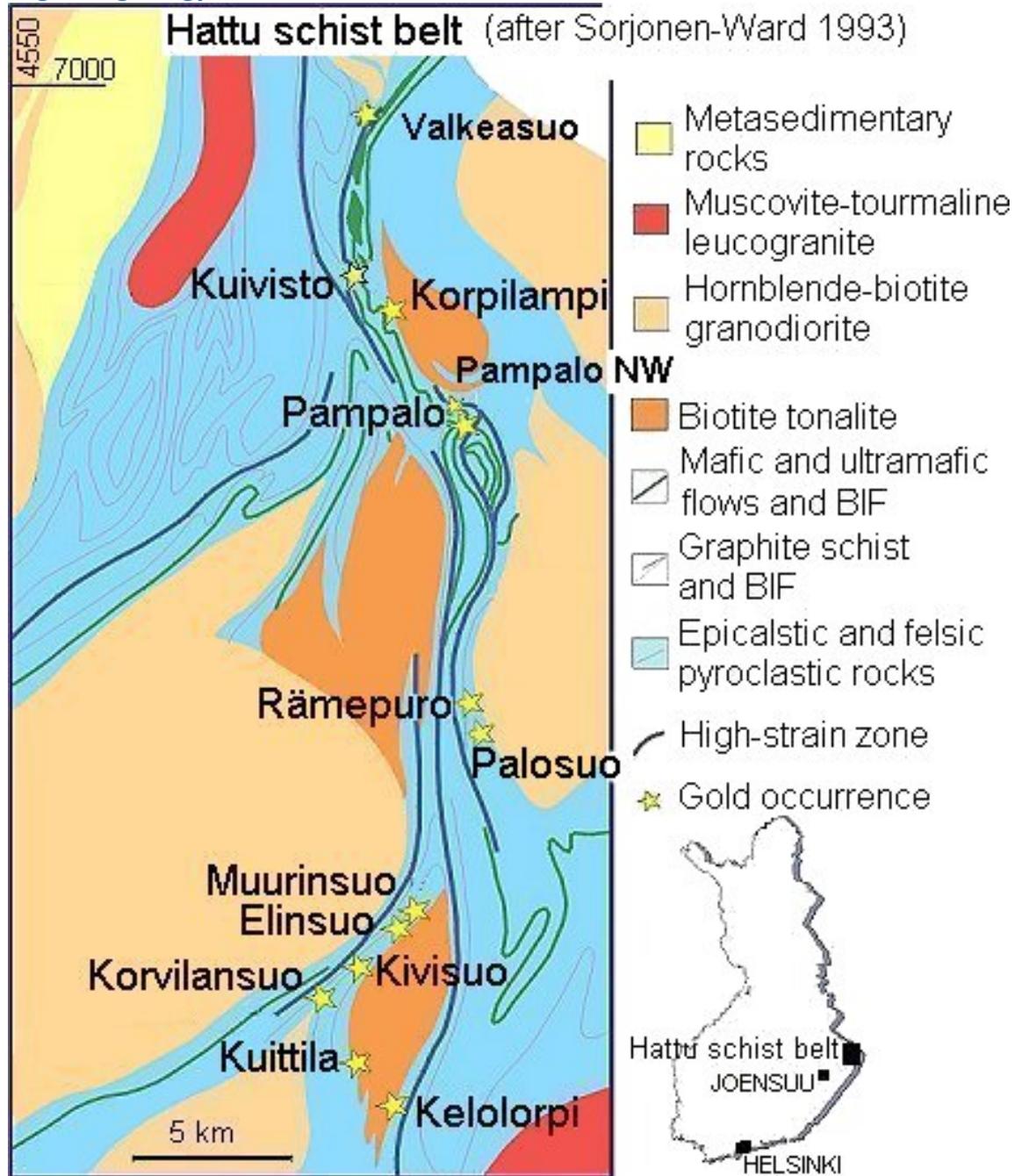


*Intermediate metatuffite; prox alteration, quartz-carbonate veins, ductile deformation.  
Mineral assemblage: qz - Kfsp - biot - ab - musc - calc(?) - po + possibly apy, tour, chl, gar,*

*sch, tit, rut, gold. Sample length 11 cm:*



**Regional geology:**



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