Hakojärvi

Occurence type: occurrence

Commodity	Rank	Total measure	Total production	Total resource	Importance
gold	1	NA	NA	NA	NA
arsenic	4	NA	NA	NA	NA

Easting EUREF: 556695
Northing EUREF: 6874990

Easting YKJ: 3556889
Northing YKJ: 6877873

Discovery year: 1984
Discovered by: Geological Survey of Finland
Province: Rantasalmi (Au)
References: 1, 2

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)

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: NA
Plunge azim: NA
Plunge dip: NA
Orientation method: NA

Holder history

Previous holders:

Company	Years	Holding type	Comments
Mineral Exploration Network (Finland) Limited	2011-2012	Claim reservation (old law)	NA
Geological Survey of Finland	1984-1986	Claim (old law)	NA

EXPLORATION ACTIVITY

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1984-1985	core drilling	Hannu Makkonen.	NA	5
	Core drilling (reconnaissance drilling): 4 diamond-drill holes, total 503.5 m.			
	Intersections			
	HoleID	NA		
	From-To	NA		
	Length	2,5m		
	gold	1ppm		
	arsenic	0,68%		

1983-1987	detailed geochemistry	Hannu Makkonen.	NA	4
	Scattered Au-anomalous locations in till around the mineralisation.			

1983-1987	detailed geology	Hannu Makkonen.	NA	4, 5

1983-1987	detailed geophysics	Hannu Makkonen.	NA	4, 5

1983-1987	percussion drilling	Hannu Makkonen.	NA	4, 5

1983-1987	regional geochemistry	Hannu Makkonen.	NA	4, 5

1981-1981	regional geophysics	NA	key geological features	
	Low-altitude magnetic, aeromagnetic and radiometric survey			

GEOLOGY

Host rock: Intermediate volcanic rock, Felsic volcanic rock, Quartz diorite
Wall rock: Mica gneiss

Intermediate volcanic rock (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 3, 4, 5

Metamorphic description:
Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	major	

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

Geological age:

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

Felsic volcanic rock (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 3, 4, 5

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		

Geological age:

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:

Paleoproterozoic (2500-1600 Ma)	1887-1887	1887	N		
Comments: Minerilisation is post 1887 Ma.					
Radiometric age:	**Method:**	**Age:**	**Error (Ma):**	**Mineral:**	**Reference:**
	U-Pb	1887	5	Zircon	3, 4, 5

Quartz diorite (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 3, 4, 5

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		

Geological age:

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

Mica gneiss (Wall rock)

Rock type: Wall rock
Proportion: minor
Grain size: NA
Color: NA
References: 3, 4, 5

Metamorphic description:

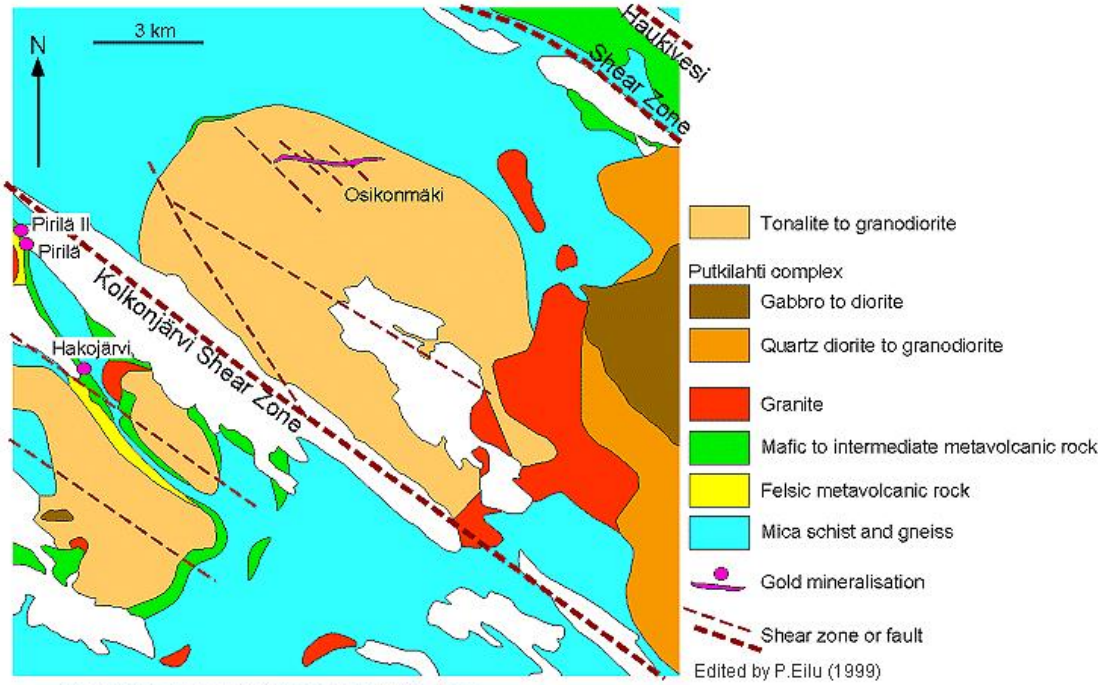
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	amphibolite metamorphic facies	medium metamorphic grade	NA		

Geological age:

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

Figures

Regional geology:



Geology of the Osikonmäki-Pirilä area.
White areas are lakes. After Kontoniemi (1998).

REFERENCES

1. Kontoniemi, O. 1998. An overview of the geology in the Osikonmäki area, Rantasalmi, southeastern Finland: Especially as a promising environment for epigenetic gold mineralization. Geological Survey of Finland, Special Paper 25, 7-18. *http://tupa.gtk.fi/julkaisu/specialpaper/sp_025_pages_007_018.pdf*

2. Korsman, K. (ed.) & Glebovitsky, V. (ed.) 1999. Raahe-Ladoga Zone structure-lithology, metamorphism and metallogeny: a Finnish-Russian cooperation project 1996-1999. Map 2: Metamorphism of the Raahe-Ladoga Zone 1:1000000. Geological Survey of Finland.

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4. Lestinen, P. 1989. Kolkonjärven alueen geokemialliset tutkimukset vuosina 1984-1987. Geological Survey of Finland, Report S/41/3233/1/1989. 42 p. (in Finnish) *http://tupa.gtk.fi/raportti/arkisto/s41_3233_1_1989.pdf*

5. Makkonen, H. 1987. Tutkimustyöselostus Rantasalmen ja Juvan kunnissa valtausalueella Hakojärvi 1 ja 2, kaiv. rek. n:o 3681/1-2 sekä valtausalueella Ratosuo 1 ja 2, kaiv. rek. n:o 3744/1, suoritetuista tutkimuksista. Geological Survey of Finland, Report M06/3233/-87/1/10. 4 p. (in Finnish) *http://tupa.gtk.fi/raportti/valtaus/m06_3233_87_1_10.pdf*