Lammasvuoma

Occurence type: occurrence

Commodity	Rank	Total measure	Total production	Total resource	Importance
gold	1	NA	NA	NA	NA
cobalt	5	NA	NA	NA	NA
nickel	5	NA	NA	NA	NA

Easting EUREF: 429451,014
Northing EUREF: 7499035,165

Easting YKJ: 3429595
Northing YKJ: 7502169

Discovery year: 1989
Discovered by: Outokumpu Oy
Province: Kittilä (Au, Cu)
Comments: Discovery by Outokumpu: regional till geochemical survey; the mineralisation was detected by diamond drilling into a geochemical and geophysical anomaly

References: 4, 5, 6

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)
Comments: Clearly epigenetic, "mesothermal" mineralisation with a distinct structural control
References: 1

Dimension

Expression: NA
Form: NA
Shape: NA
Length (m): NA
Width (m): NA
Thickness (m): NA
Depth (m): NA

Area (ha): NA
Dip azim: NA
Dip: 30
Plunge azim: NA
Plunge dip: NA
Orientation method: NA

Holder history

Previous holders:

Company	Years	Holding type	Comments
Sakumpu Exploration Oy	2015	Exploration permit	Appl. for exploration permit
Drake Resources Sweden AB	2013	Reservation	NA
Tailtiu Oy	2007	NA	NA
Outokumpu Oy	1990-1991	Claim (old law)	NA

EXPLORATION ACTIVITY

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1996-1996	regional geophysics	NA	key geological features	
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1990-1991	detailed geophysics	Timo Huhtelin	NA	1, 4

1990-1991	core drilling	Timo Huhtelin	NA	1, 2, 4
	Core drilling (reconnaissance drilling): 23 diamond-drill holes, total 2016.50 m			
	Intersections			
	HoleID	LAM-15		
	From-To	NA		
	Length	4,6m		
	gold	3,55ppm		
	HoleID	LAM-16		
	From-To	NA		
	Length	1,4m		
	gold	26,7ppm		
	HoleID	NA		
	From-To	NA		
	Length	1m		
	gold	2,5ppm		
	HoleID	NA		
	From-To	NA		
	Length	3m		
	gold	2,2ppm		
	HoleID	NA		
	From-To	NA		
	Length	10m		
	gold	1,7ppm		
	HoleID	NA		
	From-To	NA		
	Length	15m		
	gold	2,88ppm		
	HoleID	NA		
	From-To	NA		
	Length	15m		
	gold	0,85ppm		
	nickel	0,02%		
	HoleID	NA		
	From-To	NA		
	Length	1m		
	gold	3,5ppm		
	HoleID	NA		
	From-To	NA		

	Length	1,2m
	gold	25ppm
	HoleID	NA
	From-To	NA
	Length	3m
	gold	1,8ppm

1989-1991	detailed geochemistry	Raimo Hugg, Timo Huhtelin	NA	1, 4

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1979-1991	regional geochemistry	NA	NA	
	Regional till geochemical survey			

GEOLOGY

Host rock: Ultramafic tuff, Quartz vein, Komatiite

Ultramafic tuff (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 1, 3, 4
Comments: The "albite fels" apparently looks like an albitised quartzite, although it probably is a metakomatiite or tuffite. It occurs at the contacts of altered ultramafic rocks (talc schists).

Ore minerals:

Mineral	Proportion	Mineral texture
Chalcopyrite	minor	
Gold	present	
	gold in pyrite or in silicate gangue	
Pyrite	major	

Structures
Veined

Alteration:	Distribution:	Degree:	Relation to mineralization:
albitic alteration	NA	NA	NA
Comments: Albitisation and part of carbonation may have preceded gold mineralisation, taken place before regional deformation, as a synvolcanic, spilitic stage of alteration			
carbonate alteration	NA	NA	Syn
sericitic alteration	NA	NA	Syn
Comments: Sericitisation(?), sulphidation and part of carbonation are probably related to the syn-peak metamorphic gold mineralisation.			
sulphidation	NA	NA	Syn
silicification			

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		
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.					

Geological age:

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

Quartz vein (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 1
Comments: Quartz-carbonate veins

Komatiite (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 1, 3, 4

Metamorphic description:

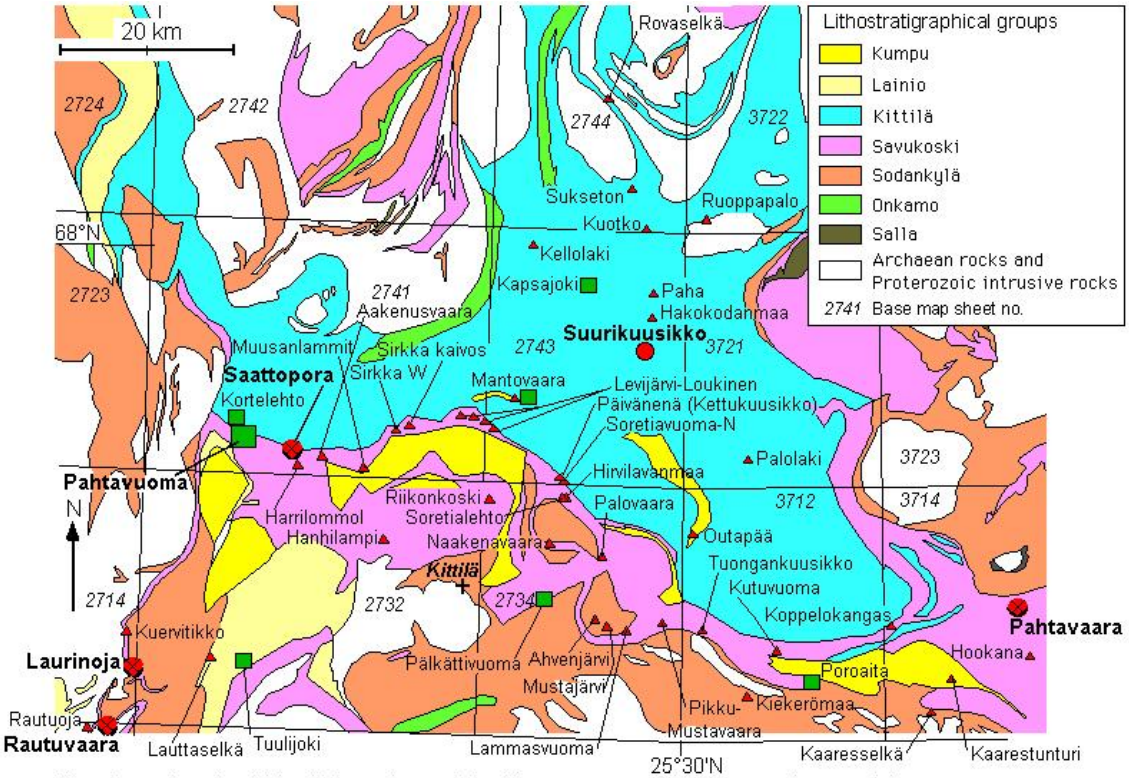
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	greenschist metamorphic facies	low metamorphic grade	NA		
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.					

Geological age:

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

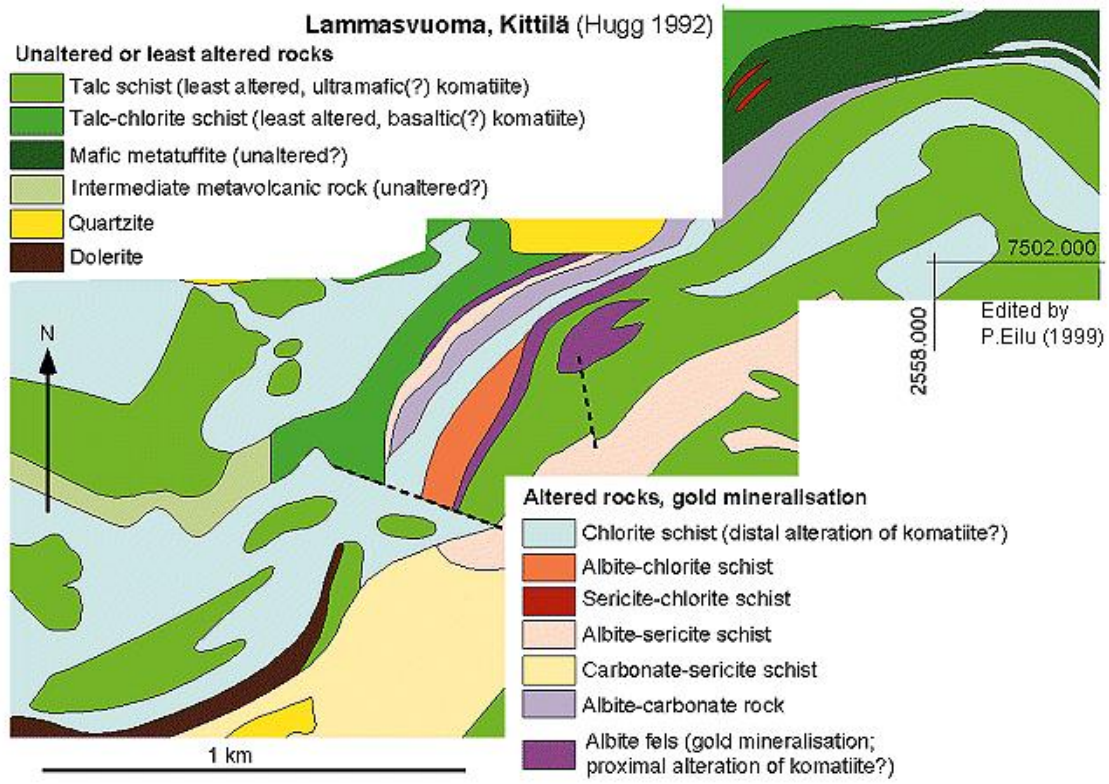
Figures

Regional geology:



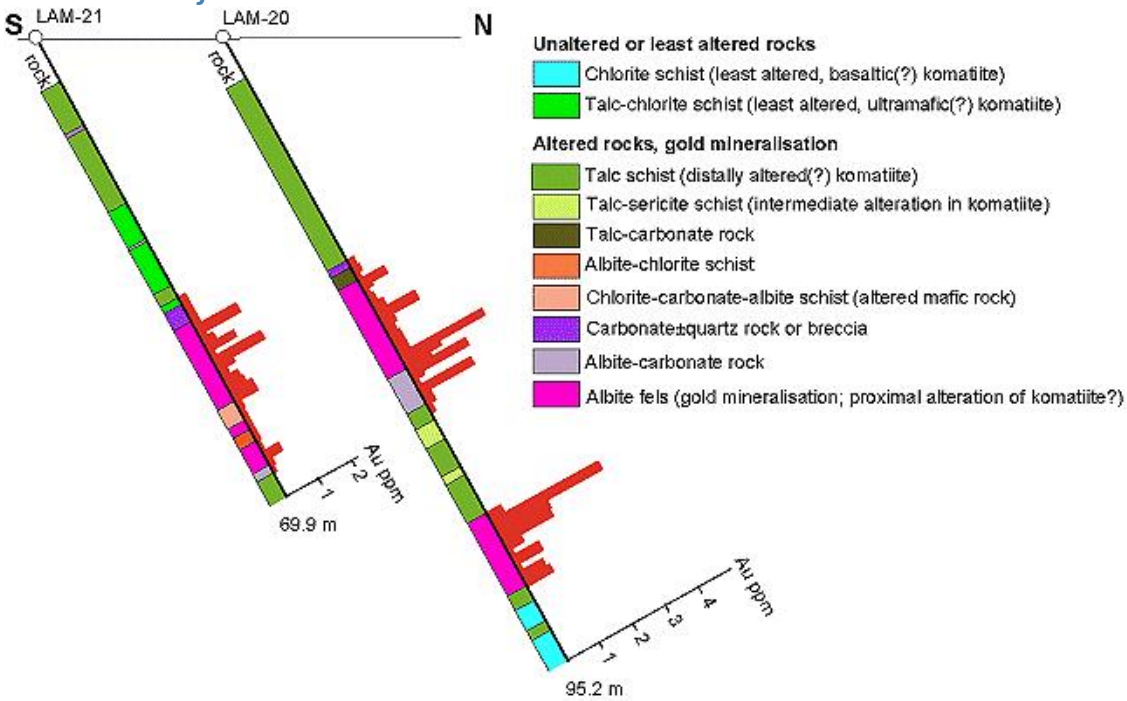
Zinc (green) and gold (red) deposits and significant prospects in the central parts of the Central Lapland greenstone belt. Lithostratigraphy from Lehtonen et al. (1998). Edited by P. Eilu (2007)

Local geology:



Alteration interepreted from data in Hugg (1992), Eilu (1994) and Lehtonen et al. (1998).

Cross section of LAM20-LAM21 drill holes:



N-S section Y = 2557.225 m at Lammasvuoma, Kittilä. Rocks, gold grade.
After Hugg (1992). Edited by P.Eilu (1999)

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