Pohjaslampi

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	3	NA	NA	NA	NA
uranium	3	NA	NA	NA	NA

Easting EUREF: 599047,554
Northing EUREF: 7351852,856

Easting YKJ: 3599260
Northing YKJ: 7354928

Discovery year: 1975
Discovered by: Outokumpu Oy
Province: Kuusamo-Kuolajärvi (Co, Au)
District: Kuusamo (Co, Au)
References: 4, 11

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; thee 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: 2, 5, 6, 7, 8, 9, 10, 12

Dimension

Expression: exposed
Form: discordant
Shape: NA
Length (m): 100
Width (m): NA
Thickness (m): NA
Depth (m): 80

Area (ha): NA
Dip azim: 270
Dip: NA
Plunge azim: NA
Plunge dip: NA
Orientation method: NA

Dimension comments: Two lodes >100 m long, >80 m deep, and have a 70-80° dip to the W. Extent of the third, lower metal grade, lode unknown. The occurrence is open along strike and at depth.

Holder history

Previous holders:

Company	Years	Holding type	Comments
Latitude 66 Cobalt Oy	2018	Application for exploration permit	NA
Kuusamo Gold Oy	2015-2018	Exploration permit	NA

Dragon Mining Oy	2014-2015	Application for exploration permit	NA
Polar Mining Oy	2003-2008	Claim (old law)	NA
Outokumpu Oy	1995-1998	Claim (old law)	NA
Geological Survey of Finland	1991-1994	Claim (old law)	NA
Outokumpu Oy	1975-1977	Claim (old law)	NA

EXPLORATION ACTIVITY

Latitude 66 Cobalt Oy

Years	Activity type	Geologist	Exploration result	Ref
2020	detailed geophysics	Aaron Davies	NA	3
	Down-hole EM survey			

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1989-1989	regional geochemistry	Erkki Vanhanen	geochemical anomaly	1, 2, 5, 6, 7, 8, 11
	Country-wide till-geochemical survey			

1986-1991	excavation	Erkki Vanhanen	mineral occurrences	1, 2, 5, 6, 7, 8, 11
	A trench or trenches excavated through the overburden into the bedrock surface			

1986-1991	detailed geology	Erkki Vanhanen	key geological features	1, 2, 5, 6, 7, 8, 11
	Three potential ore bodies detected, Pohjaslampi appears as the most promising			

1986-1991	core drilling	Erkki Vanhanen	mineral occurrences	11
	Core drilling (reconnaissance drilling): 2 diamond-drill holes, total 242.6 m.			
	Intersections			
	HoleID	NA		
	From-To	NA		
	Length	4m		
	gold	4ppm		

1986-1991	detailed geophysics	Erkki Vanhanen	geophysical anomaly	2
	A radiometric ground anomaly.			

1984-1984	regional geophysics	Erkki Vanhanen	key geological features	1, 2, 5, 6, 7, 8, 11
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			

Outokumpu Oy

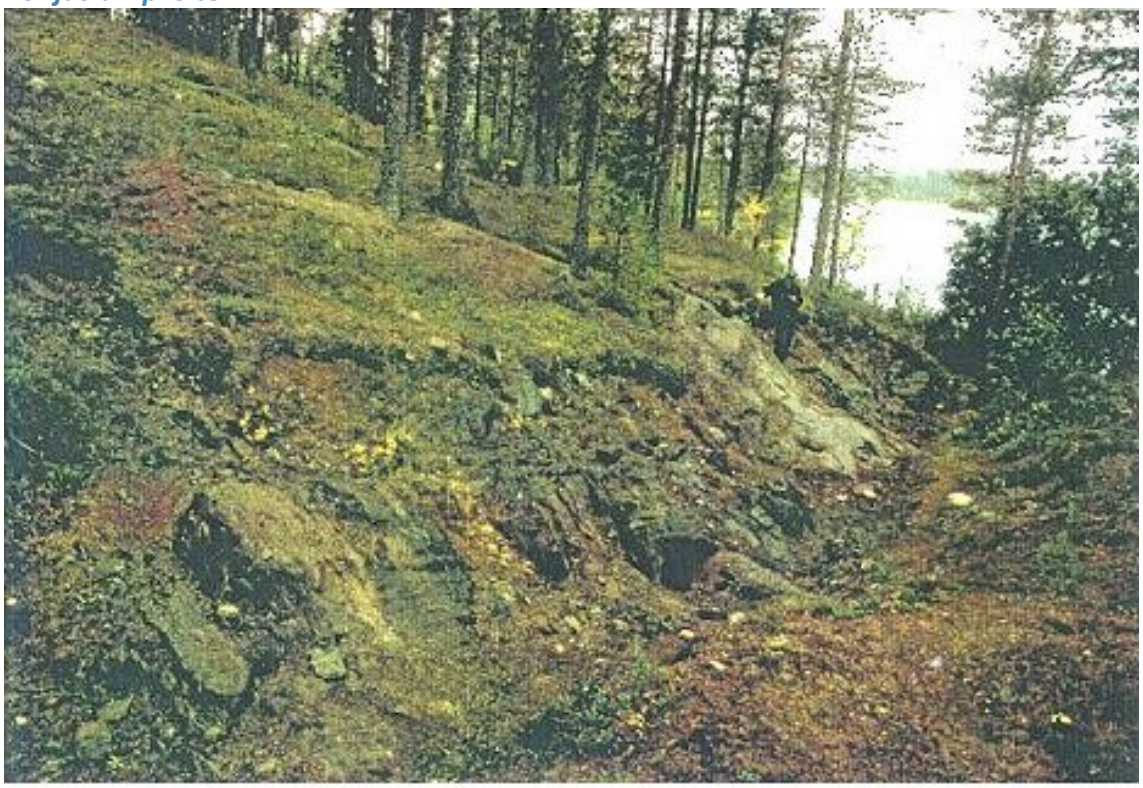
Years	Activity type	Geologist	Exploration result	Ref
1976-1977	core drilling	Osmo Inkinen	mineral occurrences	11
	Core drilling (reconnaissance drilling): 11 diamond-drill holes.			

1975-1977	detailed geology	Osmo Inkinen	key geological features	2, 11
	Also a MSc thesis on gold occurrences in the area			

1975-1977	excavation	Osmo Inkinen	mineral occurrences	2, 11
	One trech excavated through the overburden into bedrock surface. Gold grade in channel samples: 0.5-12 ppm Au			

Figures

Pohjaslampi site:



Outcrop photo of the Pohjaslampi gold deposit.
View from east to west. (from Kortenlemi 1993)

Pohjaslampi exploration trench, 2003:

Pohjaslampi, exploration trench 13/06/2003. Photo Pasi Eilu.

GEOLOGY

Host rock: Dolerite, Sericite Quartzite

Dolerite (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 2, 5, 6, 7, 8, 10, 11, 12
Comments: Cross cut by minor dolerites.

Other minerals:

Mineral	Proportion	Mineral texture
Albite	major	
Biotite	minor	
	Alteration product	
Calcite	minor	
	Alteration product	
Epidote	minor	
Hornblende	major	
Quartz	present	
Titanite	present	

Alteration:	Distribution:	Degree:	Relation to mineralization:
biotite alteration	Disseminated	Moderate	NA
carbonate alteration	Disseminated	Moderate	NA

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	Syn		
Comments: Peak regional metamorphism at lower-amphibolite facies: staurolite porphyroblasts in Al-rich rocks, during D1?. This was followed by retrograde greenschist-facies metamorphism: sericitisation of staurolite, during D2?, related to NW-trending shear zones and gold mineralisation?; Albite-actinolitic hornblende-epidote-opaques ± titanite, quartz.					

Geological age:

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

Sericite Quartzite (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA

Color: NA
References: 2, 5, 6, 7, 8, 10, 11, 12
Comments: Host rock suggested to be intermediate volcanigenic sedimenatry in origin (Korteniemi 1993). It is located at the intersection of NW-trending faults and the NE-trending Käylä–Konttiaho anticline.

Ore minerals:

Mineral	Proportion	Mineral texture
Chalcopyrite	minor	
Pyrite	major	
Pyrrhotite	major	
Uraninite	minor	

Other minerals:

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

Alteration:	Distribution:	Degree:	Relation to mineralization:
chloritic alteration	Disseminated	Weak	NA
carbonate alteration	Disseminated	Moderate	NA
silicification	Veins	NA	Post
albitic alteration	NA	Strong	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.			
sulphidation	Disseminated	Weak	Syn
biotite alteration	Disseminated	Moderate	Syn
sericitic alteration	Disseminated	Weak	Syn

Metamorphic description:

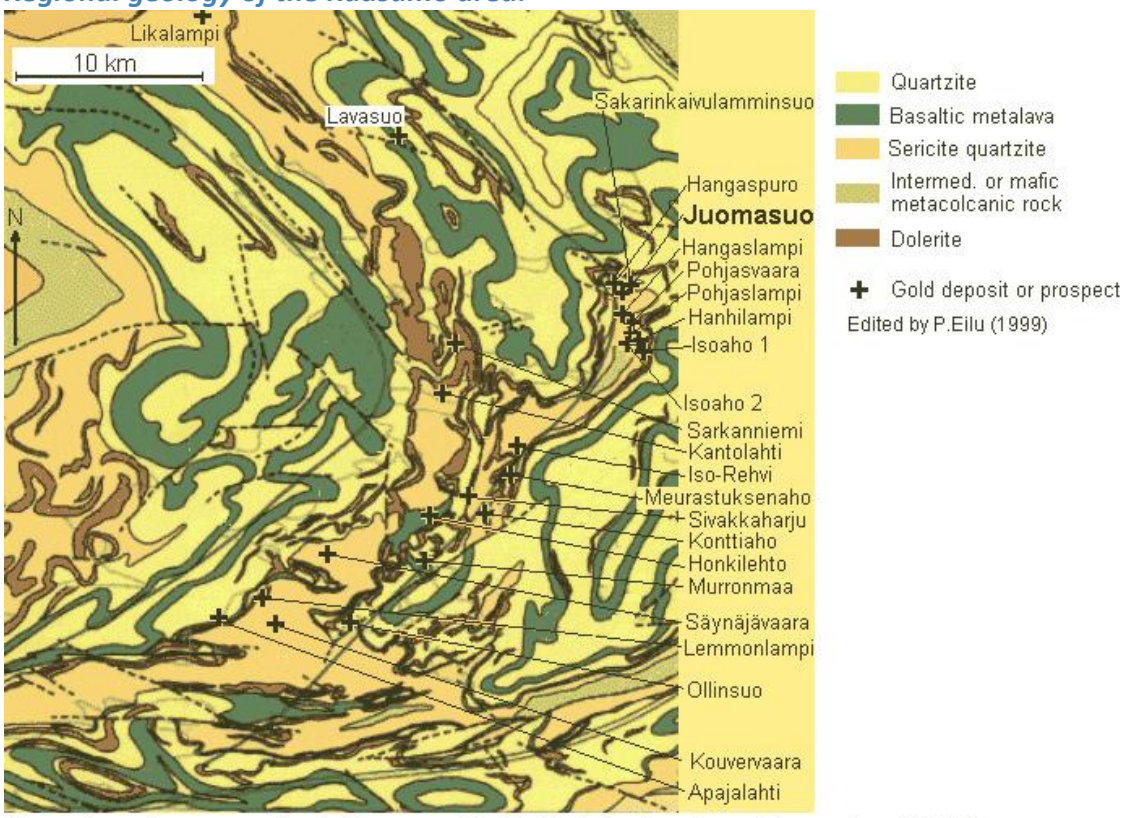
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	amphibolite metamorphic facies	medium metamorphic grade	Syn		
Comments: Peak regional metamorphism at lower-amphibolite facies: staurolite porphyroblasts in Al-rich rocks, during D1?. This was followed by retrograde greenschist-facies metamorphism: sericitisation of staurolite, during D2?, related to NW-trending shear zones and gold mineralisation?; Quartz-albite-sericite-biotite ± chlorite.					

Geological age:

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

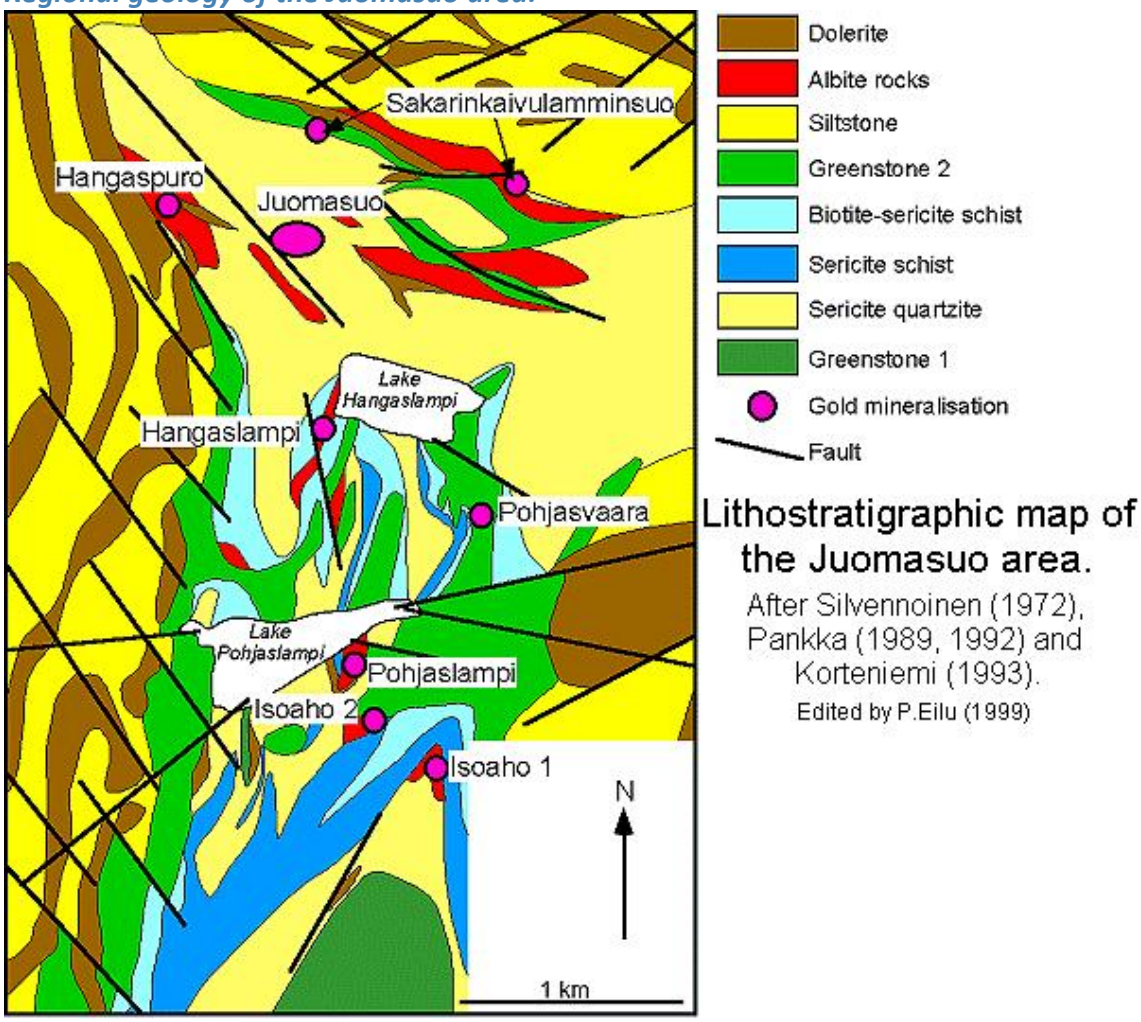
Figures

Regional geology of the Kuusamo area:

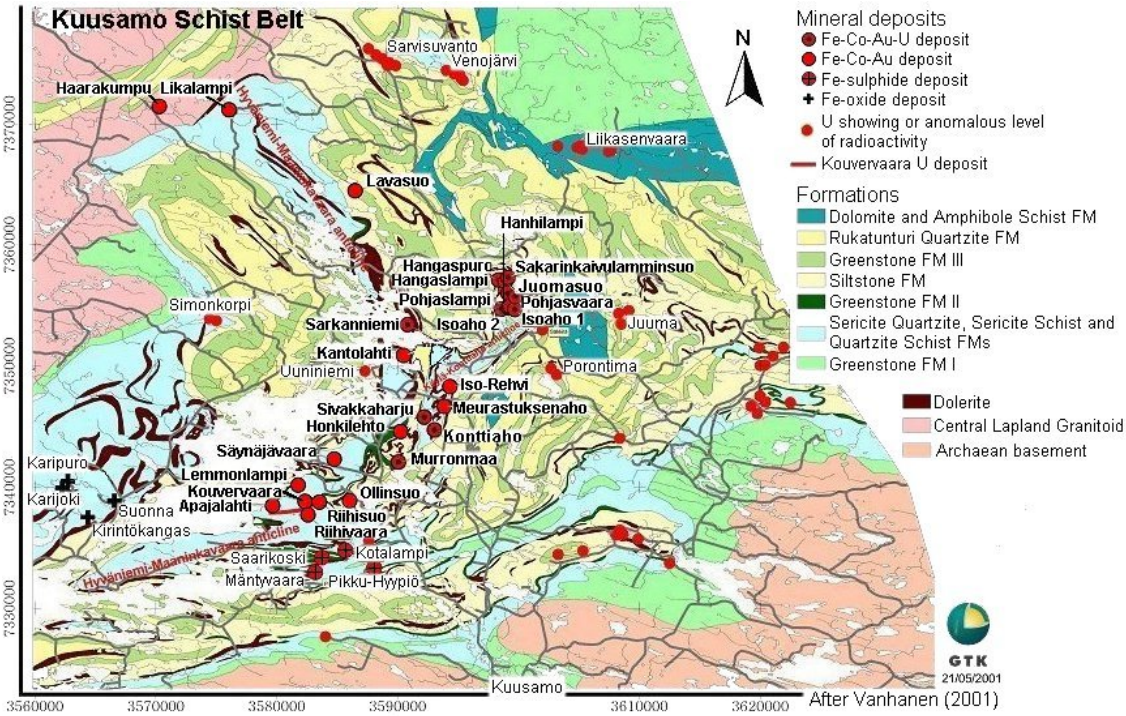


Deposits and prospects in the Kuusamo Schist Belt. Geology from Silvennoinen (1992).
Solid and dashed, curved lines indicate boundaries between lithological units, faults and shear zones

Regional geology of the Juomasuo area:

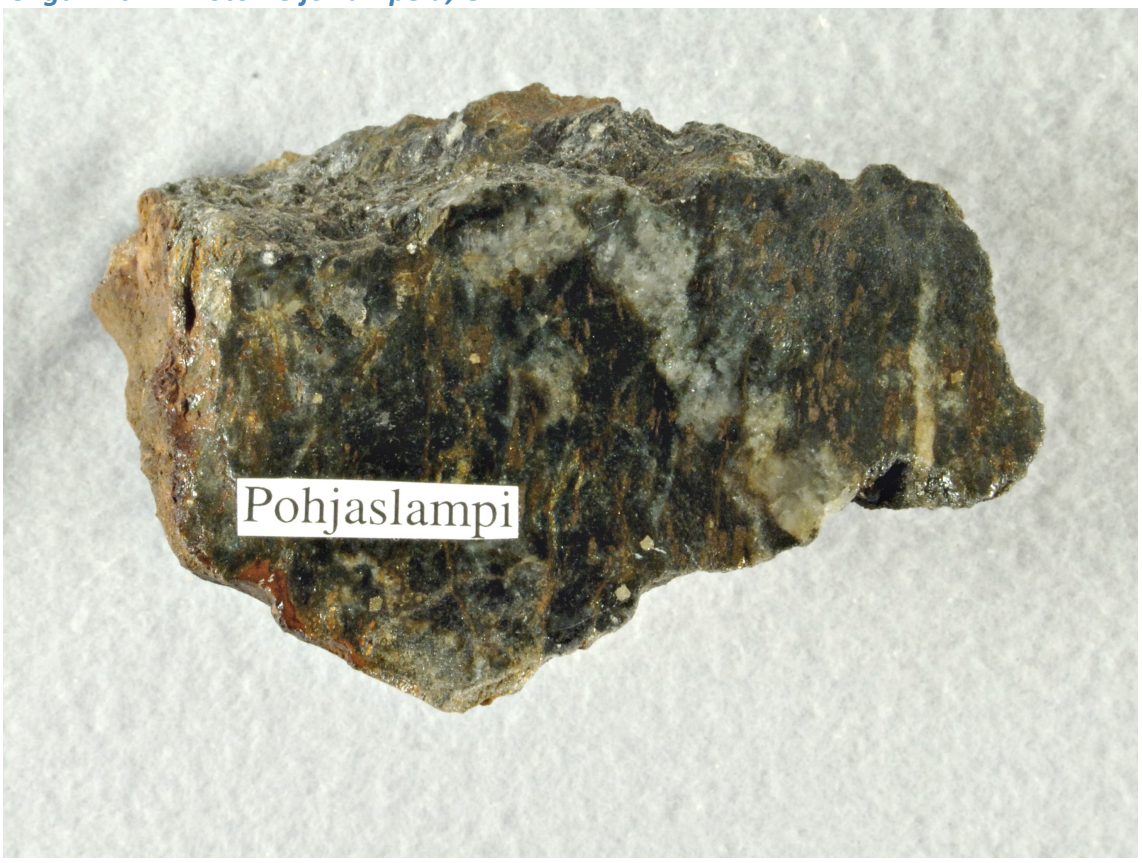


Regional geology and mineral deposits of the Kuusamo area:



After Vanhanen (2001)

Proximal alteration and gold mineralisation in tuffite. Mineral assemblage probably sericite - biotite - chlorite - albite - quartz - calcite - pyrite - pyrrhotite. Quartz veins. Sample length 7 cm. Photo Reijo Lampela, GTK:



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