

# Murronmaa

**Occurrence type:** occurrence

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

Easting EUREF: 589855,241  
Northing EUREF: 7339002,048

Easting YKJ: 3590064  
Northing YKJ: 7342072

**Discovery year:** 1987

**Discovered by:** Geological Survey of Finland

**Province:** Kuusamo-Kuolajärvi (Co, Au)

**District:** Kuusamo (Co, Au)

**Comments:** The first indication was an Au-enriched glacial erratic boulder

**References:** 5, 7

## Mineral deposit type

**Group:** Metallogenic deposit

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

**Sub type 1:** Au-Co-Cu

**Comments:** The auriferous fluids were transported along deep, rift-tectonic faults up to the greenschist-metamorphic environment, concentrated on the antiform; the metals precipitated in structurally controlled sites close to impermeable dolerites and metavolcanic units or, rather, in the more competent sericite quartzite units between the more plastic mafic units.

**References:** 3, 4, 6, 8, 9, 11, 12

## Dimension

**Expression:** exposed

**Area (ha):** NA

**Form:** discordant

**Dip azim:** NA

**Shape:** NA

**Dip:** NA

**Length (m):** NA

**Plunge azim:** NA

**Width (m):** NA

**Plunge dip:** NA

**Thickness (m):** NA

**Orientation method:** NA

**Depth (m):** NA

**Dimension comments:** probably < 1 m wide radioactive "breccia pipe"

## Holder history

**Current holder:** EMX Finland Oy

**Years:** 2022-2024

**Holding type:** Reservation

**Previous holders:**

Company	Years	Holding type	Comments
Latitude 66 Cobalt Oy	2018-2020	Reservation	NA

Polar Mining Oy	2010-2010	Claim reservation (old law)	NA
Geological Survey of Finland	1995-1995	Claim (old law)	NA

## EXPLORATION ACTIVITY

### Belvedere Resources Ltd

Years	Activity type	Geologist	Exploration result	Ref
2002-2002	core drilling	Toby Strauss	NA	

### Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1989-1989	regional geochemistry	NA	geochemical anomaly	

1988-1989	detailed geophysics	Erkki Vanhanen.	NA	10
<i>An IP anomaly related to mineralised rock</i>				

1988-1995	core drilling	Erkki Vanhanen	mineral occurrences	10
<i>11 diamond-drill holes, total 1190 m, in three stages at 1988, 1991, and 1995</i>				
<i>Intersections</i>				
HoleID	NA			
From-To	NA			
Length	2m			
gold	6ppm			

1987-1989	detailed geology	Erkki Vanhanen	NA	1, 3, 4, 6, 8, 10
<i>Five grab samples from a radioactive outcrop with 1-97 ppm Au</i>				

1982-1982	regional geophysics	NA	key geological features	1, 3, 4, 6, 8, 10
<i>Low-altitude airborne magnetic, electromagnetic and radiometric survey</i>				

## GEOLOGY

**Host rock:** Hydrothermal rock

**Wall rock:** Oligomictic orthoconglomerate

### Hydrothermal rock (Host rock)

**Rock type:** Host rock

**References:** 7

**Comments:** with quartz-carbonate veins

#### Ore minerals:

Mineral	Proportion	Mineral texture
Chalcopyrite	minor	
Pyrite	minor	

#### Other minerals:

Mineral	Proportion	Mineral texture
Albite	major	
Calcite	major	
		<i>carbonate mineral is not specified</i>
Quartz	major	
Talc	present	
		<i>occasionally talc and amphibole</i>

### Oligomictic orthoconglomerate (Wall rock)

**Rock type:** Wall rock

**Proportion:** major

**Grain size:** NA

**Color:** NA

**References:** 2, 3, 4, 6, 8, 10, 11, 12

#### Other minerals:

Mineral	Proportion	Mineral texture
Actinolite	present	Alteration product
Albite	present	Alteration product
Biotite	present	Alteration product
Chlorite	present	Alteration product
Chloritoid	present	Alteration product
K-Feldspar	present	Alteration product
Magnetite	present	Alteration product
Pyrite	present	Alteration product
Quartz	present	Alteration product
Sericite	present	Alteration product
Talc	present	Alteration product
Tremolite	present	Alteration product

Alteration:	Distribution:	Degree:	Relation to mineralization:
silicification	NA	NA	Post
albitic alteration	NA	Total	Pre

*Comments: Locally intense Albitization of clastic sediments and spilitisation of volcanic units when the 2.206 Ga mafic sills and dykes heated the evaporite-bearing sequence and put hot brines into circulation.*

biotite alteration	NA	Moderate	Syn
<i>Comments: Seems to relate gold mineralisation</i>			
sulphidation	NA	Weak	Syn
carbonate alteration	NA	NA	Syn
sericitic alteration	NA	Moderate	Syn
<i>Comments: Seems to relate gold mineralisation</i>			
chloritic alteration	NA	NA	Syn

### Metamorphic description:

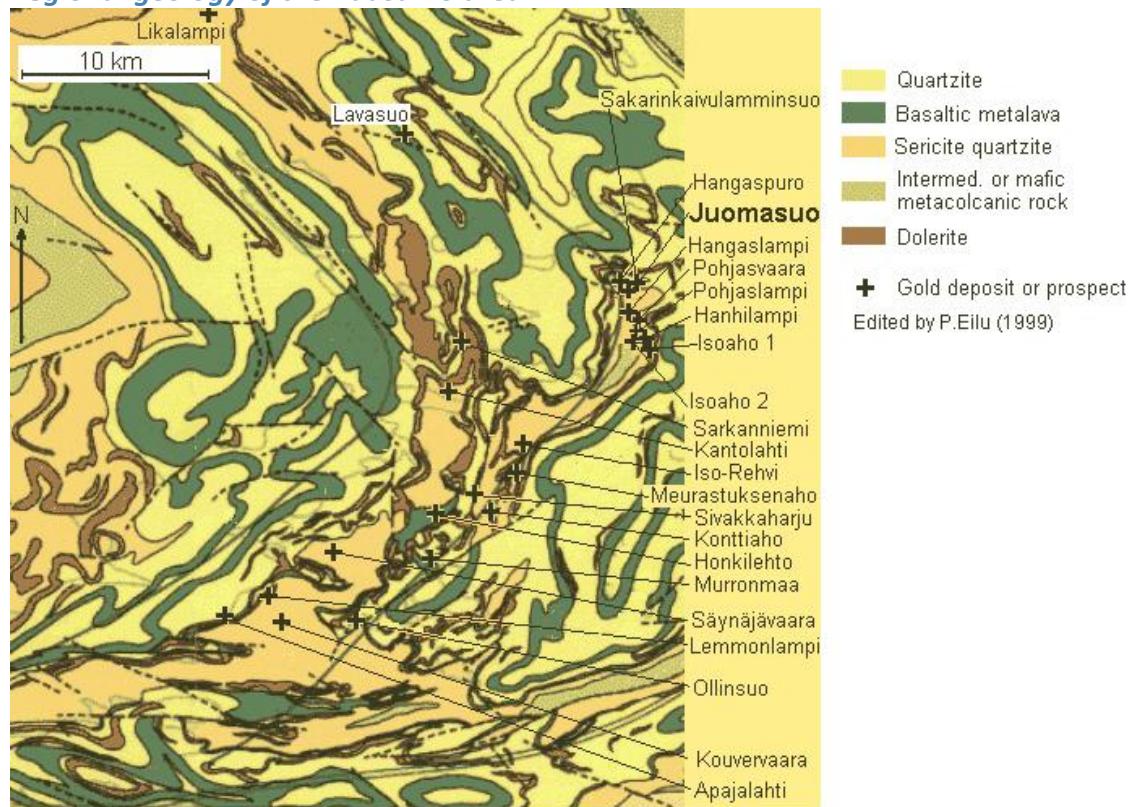
Type:	Facies:	Degree:	Relation to mineralization:	Min P- (kbar)	Max P (kbar)	Min T- (°C)	Max T (°C)
Regional	greenschist metamorphic facies	low metamorphic grade	NA				

### Geological age:

Geological era:	Max age - Min age (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	1800-2050		Y
<i>Comments: Mineralisation between 2.05-1.8 Ga.</i>			

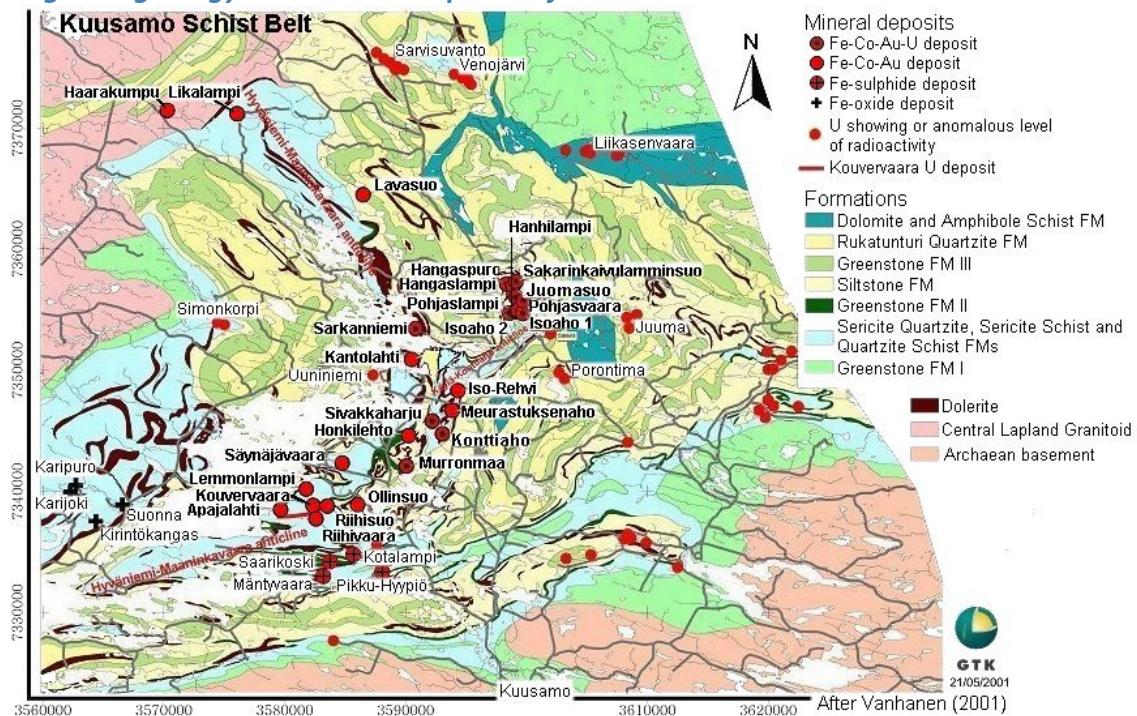
### Figures

### Regional geology of the Kuusamo area:



Deposits and prospects in the Kuusamo Schist Belt. Geology from Silvennoinen (1992). Solid and dashed, curved lines indicate boundaries between lithological units, faults and shear zones

### Regional geology and mineral deposits of the Kuusamo area:



**Albitised, brecciated and mineralised metasedimentary rock. Mineral assemblage probably albite - chlorite - quartz - sericite - calcite - rutile - pyrrhotite - pyrite. Sample length 13 cm.**

*Photo Reijo Lampela, GTK:*



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