

Aakenusvaara

Occurrence type: occurrence

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

Easting EUREF: 394183

Northing EUREF: 7520832

Easting YKJ: 3394313

Northing YKJ: 7523974

Discovery year: 1982

Discovered by: Outokumpu Oy

Province: Kittilä (Au, Cu)

District: Sirkka (Cu, Au, Ni, Co)

Comments: Discovery by Outokumpu, diamond drilling into a geochemical till anomaly (gold)

References: 1, 2, 3, 9, 10, 11

Mineral deposit type

Group: Metallogenetic deposit

Main type: Orogenic (metamorphic hydrothermal)

Dimension

Expression: exposed

Area (ha): NA

Form: NA

Dip azim: NA

Shape: NA

Dip: NA

Length (m): 200

Plunge azim: NA

Width (m): NA

Plunge dip: NA

Thickness (m): 15

Orientation method: NA

Depth (m): NA

Dimension comments: 5-15 wide zones of brecciation, sulphidation and mineralisation. Open along strike at both ends and at the depth 200 m down dip.

Holder history

Current holder: Sakumpu Exploration Oy

Years: 2019-2023

Holding type: Exploration permit

Previous holders:

Company	Years	Holding type	Comments
Polar Mining Oy	2009-2014	Claim (old law)	NA
Outokumpu Oy	1983-1991	Claim (old law)	NA
Geological Survey of Finland	1981-1982	Claim (old law)	Exploration for U

EXPLORATION ACTIVITY

S2 Resources

Years	Activity type	Geologist	Exploration result	Ref
2019	core drilling	Andy Thompson	mineral occurrences	10, 11
<i>Cofirmation of the presence of a gold-mineralised zone in 2019: seven diamond-drill holes</i>				
<i>Intersections</i>				
	HoleID	AAV-10		
	From-To	35,8-41		
	Length	5,2m		
	gold	8,4ppm		
	HoleID	AAV-11		
	From-To	74,5-77,7		
	Length	3,2m		
	gold	3,1ppm		
	HoleID	AAV-27		
	From-To	22,2-28,3		
	Length	6,1m		
	gold	1,8ppm		
	copper	1,3%		
	HoleID	FAKD0001		
	From-To	94-105,6		
	Length	11,6m		
	gold	3,8ppm		
	HoleID	FAKD0002		
	From-To	139-141,1		
	Length	2,1m		
	gold	86ppm		

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1984-1994	core drilling	O. Inkkinen, R. Anttonen, R. Hugg and E. Korvuo; R. Sarikkola	NA	8
<i>Core drilling (reconnaissance drilling): 33 drill holes (3151.4 m). Altogether 42 diamond and RC drill holes, drilled during 1984-1989 and 1994</i>				
<i>Intersections</i>				
	HoleID	AAV-10		
	From-To	37,4-42,2		
	Length	4,8m		
	gold	9,95ppm		
	HoleID	AAV-28		
	From-To	5-11		
	Length	6m		
	gold	3,11ppm		
	HoleID	AAV-3		
	From-To	113-124		
	Length	11m		
	gold	9,64ppm		

	HoleID	NA
	From-To	NA
	Length	5,1m
	gold	2,3ppm

1984-1989	excavation	O. Inkinen, R. Anttonen, R. Hugg and E. Korvuo; R. Sarikkola	NA	2
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Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1981-1982	detailed geophysics	K. Pääkkönen	NA	9
<i>Regional ground radiometric survey of "Kumpu" conglomerates: discovery of uraniferous biotite schist pebbles in the conglomerate.</i>				

1981-1982	detailed geology	K. Pääkkönen	NA	9
<i>Subsequent search for the provenance of mineralised rock revealed a cluster of boulders of uraniferous biotite schist some 5 km to the NW, and the boulders were traced to their source in bedrock.</i>				

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1981-1989	detailed geophysics	O. Inkinen, R. Anttonen, R. Hugg and E. Korvuo; R. Sarikkola	NA	2

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1981-1982	core drilling	K. Pääkkönen	mineral occurrences	9
<i>Core drilling (reconnaissance drilling, U exploration): three drill holes (286 m) about 0.8 km west from the occurrence</i>				
<i>Intersections</i>				
	HoleID	R302		
	From-To	NA		
	Length	8m		
	uranium	53ppm		

1981-1982	regional geochemistry	NA	NA	9
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1981-1982	detailed geochemistry	K. Pääkkönen	NA	
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Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
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1981-1989	detailed geochemistry	O. Inkinen, R. Anttonen, R. Hugg and E. Korvuo; R. Sarikkola	NA	2
<i>A local Au anomaly in till.</i>				

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1981-1982	excavation	K. Pääkkönen	NA	9
<i>U content in trenches varied between 30-1000 ppm</i>				

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1981-1989	regional heavy mineral sampling	O. Inkinen, R. Anttonen, R. Hugg and E. Korvuo; R. Sarikkola	NA	2

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1979-1979	regional geophysics	NA	key geological features	
<i>Low-altitude airborne magnetic, aeromagnetic and radiometric survey</i>				

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1973-1973	detailed geophysics	O. Inkinen, R. Anttonen, R. Hugg and E. Korvuo; R. Sarikkola	NA	7
1963-1967	detailed geophysics	O. Inkinen, R. Anttonen, R. Hugg and E. Korvuo; R. Sarikkola	NA	7

GEOLOGY

Host rock: Biotite-Albite Schist, Black schist, Biotite Schist

Biotite-Albite Schist (Host rock)

Rock type: Host rock

Proportion: present

Grain size: Fine grained 0.2 - 1 mm

Color: NA

References: 4, 5, 8

Comments: The occurrence is hosted by albitised metasedimentary rocks in the E-W trending Sirkka Shear Zone. Mineral composition of host rocks is highly variable. Subtypes are biotite-chlorite-albite schists, chlorite-albite schists, biotite-albite schists, biotite-chlorite schists and biotite schists.

Ore minerals:

Mineral	Proportion	Mineral texture
Chalcopyrite	minor	
Pyrite	major	
Pyrrhotite	major	
<i>Semimassive and vein network to disseminated iron sulphides with minor chalcopyrite</i>		

Other minerals:

Mineral	Proportion	Mineral texture
Albite	major	
Biotite	major	
Chlorite	minor	

Structures

Bedded
Sheared
Breccia

Textures

Blastoclastic

Alteration:	Distribution:	Degree:	Relation to mineralization:
carbonate alteration	Pervasive	Moderate	NA
albitic alteration	Pervasive	Moderate	Pre
<i>Comments: Premineralisation regional albitisation</i>			
sulphidation	Disseminated	Moderate	Syn

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		
<i>Comments: Albite, actinolite, epidote, chlorite.</i>					

Geological age:

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	2106-2100	N	
<i>Comments: Pittarova Formation rocks</i>			

Black schist (Host rock)

Rock type: Host rock

Proportion: major

Grain size: NA

Color: NA

References: 4, 5, 6

Comments: Probably, this is a intermediate tuffite in origin.

Alteration:	Distribution:	Degree:	Relation to mineralization:
carbonate alteration	NA	NA	NA
albitic alteration	NA	NA	Pre

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

Geological age:

Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	2050-2500	N	

Biotite Schist (Host rock)

Rock type: Host rock

Proportion: present

Grain size: NA

Color: NA

References: 5, 8

Comments: The host rock of uranium mineralization. Subtype of biotite-chlorite-albite schists. Biotite schist is composed of non-orientated biotite laminae in which opaque minerals occur as lamels of ilmenite and pigment bands parallel to bedding.

Ore minerals:

Mineral	Proportion	Mineral texture
Uraninite	major	

Occurs as roundish grains (ϕ 0.02-0.2 mm) with variable degree of alteration, as dissemination and as chains of grains in biotite schist layers. Roundish uraninite both as dissemination and as chains of grains. Microfractures in the rock are filled by pitchblende, secondary uranium minerals and iron hydroxides.

Other minerals:

Mineral	Proportion	Mineral texture
Biotite	present	
Chlorite	present	

Structures

Laminar
Bedded
Sheared

Metamorphic description:

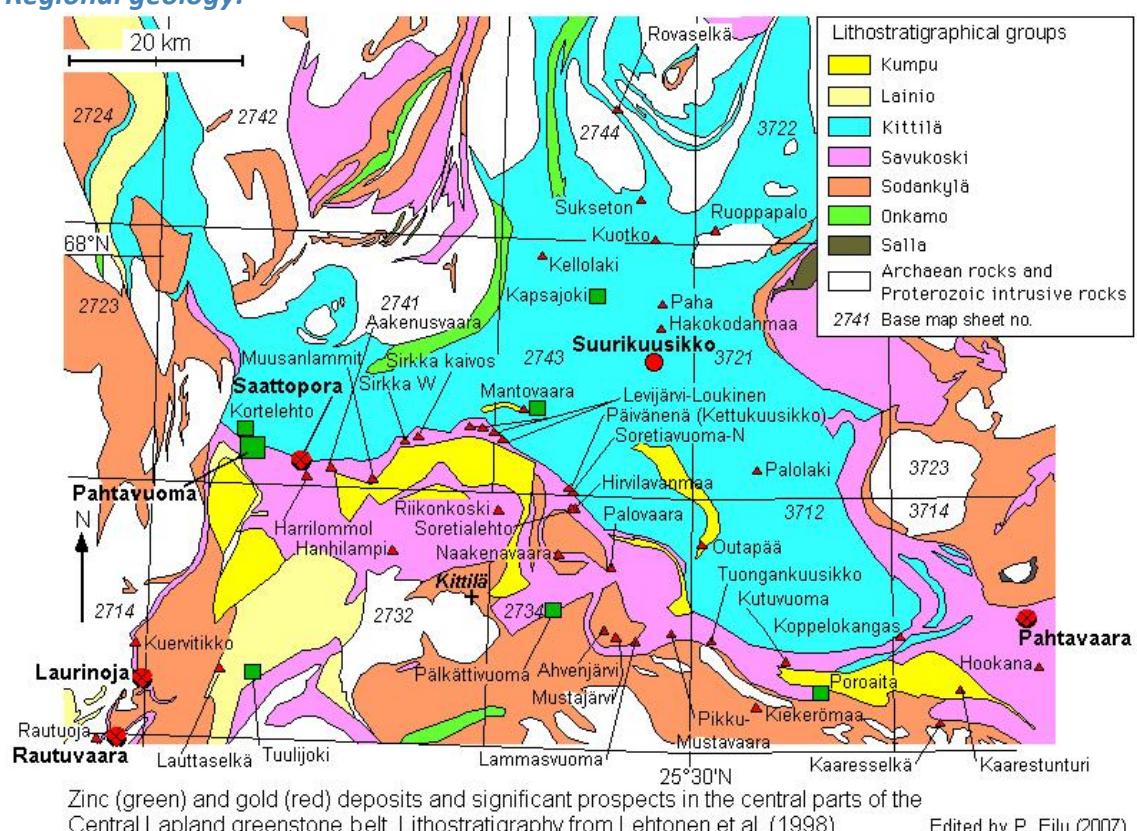
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	Min T- Max T (°C)
Regional	greenschist metamorphic facies	low metamorphic grade	NA		

Geological age:

Geological era:	Max age - Min age (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	2130-2500	N	
<i>Comments: >2130 Ma, Pittarova formation is cut by Rantavaara gabbro (2130 Ma).</i>			

Figures

Regional geology:



The breccias types of the Aakenusvaara occurrence (S2 Resources, Media Release 19.08.2019):



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