Lavasuo

Occurence type: occurrence

Commodity	Rank	Total measure	Total production	Total resource	Importance
gold	1	NA	NA	NA	NA
cobalt	2	NA	NA	NA	NA
copper	3	NA	NA	NA	NA

Easting EUREF: 586259,707
Northing EUREF: 7361388,05

Easting YKJ: 3586467
Northing YKJ: 7364467

Discovery year: 1985
Discovered by: Outokumpu Oy
Province: Kuusamo-Kuolajärvi (Co, Au)
Comments: Discovery by Outokumpu: an electromagnetic airborne anomaly was selected as a target area where ground slingram and magnetic survey was performed. This was followed by diamond drilling into a slingram anomaly detected, and the occurrence was hit by drilling

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 or, rather, in the more competent sericite quartzite units between the more plastic mafic units.
References: 2, 3, 5, 7, 8, 9

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

Dimension comments: Not enough drilling done to define a resource and extent for the occurrence

Holder history

Previous holders:

Company	Years	Holding type	Comments
Outokumpu Oy	1984-1986	Claim (old law)	NA

EXPLORATION ACTIVITY

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1989-1989	regional geochemistry	NA	geochemical anomaly	
	Country-wide till-geochemical survey			

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1985-1985	core drilling	Osmo Inkinen, Heikki Vartiainen	mineral occurrences	1
	Diamond drilling into a slingram anomaly detected, and the mineralisation was hit by drilling; 4 diamond-drill holes, total 516 m.			
	Intersections			
	HoleID	NA		
	From-To	NA		
	Length	1m		
	gold	1,6ppm		
	HoleID	NA		
	From-To	NA		
	Length	1m		
	gold	2ppm		

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1984-1984	regional geophysics	NA	key geological features	
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1983-1985	detailed geology	Osmo Inkinen, Heikki Vartiainen	key geological features	1

1983-1985	detailed geophysics	Osmo Inkinen, Heikki Vartiainen	geophysical anomaly	1
	An electric airborne anomaly was selected as a target area where ground slingram and magnetic survey (1.5 km2 area) was done.			

GEOLOGY

Host rock: Sericite quartzite

Sericite quartzite (Host rock)

Rock type: Host rock
Proportion: present
Grain size: NA
Color: NA
References: 2, 3, 4, 5, 6, 7
Comments: The mineralisation is in the Sericite Quartzite Formation(?) of the Kuusamo Schist Belt which is an intracratonic, failed rift filled by a subaerial to shallow-water volcanosedimentary.

Ore minerals:

Mineral	Proportion	Mineral texture
Pyrite	present	Alteration product

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
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	Pervasive	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.			
biotite alteration	NA	NA	Syn
sulphidation	NA	NA	Syn
carbonate alteration	NA	NA	Syn
sericitic alteration	NA	NA	Syn
chloritic alteration	NA	NA	Syn

Metamorphic description:

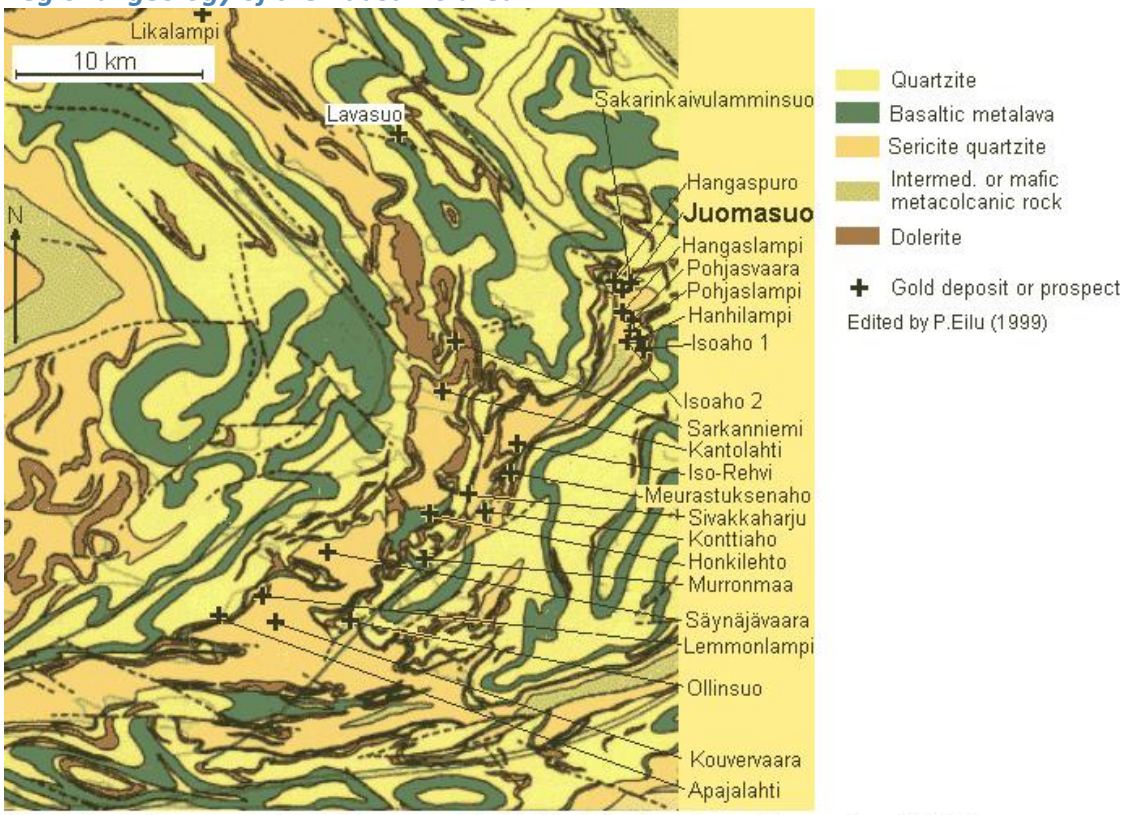
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	amphibolite metamorphic facies	medium metamorphic grade	NA		
Comments: Probably lower-amphibolite facies metamorphic grade					

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.			

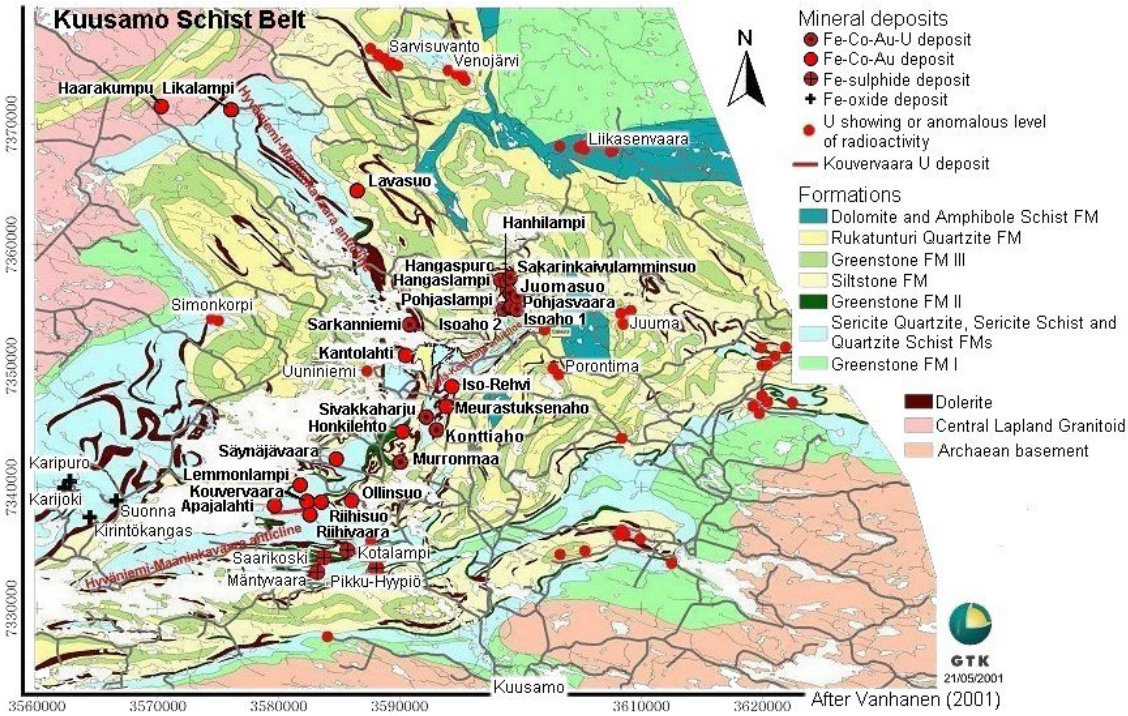
Figures

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:



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