Honkilehto

Occurence type: prospect

Commodity	Rank	Total measure	Total production	Total resource	Importance
gold	1	NA	NA	NA	NA
copper	2	NA	NA	NA	NA
cobalt	2	NA	NA	NA	NA

Easting EUREF: 590035,17
Northing EUREF: 7341513,039

Easting YKJ: 3590244
Northing YKJ: 7344584

Discovery year: 1992
Discovered by: Geological Survey of Finland
Province: Kuusamo-Kuolajärvi (Co, Au)
Comments: Discovery by GTK: Au anomaly in till, trenching in the most anomalous part exposed the mineralisation in bedrock

References: 1, 3, 5, 6, 7, 8, 9, 16

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: 8, 10, 12, 13, 14, 15, 16

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: 2022-2024
Holding type: Reservation

Previous holders:

Company	Years	Holding type	Comments
Kuusamo Gold Oy	2015	Application for exploration permit	application for exploration permit transfered from Dragon in 2015
Dragon Mining Oy	2014-2015	Application for exploration permit	NA
Polar Mining Oy	2010-2010	Claim reservation (old law)	NA
Belvedere Resources Ltd	2004-2005	Claim (old law)	NA
Geological Survey of Finland	1992-1998	Claim (old law)	NA

EXPLORATION ACTIVITY

Belvedere Resources Ltd

Years	Activity type	Geologist	Exploration result	Ref
2004-2004	detailed geophysics	Toby Strauss	NA	4, 6
	Ground TEM and magnetic survey			

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1993-1994	core drilling	Heikki Pankka.	mineralized zone identified	11
	Core drilling (reconnaissance drilling): 22 diamond-drill holes, total 2077 m.			
	Intersections			
	HoleID	NA		
	From-To	NA		
	Length	0,5m		
	gold	29,5ppm		
	copper	0,34%		
	cobalt	0,15%		
	Comments	*Drill core analysed, length not reported, but guessed to 0.5 m: 29.50 ppm Au, 1.20 ppm Ag, 19.7 ppm As, 17 ppm B, 32 ppm Ba, 0.80 ppm Bi, 1490 ppm Co, 3390 ppm Cu, <5 ppb Hg, 3.4 ppm Li, 1.0 ppm Mo, 95.9 ppm Ni, 0.4 ppm Pb, <10 ppm Rb, 76100 ppm S, 0.22 ppm Sb, 46.70 ppm Se, <10 ppm Sr, 2.20 ppm Te, 4.2 ppm Th, 0.10 ppm Tl, 3.2 ppm U, 72 ppm V, 240 ppm W, 16 ppm Y, <2 ppm Zn, 67 ppm Zr*		

1992-1993	detailed geophysics	Heikki Pankka	geophysical anomaly	2, 8, 9, 12, 13
	ground magnetic, electric and radiometric survey			

1992-1992	detailed geology	Heikki Pankka	NA	2, 8, 10, 12, 13

1992-1992	excavation	Heikki Pankka	mineralized zone identified	2, 8, 9, 10, 11, 12, 13
	Au anomaly in till, trenching in the most anomalous part exposed the mineralisation in bedrock.			

1991-1992	detailed geochemistry	Heikki Pankka	NA	11
	Au, Co, Cu and Te anomalies in till			

1989-1989	regional geochemistry	NA	geochemical anomaly	
	Country-wide till-geochemical survey			

1982-1982	regional geophysics	Heikki Pankka	key geological features	2, 8, 10, 12, 13
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			

GEOLOGY

Host rock: Sericite quartzite, Silicate-siltstone
Wall rock: Dolerite, Carbonatite

Sericite quartzite (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 7, 8, 10, 11, 12, 13, 14, 15, 16

Ore minerals:

Mineral	Proportion	Mineral texture
Chalcopyrite	major	
Cobaltpentlandite	minor	
Gold	present	
	Native gold and bound in sulphides.	
Pyrite	major	
Pyrrhotite	major	

Other minerals:

Mineral	Proportion	Mineral texture
Actinolite	present	Alteration product
Albite	major	Alteration product
Biotite	present	Alteration product
Chlorite	present	Alteration product
Chloritoid	present	Alteration product
K-Feldspar	present	Alteration product
Magnetite	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
carbonate alteration	NA	NA	Syn
sericitic alteration	NA	NA	Syn
chloritic alteration	NA	NA	Syn
biotite alteration	NA	NA	Syn
sulphidation	NA	NA	Syn
albitic alteration	Pervasive	Strong	

Metamorphic description:

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

Geological age:

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	1800-2070		Y
Comments: Mineralisation between 2.07-1.8 Ga.			
Paleoproterozoic (2500-1600 Ma)	1600-2500		N

Silicate-siltstone (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 7, 8, 10, 11, 12, 13, 14, 15, 16

Other minerals:

Mineral	Proportion	Mineral texture
Albite	major	

Alteration:	Distribution:	Degree:	Relation to mineralization:
albitic alteration	Pervasive	Strong	NA

Metamorphic description:

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

Geological age:

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	1600-2500		N

Dolerite (Wall rock)

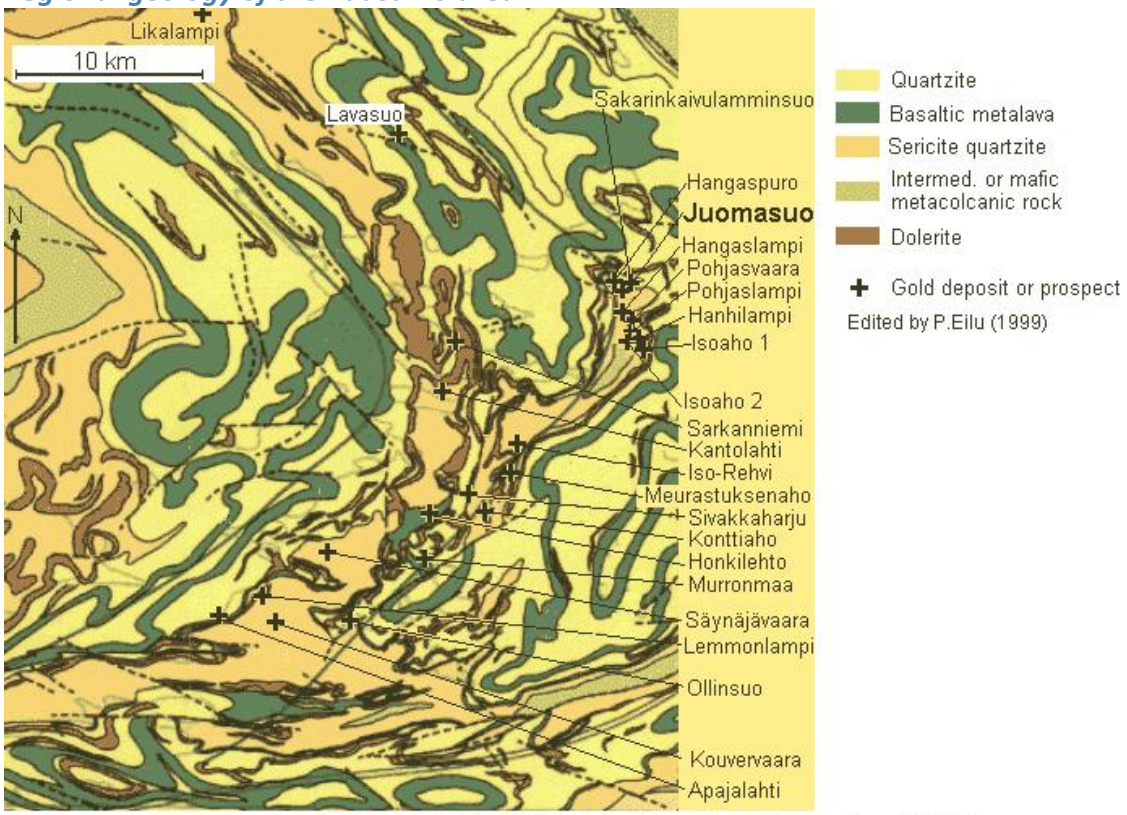
Rock type: Wall rock
Comments: Albitised dolerite: intruded the host rocks, intensely altered like the host rocks

Carbonatite (Wall rock)

Rock type: Wall rock
References: 1
Comments: Narrow carbonatite dykes intruding the host rocks

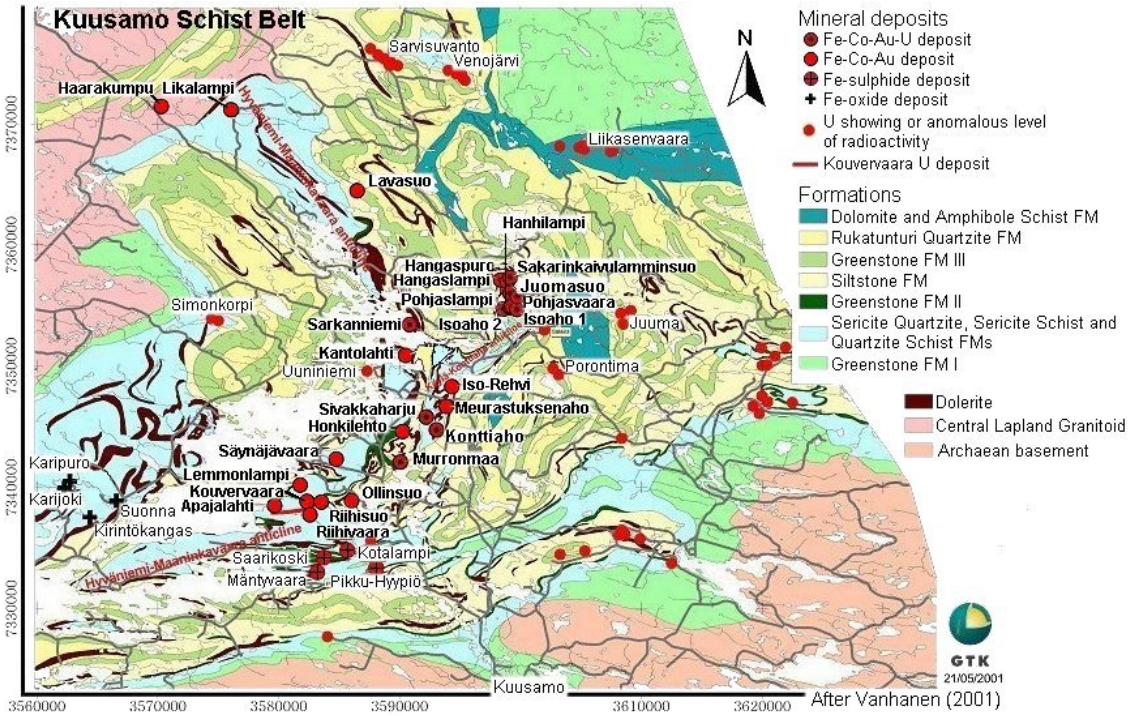
Figures

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 ore deposits of the Kuusamo area:



After Vanhanen (2001)

Albitised sericite quartzite or metasiltstone. Sample length 12 cm. Photo Reijo Lampela, GTK:

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