

Kaaresselkä

Alternative Names: Kaares

Occurrence type: prospect

Commodity	Rank	Total measure	Total production	Total resource	Importance
gold	1	1,5 t	NA	1,5 t	Small deposit
copper	2	NA	NA	NA	NA
cobalt	3	NA	NA	NA	NA
lead	4	NA	NA	NA	NA
platinum group metal	4	NA	NA	NA	NA
zinc	4	NA	NA	NA	NA

Easting EUREF: 466380

Northing EUREF: 7489640

Easting YKJ: 3466539

Northing YKJ: 7492770

Discovery year: 1985

Discovered by: Geological Survey of Finland

Province: Kittilä (Au, Cu)

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

References: 5, 6, 8, 9, 15, 16, 18, 19, 20, 28

Mineral deposit type

Group: Metallogenetic deposit

Main type: Orogenic (metamorphic hydrothermal)

Sub type 1: Au-Cu

References: 17

Dimension

Expression: exposed

Area (ha): NA

Form: discordant

Dip azim: 45

Shape: irregular

Dip: 85

Length (m): 4000

Plunge azim: NA

Width (m): 3000

Plunge dip: NA

Thickness (m): NA

Orientation method: NA

Depth (m): NA

Dimension comments: Several mineralised zones 5-30 m thick, with a distinct structural control, within an area 3x4 km. Metal association is dominated by gold, presence of other metals as potential commodities seems to vary between the mineralised zones. Ore body Vanha is >700 m long, possibly 2 km along a W-stiking structure. All mineralised zones open along strike and at depth.

Holder history

Current holder: Aurion Resources Oy

Years: 2022-2026

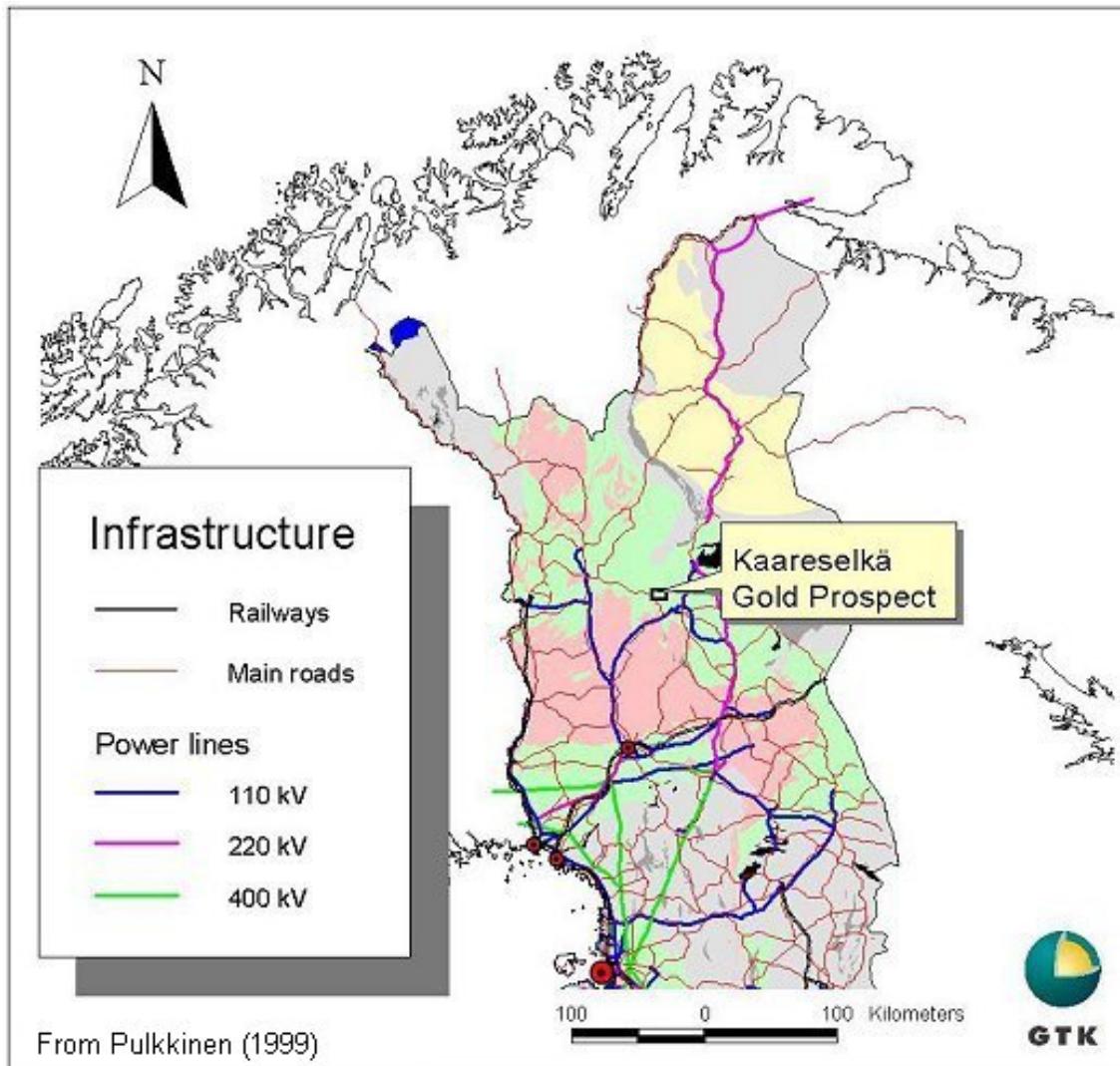
Holding type: Exploration permit

Previous holders:

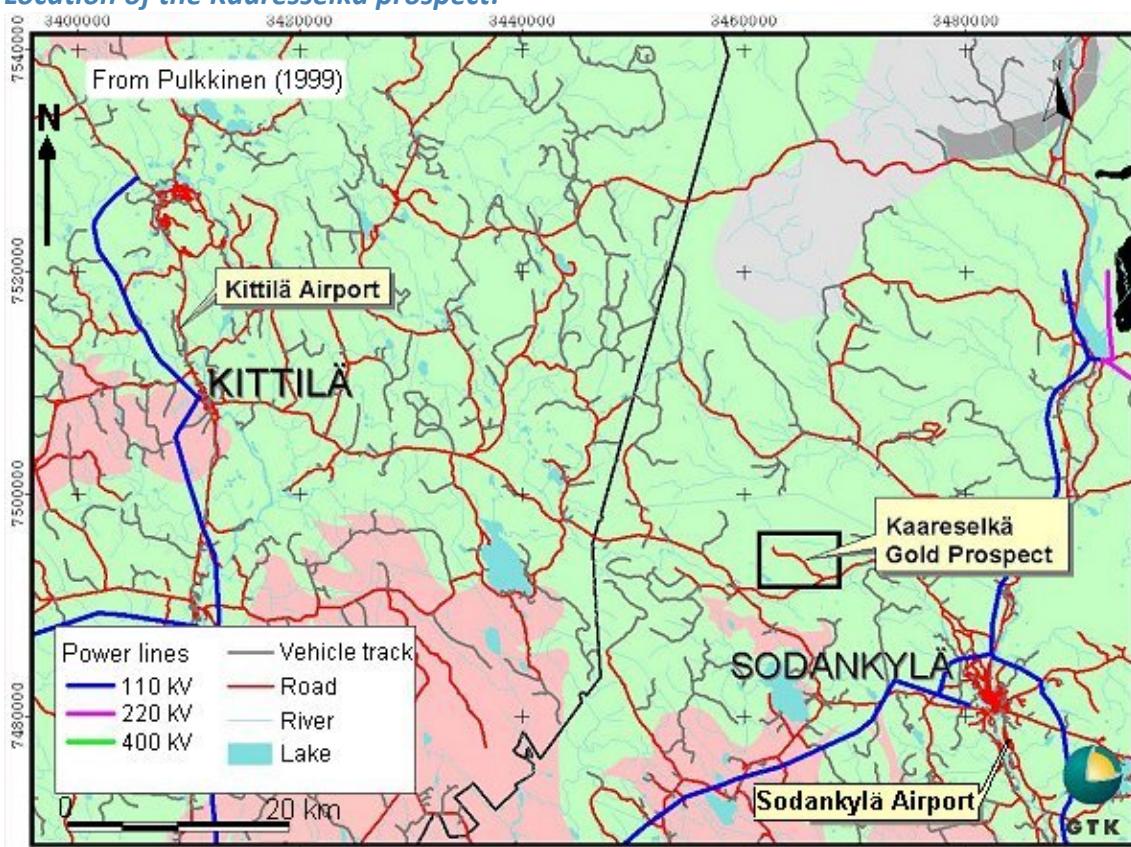
Company	Years	Holding type	Comments
Geological Survey of Finland	-1981	Claim (old law)	NA
Tertiary Gold Ltd	2013-2016	Exploration permit	NA
Tertiary Gold Ltd	2003-2011	Claim (old law)	NA
Geological Survey of Finland	1989-2003	Claim (old law)	NA

Figures

Location of the Kaaresselkä prospect:



Location of the Kaaresselkä prospect:



EXPLORATION ACTIVITY

Aurion Resources Oy

Years	Activity type	Geologist	Exploration result	Ref
2021	detailed geochemistry	NA	geochemical anomaly	5, 6
<i>Base-of-till survey along sampling profiles indicated several Au-anomalous locations across the Risti tenement. In 2023, 713 til lsamples analysed returning anomalous gold and pathfinder values.</i>				

2020-2020	detailed geophysics	Mike Basha	mineral reserve defined	1, 2
<i>detailed ground magnetic survey</i>				

2020	core drilling	Mike Basha	mineral occurrences	1, 3, 4, 6, 7, 8, 9
<i>About 2400 m diamond drilling in 2020, 12 holes: extends the gold-mineralised zone to ~200 m depth and to ~600 m strike length at Vanha target. Four additional mineralised zones detected in drilling in 2022 (some may indicate extensions of the previously known zones, but clearly not all of them); the 2022 drilling comprised 10 diamond holes, in total 1639.2 m. 2023: 25 diamond holes.</i>				

<i>Intersections</i>				
HoleID		KS20002		
From-To		199-205,5		
Length		6,5m		
gold		1,85ppm		
Comments		<i>Vanha Target</i>		
HoleID		KS20003		
From-To		45,8-49,8		
Length		4m		
gold		1,27ppm		
Comments		<i>Vanha</i>		
HoleID		KS20007		
From-To		82-82,8		
Length		0,9m		
copper		0,8%		
gold		3,22ppm		
Comments		<i>Target Tienvarsi</i>		
HoleID		KS22021		
From-To		103,7-107,1		
Length		3,4m		
gold		1,86ppm		
Comments		<i>1 km NW from the Lampi zone, along the same structure</i>		
HoleID		KS22022		
From-To		83,6-85,1		
Length		1,5m		
gold		0,42ppm		
Comments		<i>500 m north from the Tienvarsi zone</i>		
HoleID		KS22024		
From-To		95,8-108,8		
Length		13,1m		
zinc		1,5%		
HoleID		KS22025		
From-To		34-63,8		
Length		29,8m		
platinum group metal		0,31ppm		

	<i>Comments</i>	<i>400 m east of the Vanha zone, along the same structure</i>		
HoleID		KS22027		
From-To		95,8-152,3		
Length		56,6m		
gold		2,41ppm		
	<i>Comments</i>	<i>At Vanha zone. Includes 5.6 m @ 17.12. ppm Au, 0.55 % Cu, 0.51 % Pb, 0.62 % Zn, 175 ppm Co</i>		
HoleID		KS23030		
From-To		148,4-150		
Length		1,6m		
gold		2,17ppm		
	<i>Comments</i>	<i>500 m east of Vanha, along strike(?) of the mineralised structure</i>		
HoleID		KS23034		
From-To		59-63,3		
Length		4,3m		
gold		8,25ppm		
copper		0,16%		
HoleID		KS23041		
From-To		137-137,9		
Length		0,9m		
gold		63,2ppm		
	<i>Comments</i>	<i>A mineralised zone 100 m north of the Vanha area main trend</i>		
HoleID		KS23048		
From-To		109,2-110		
Length		0,9m		
gold		0,27ppm		
copper		4,2%		
	<i>Comments</i>	<i>500 m south of the main W-trending structure hosting the Vanha target</i>		
HoleID		KS23057		
From-To		103,2-104,9		
Length		1,8m		
gold		4,67ppm		
	<i>Comments</i>	<i>1.2 km north from central part of Vanha, probably another ore body</i>		
HoleID		KS23068		
From-To		41,3-44,5		
Length		3,2m		
gold		3,63ppm		
	<i>Comments</i>	<i>1.8 km west from central prt of Vanha, along strike of a mineralised structure(?), could be part of Vanha</i>		

2019-2020	detailed geology	Mike Basha	key geological features	1, 2
<i>Re-logging of all drill core by GTK, oriented core measurements, a detailed ground magnetic survey, whole rock geochemistry, GIS compilation and integration of historical data into 3D modelling software. This allowed for a reinterpretation of the local geology.</i>				

Tertiary Gold Ltd

Years	Activity type	Geologist	Exploration result	Ref
2003-2004	percussion drilling	NA	NA	25, 26, 27, 29
2003-2004	excavation	NA	NA	25, 26, 27, 29
2003-2004	core drilling	NA	NA	24, 26, 27, 29
			<i>Core drilling (reconnaissance drilling): >15 diamond-drill holes, >1500 m. "Tertiary has completed two phases of drilling. The best results were obtained from the Vanha zone where a mineralised zone was defined that is open at depth and along strike. The explored area is just one part of the prospective Kaaresselkä Shear Zone (KSZ) in the 4 km long project area controlled by Tertiary Minerals. The KSZ itself is associated with the Sirkka Break..."</i>	

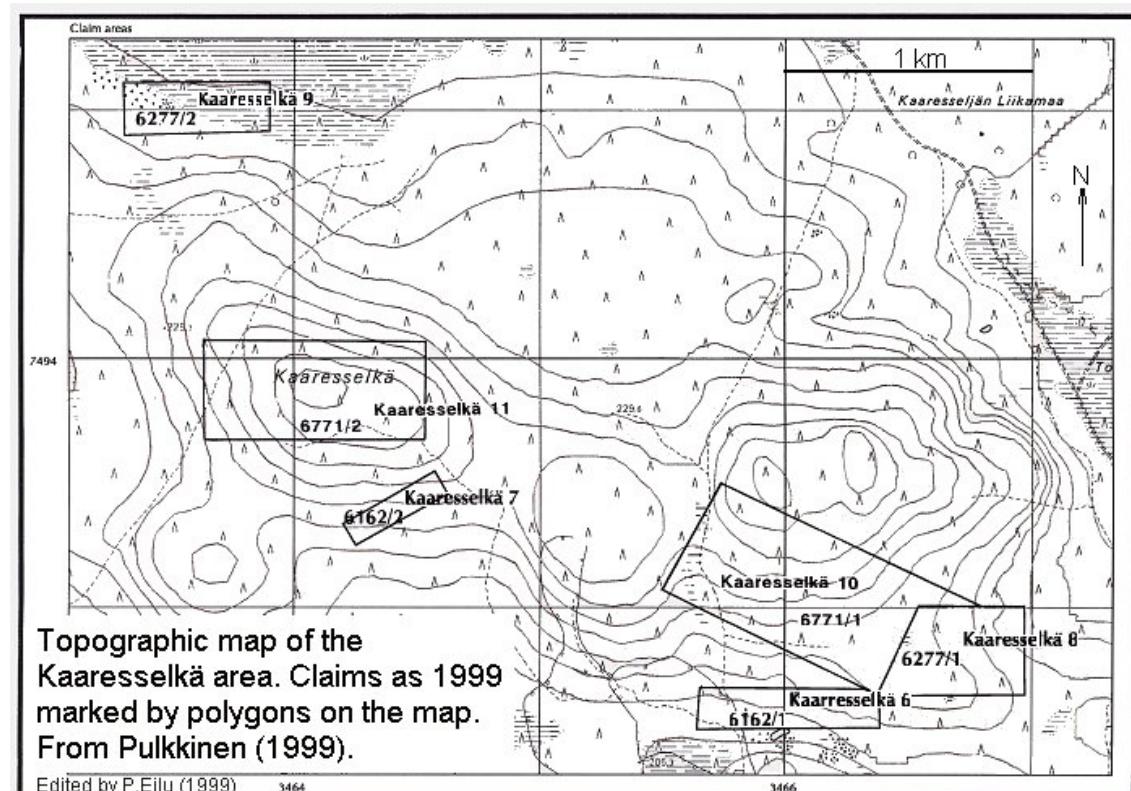
Intersections	
HoleID	04KD005
From-To	15,5-18,2
Length	2,8m
gold	13,5ppm
Comments	<i>Tienvarsi target</i>
HoleID	04KD007B
From-To	74,8-79,7
Length	4,9m
gold	11ppm
Comments	<i>Vanha target</i>
HoleID	04KD010
From-To	3,9-14,2
Length	10,3m
gold	3,48ppm
Comments	<i>Lampi target</i>
HoleID	04KD013
From-To	130-138,3
Length	8,3m
gold	4,9ppm
Comments	<i>inc. 1.75 m @ 20.1 ppm Au, Vanha target</i>
HoleID	05KD002
From-To	152,6-158,8
Length	6,2m
gold	3,2ppm
Comments	<i>Vanha target</i>

Geological Survey of Finland

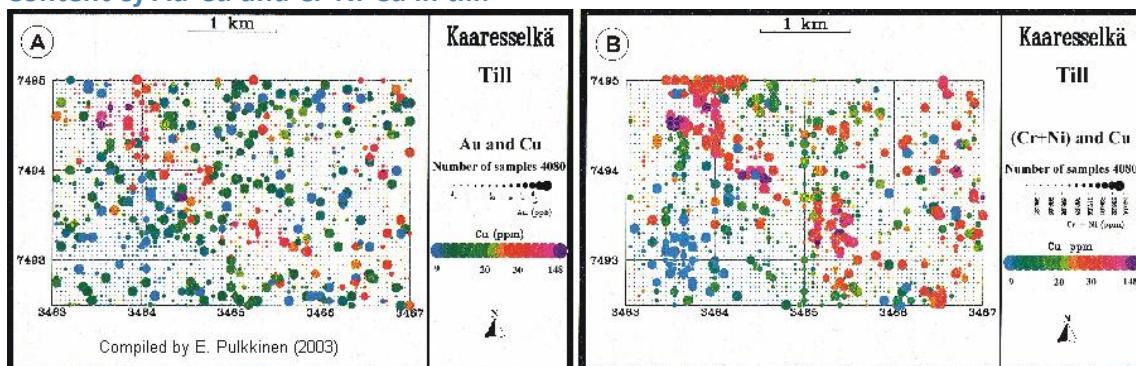
Years	Activity type	Geologist	Exploration result	Ref
1993-1998	core drilling	Eelis Pulkkinen	NA	19, 20, 21, 23
<i>185 diamond-drill holes, total 10141 m.</i>				
Intersections				
	HoleID	NA		
	From-To	NA		
	Length	2m		
	gold	45ppm		
	HoleID	NA		
	From-To	NA		
	Length	2m		
	gold	2ppm		
	copper	3%		
	HoleID	NA		
	From-To	NA		
	Length	3m		
	gold	10ppm		
1991-1991	core drilling	Eelis Pulkkinen	NA	21
<i>6 drill holes, total 320 m; the drill hole of 3714/91/R412 contains 3 m @13-16 ppm Au</i>				
1987-1987	core drilling	Eelis Pulkkinen	NA	18
<i>One vertical drill hole; The mineralisation was detected (1 m at 15 ppm Au) when diamond-drilled into an Au anomaly in weathered bedrock surface.</i>				
1987-1990	percussion drilling	Eelis Pulkkinen	key geological features	11, 21, 23
<i>Percussion drilling in 50 m profiles, 5 m between holes, into base of till and the bedrock surface.</i>				

1987-1990	detailed geochemistry	Eelis Pulkkinen	NA	20, 23
<i>A weak regional and a stronger local Au anomaly in till: nearly the entire area of Kaaresselkä is anomalous in Au. The form of the Au-anomaly and the local Cu, Mg, Ni and Cr anomalies in till follow the WNW-trend of the Kaaresselkä Shear Zone.</i>				
1987-1998	detailed geology	Eelis Pulkkinen	NA	11, 19, 20, 21, 23, 25
<i>First indications of gold mineralization were from carbonate-rich outcrop samples containing 0.1-0.3 ppm Au found during base-metal exploration 1978-1980. Ore body Vanha: a continuous 600 m long and 9-16 m wide section of gold-rich rock in a 650 m long east-west trending gold-bearing zone open at 200 m. Ore body Tienvarsi: the main zone is 200 m long and 4-13 m wide. Inferred at least 160 000 m³ of partly weathered gold-bearing rock with gold grades 1-10 g/t. The ore bodies are in a NW trending,</i>				
1987-1998	detailed geophysics	Eelis Pulkkinen	NA	11, 21
<i>A Slingram anomaly enveloping the mineralisation or, at least, part of it. The best response for the mineralised zones are given by the SP surveys; the positive anomalies of total radiation correlate well with the mineralised zones, at least in down-hole survey.</i>				
1987-1998	excavation	Eelis Pulkkinen	key geological features	11, 19, 20, 21, 23, 25
1978-1980	detailed surface exploration	Illi Häkkinen, Antero Karvinen	NA	12, 14
<i>Cu-Zn-Pd exploration; geophysical ground surveys, till geochemical survey, glacial erratic boulders, trenching, bedrock mapping and two diamond drill holes (total 320 m)</i>				
1976-1976	regional geophysics	NA	key geological features	
<i>Low-altitude magnetic, aeromagnetic and radiometric survey</i>				

Figures



Content of Au-Cu and Cr-Ni-Cu in till:



Trench:

Main exploration trench at Kaaresselkä, 1999. Photo Eelis Pulkkinen.



Trench:



RESOURCES AND RESERVES

Most recent

Type:	Company:	Year:	Date:	Calc Method:	Reference:
Resource	Geological Survey of Finland	1999	NA	Non-compliant resource estimate	23
Category:		Poorly estimated mineral resource, poorly documented			
Tonnage:		0,3 Mt			
gold		5 ppm			
Cutoff:		NA			
<i>Comments: is probably based on a volume estimation of 160 000 m³ of gold-rich rock with 1-10 ppm Au</i>					

GEOLOGY

Host rock: Intermediate tuff, Dolerite, Mafic volcanic rock, Oligomictic orthoconglomerate, Mica schist, Komatiite

Intermediate tuff (Host rock)

Rock type: Host rock

Proportion: major

Grain size: NA

Color: NA

References: 9, 10, 11, 13, 19, 20, 21, 22, 23

Comments: A Zn mineralization 1.7 km north of the Vanha zone is hosted by a quartz-carbonate veined and fractured sequence of graphitic sediments and intermediate to mafic volcanics with disseminated and veinlet sphalerite, pyrrhotite, chalcopyrite and galena.

Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	minor	
Chalcopyrite	minor	
Galena	present	
Gold	present	<i>Chiefly free, native gold (locally visible to the naked eye), commonly associated with carbonates, but also along grain boundaries and fractures of pyrite, arsenopyrite and chalcopyrite, and minor volumes of gold in the lattice of pyrite and chalcopyrite.</i>
Monazite	minor	
Pyrite	major	
Sphalerite	minor	

Other minerals:

Mineral	Proportion	Mineral texture
Dolomite	present	
Magnetite	present	
Quartz	present	

Structures

Sheared

Comments: Sets of late WSW-trending shear zones which all appear to be dextral and may be subsidiary shear or fault zones of the Sirkka Line. Locally, the lodes seem to be controlled by lithological contacts.

Breccia

Comments: Highest-grade ore is breccia

Alteration:	Distribution:	Degree:	Relation to mineralization:
albitic alteration	Pervasive	Moderate	NA
sericitic alteration	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		

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

Geological age:

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

Dolerite (Host rock)

Rock type: Host rock

Proportion: minor

Grain size: NA

Color: NA

References: 10, 11, 13, 19, 20, 21

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; Albite-actinolite-epidote-titanite.

Geological age:

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

Mafic volcanic rock (Host rock)

Rock type: Host rock

Proportion: major

References: 7, 8, 9

Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	present	
Chalcopyrite	present	
Galena	present	
Pyrite	minor	
Pyrrhotite	minor	
Sphalerite	present	

Structures

Breccia

Comments: Quartz-carbonate ± pyrite, tourmaline veining; the highest-grade ore is breccia

Alteration:	Distribution:	Degree:	Relation to mineralization:
albitic alteration	Pervasive	Moderate	NA
<i>Comments: Possibly both pre- and synmineral albitisation</i>			
sericitic alteration	Disseminated	Moderate	Syn

Oligomictic orthoconglomerate (Host rock)

Rock type: Host rock

Proportion: minor

Grain size: NA

Color: NA

References: 10, 11, 13, 19, 20, 21

Textures

Oligomictic

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 - Min age (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	1600-2500	N	

Mica schist (Host rock)

Rock type: Host rock

Proportion: major

Grain size: NA

Color: NA

References: 10, 11, 13, 19, 20, 21, 22

Comments: At least eight shear zone-hosted, parallel lodes, located at lithological contacts, are up to 650 m long and 16 m wide, open at depth of 40-150 m.

Other minerals:

Mineral	Proportion	Mineral texture
Albite	present	Alteration product
Biotite	present	Alteration product
Calcite	present	Alteration product

Chlorite	present	Alteration product
Orthoclase	present	Alteration product
	<i>Adularia</i>	
Pyrite	present	Alteration product
Pyrrhotite	present	Alteration product
Quartz	present	Alteration product
Sericite	present	Alteration product
Talc	present	Alteration product
Tourmaline	present	Alteration product

Structures

Sheared

Breccia

Comments: Highest-grade ore is breccia

Alteration:	Distribution:	Degree:	Relation to mineralization:
albitic alteration	NA	NA	Pre
<i>Comments: Early, pre-gold(?) albitisation and chloritisation (synvolcanic and/or early-metamorphic), and gold-related chloritisation, carbonation, sericitisation and sulphidation. In addition, minor biotitisation and formation tourmaline and adularia.</i>			
biotite alteration	NA	Weak	Syn
<i>Comments:</i>			
sericitic alteration	NA	NA	Syn
sulphidation	NA	NA	Syn
chloritic alteration	NA	NA	Syn
carbonate alteration	NA	NA	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: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.</i>					

Geological age:

Geological era:	Max age - Min age (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	1600-2500		N
<i>Comments: Relative timing to structures is late in all lodes, contemporaneous with the latest main stage of deformation.</i>			

Komatiite (Host rock)**Rock type:** Host rock**Proportion:** minor**Grain size:** NA**Color:** NA**References:** 10, 11, 13, 19, 20, 21**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		

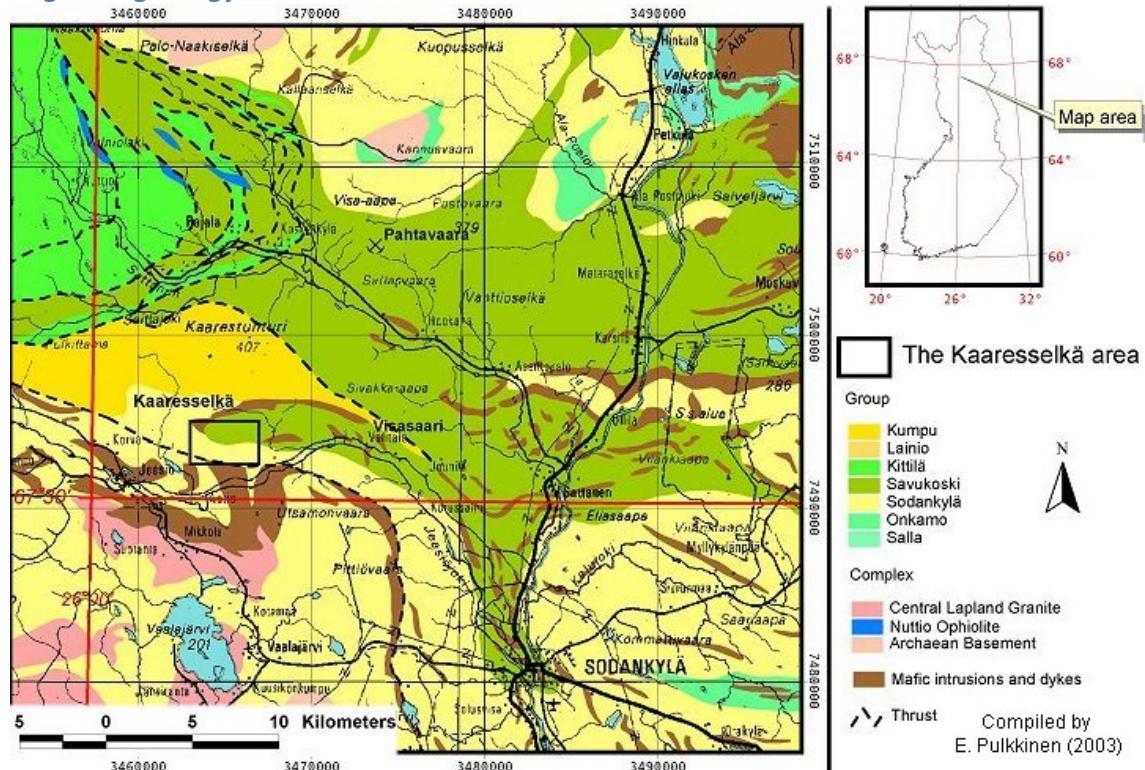
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.

Geological age:

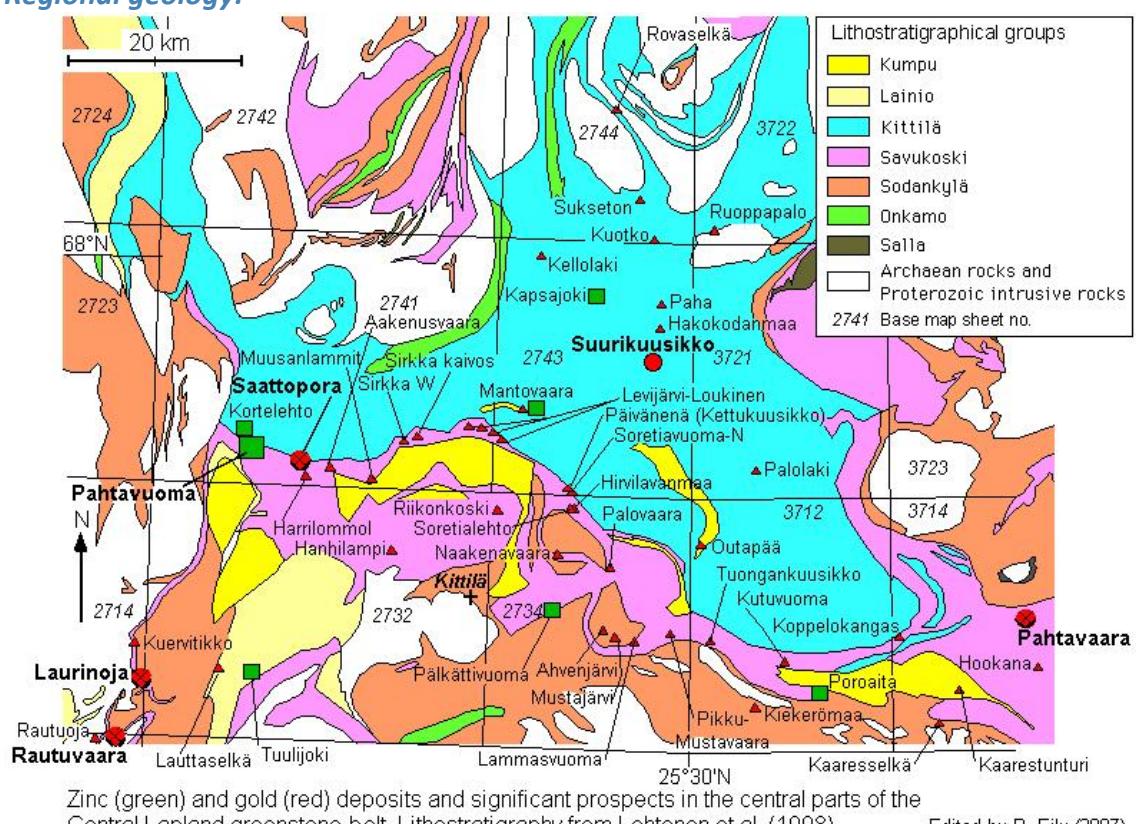
Geological era:	Max age - Min age (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	1600-2500	N	

Figures

Regional geology:



Regional geology:



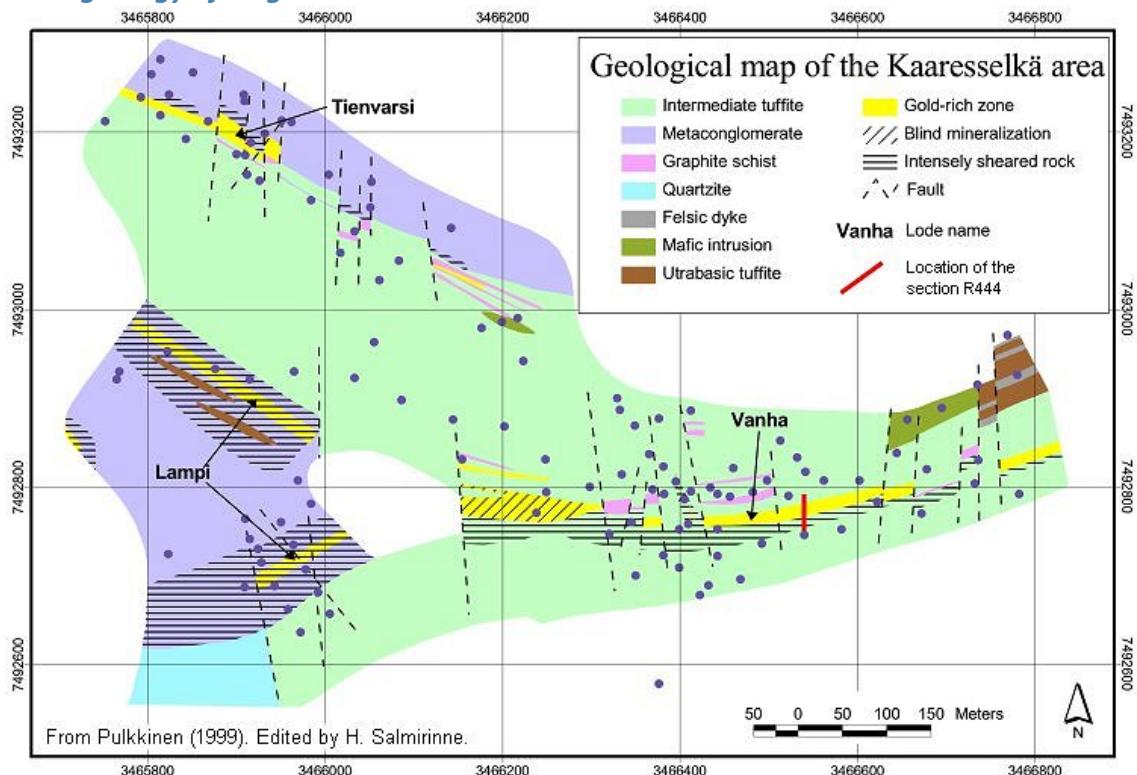
Mineralized shear zone at Kaarestunturi:



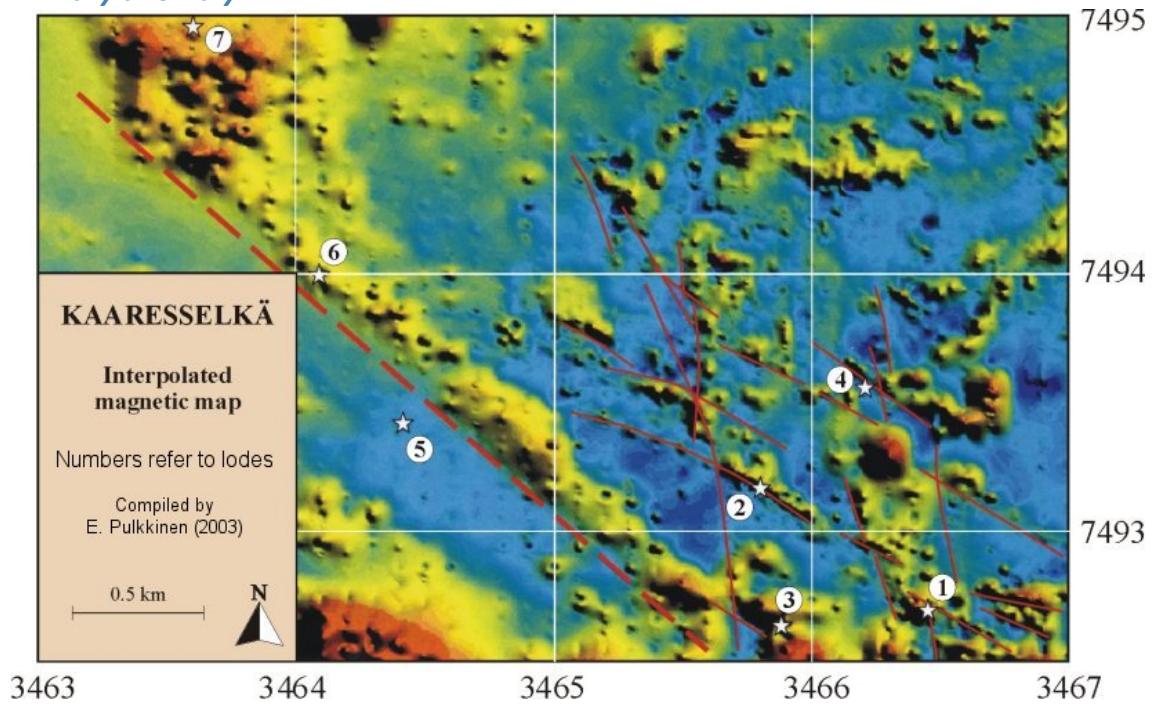
Central part of the main(?) mineralised shear zone at Kaaresselkä, in an intermediate metasedimentary rock or tuffite. Foliation and the trend of the shear zone is E-W. The compass plate is 11 cm long.

Photo Pasi Eilu, 18/8/1998.

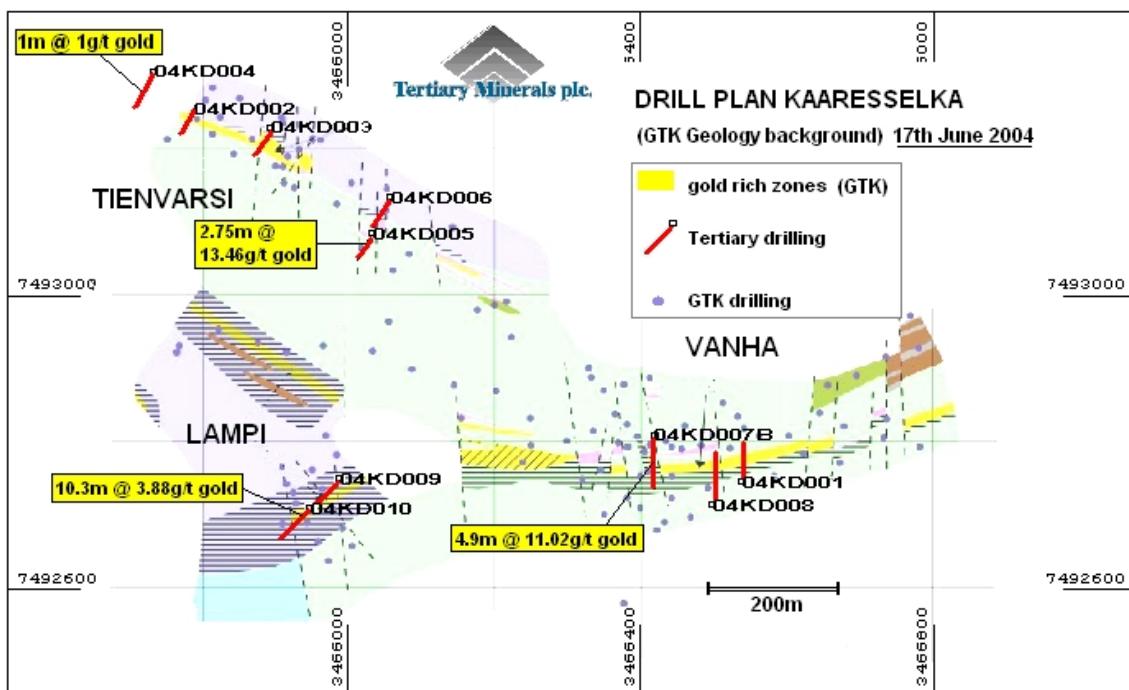
Local geology of target:



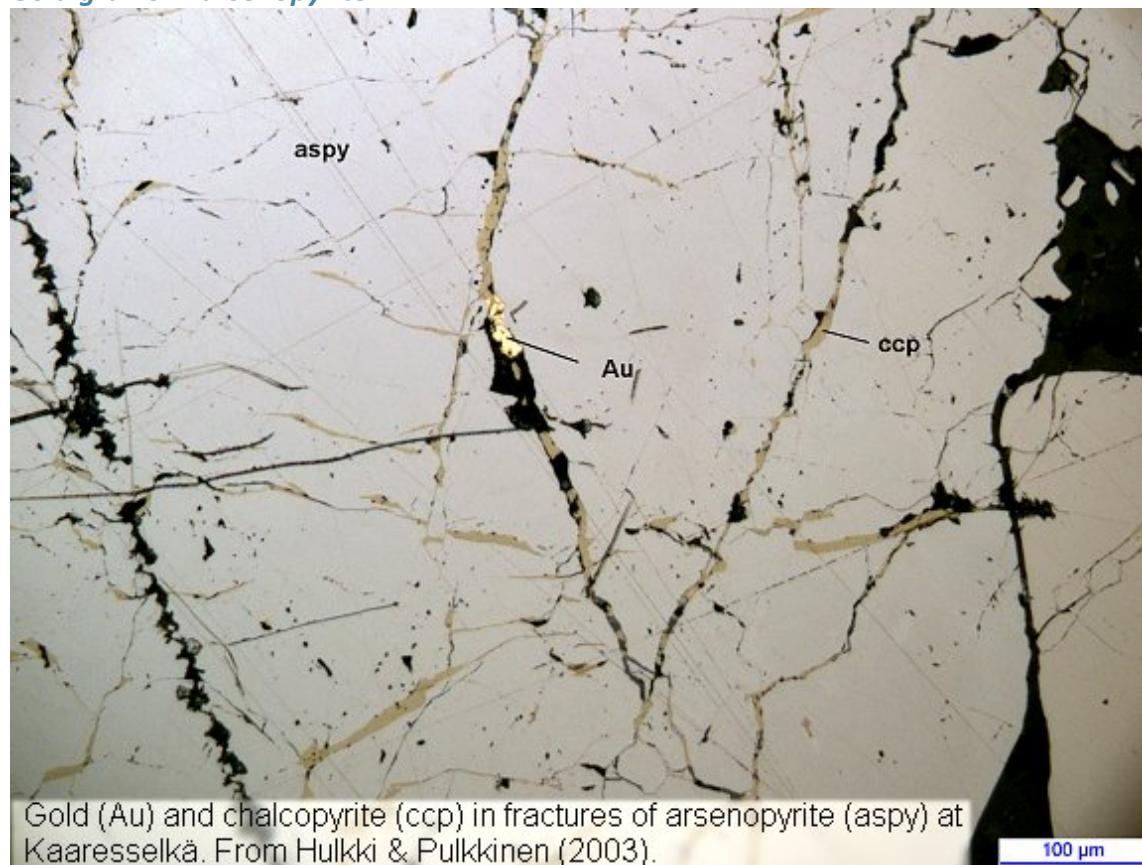
Primary anomaly:



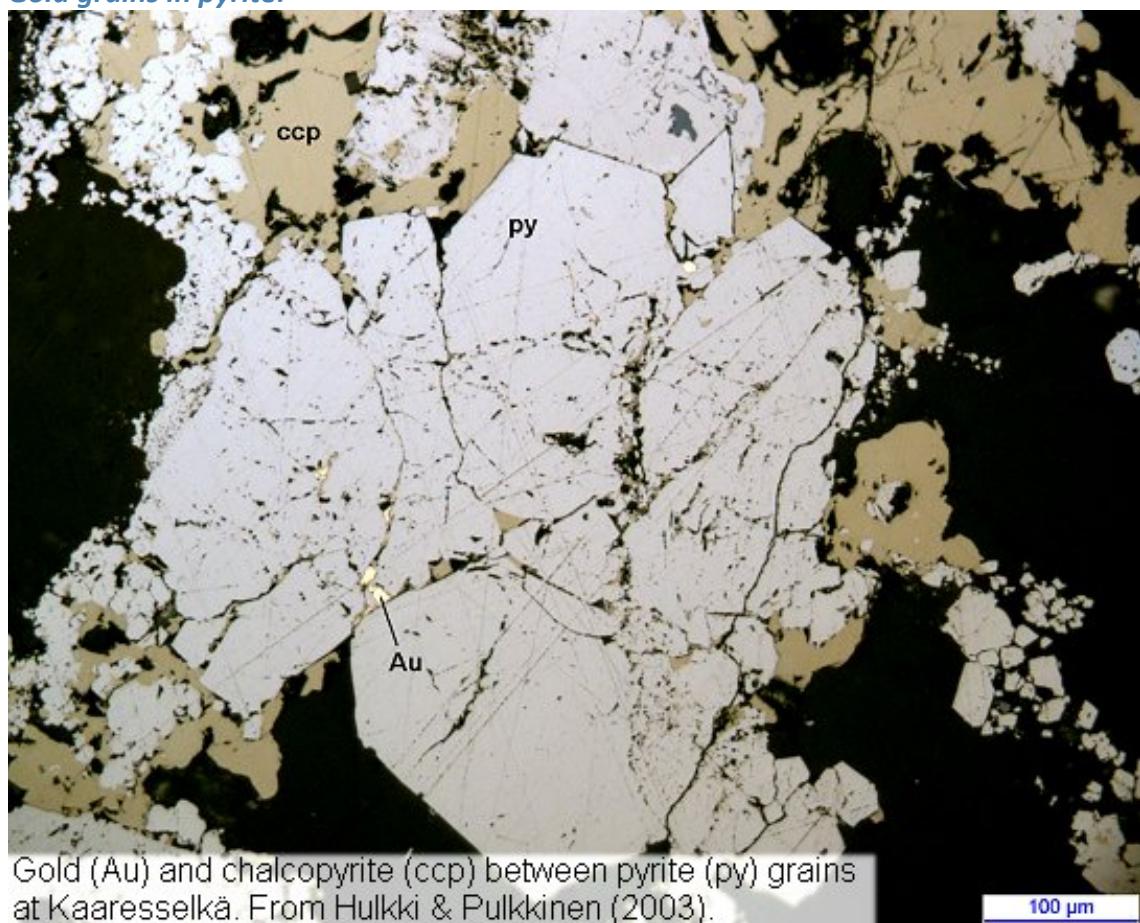
Plan view:



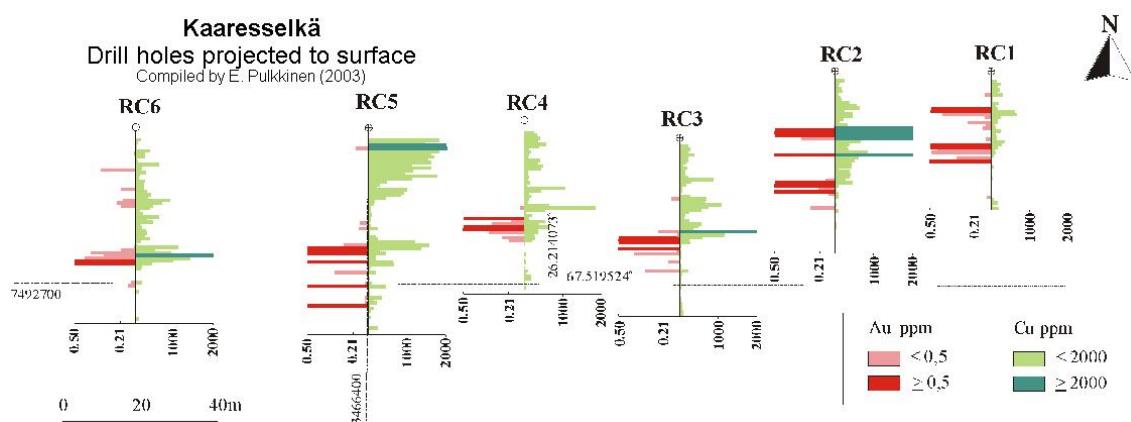
Gold grains in arsenopyrite:



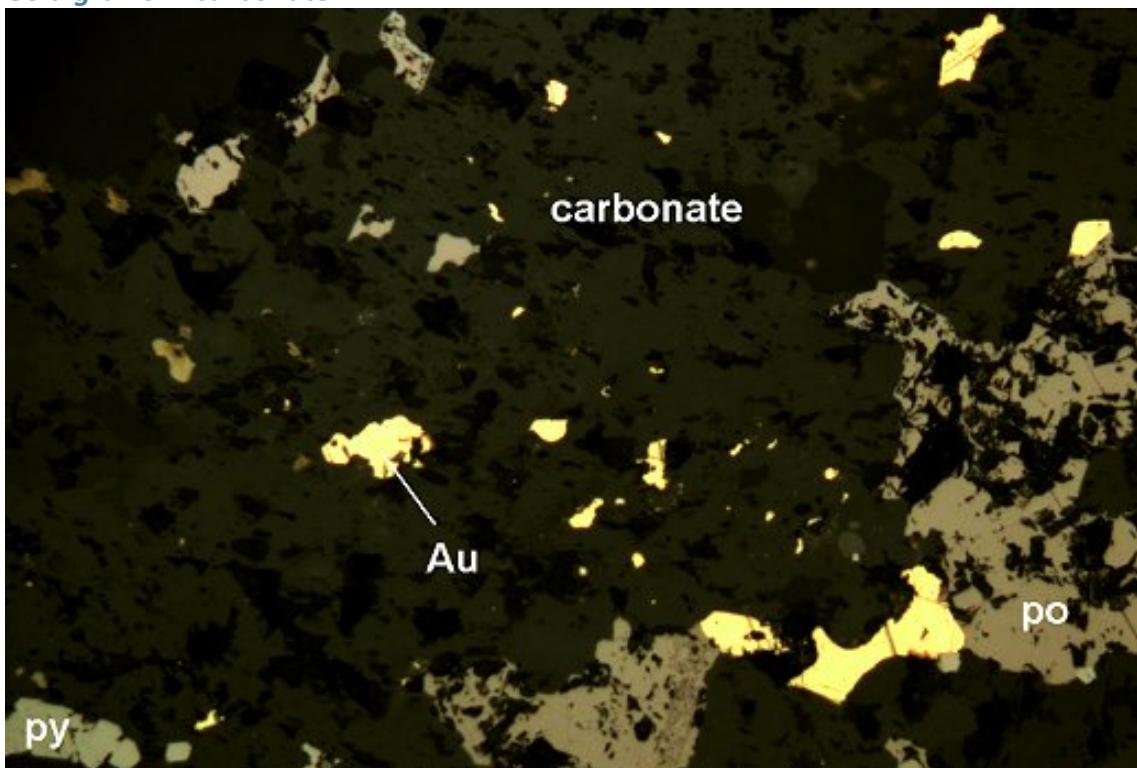
Gold grains in pyrite:



Plan view:

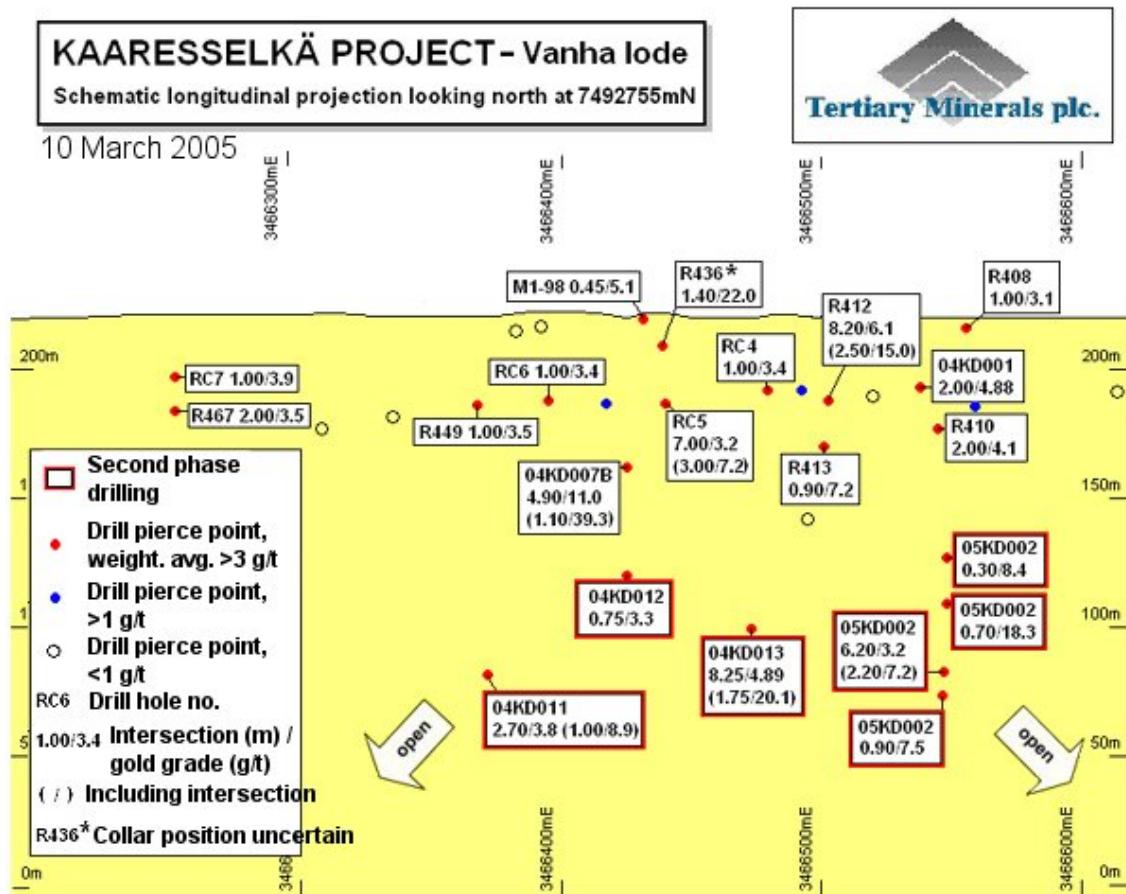


Gold grains in carbonate:

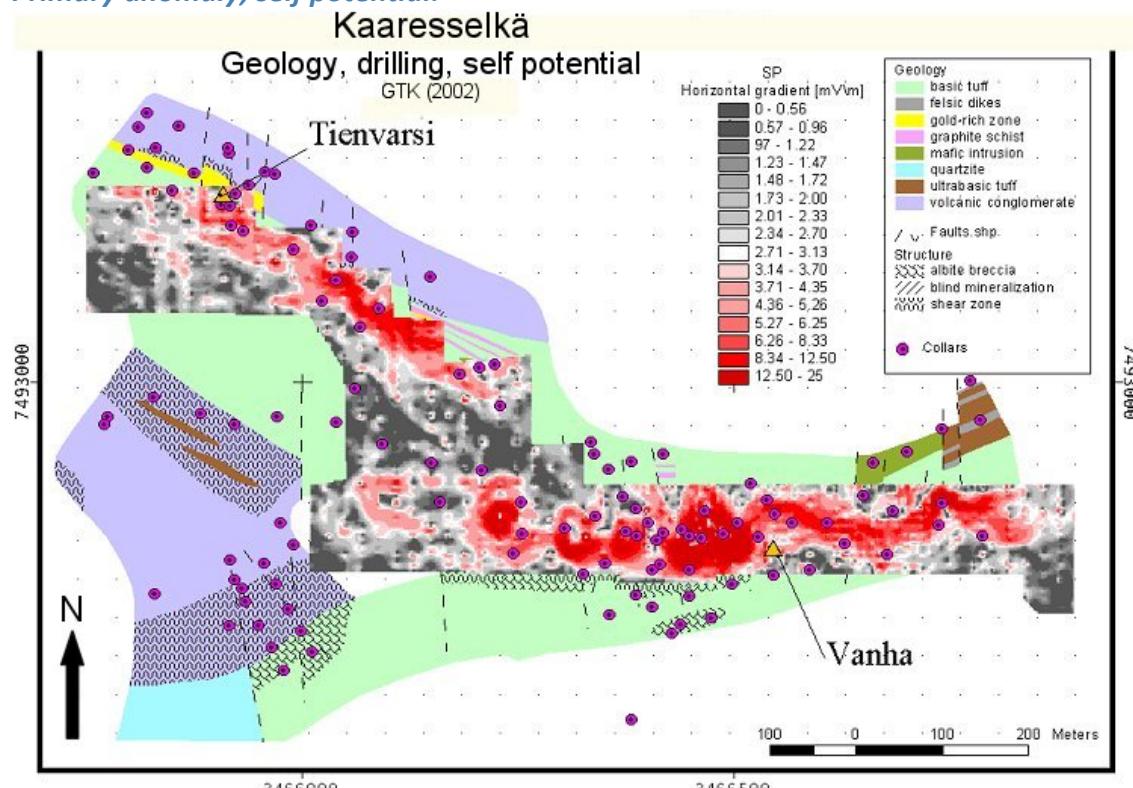


Gold (Au), pyrite (py) and pyrrhotite (po) grains in gangue at Kaaresselkä. From Hulkki & Pulkkinen (2003). 100 μm

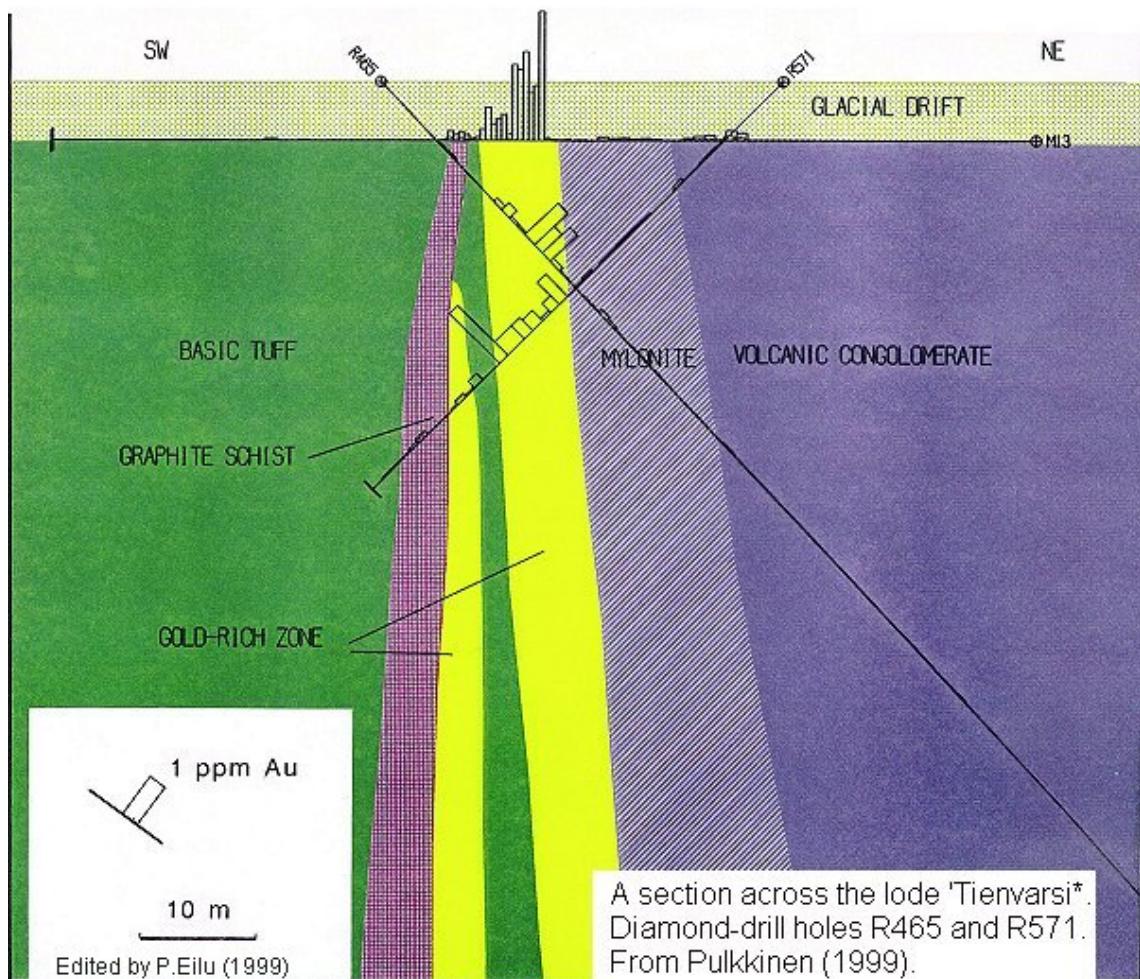
Schematic longitudinal projection of the Vanha lode:



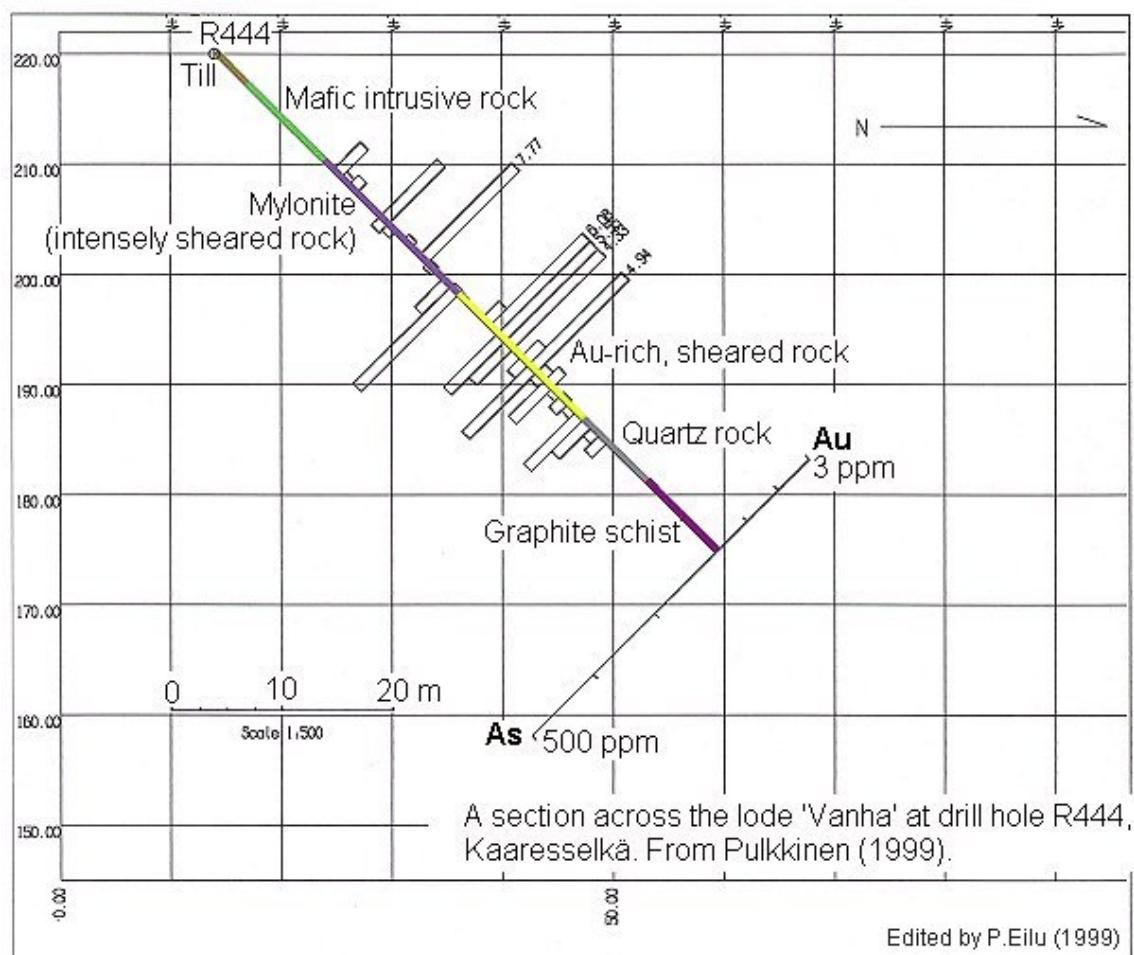
Primary anomaly; self potential:



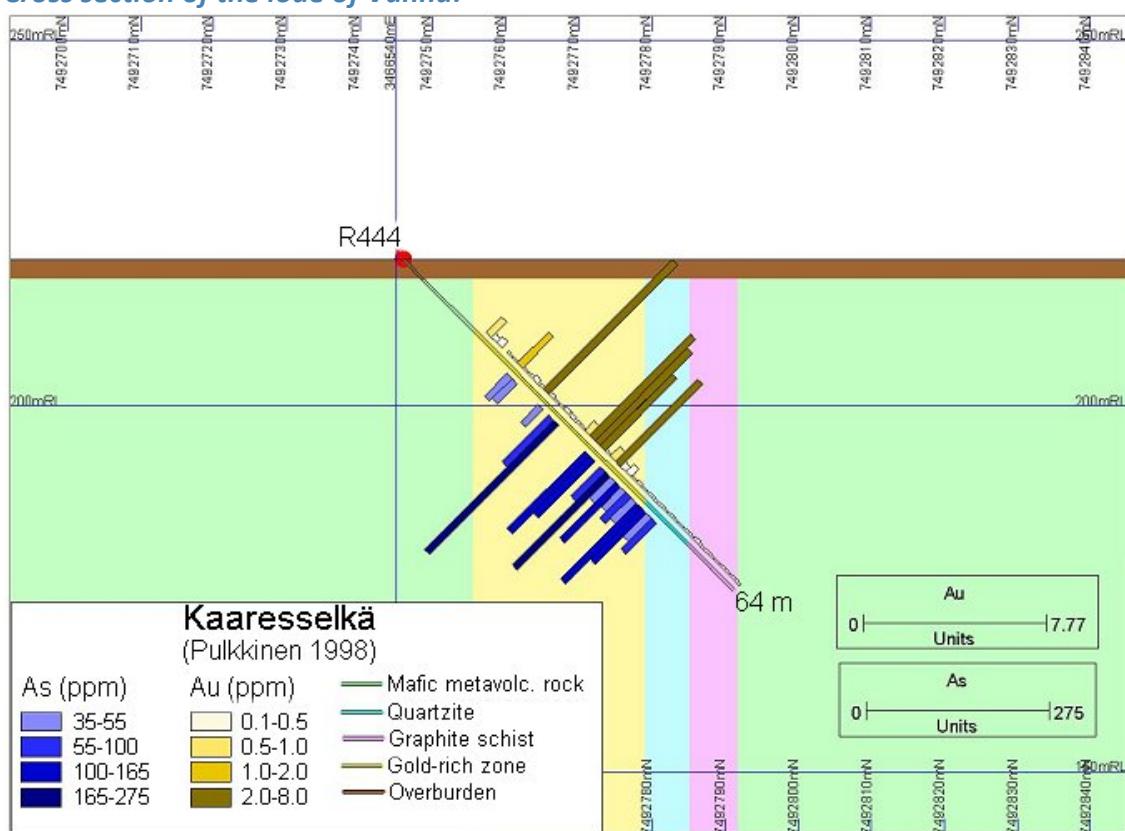
Cross section of the lode of Tienvarsi:



Cross section of the lode of Vanha:



Cross section of the lode of Vanha:



REFERENCES

1. Aurion Resources 2020 Media release 2 September 2020

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_Aurion049_Kaaresselk%C3%A4_Note.pdf

2. Aurion Resources 2020 Media release 20 July 2020

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_Aurion046_Kaaresselk%C3%A4_Note.pdf

3. Aurion Resources 2020. Media release 3 Dec 2020.

http://tupa GTK.fi/karttasovellus/mdae/references/1188_Launi%20East/1188_Aurion051_LauniEast_20201203.pdf

4. Aurion Resources 2020. Media release 6 Oct 2020.

http://tupa GTK.fi/karttasovellus/mdae/references/1087_Aamurusko/1087_Aurion050_Kaaresselk%C3%A4/Aamurusko_Note.pdf

5. Aurion Resources 2021. Media release 7 Sept 2021.

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_Aurion057_Risti_Launi20210907.pdf

6. Aurion Resources 2023. Media release 11 November 2023

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_Aurion080_Kaaresselk%C3%A4/Risti_Launi20231111.pdf

7. Aurion Resources 2023. Media release 12 Sept 2023

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_Aurion079_Kaaresselk%C3%A4/20230912.pdf

8. Aurion Resources 2023. Media release 17 January 2023.

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_Aurion072_Kaaresselk%C3%A4/Kaaresselk%C3%A4_20230117.pdf

9. Aurion Resources 2023. Media release 21 February 2023.

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_Aurion074_Kaaresselk%C3%A4/Kaaresselk%C3%A4_20230221.pdf

10. Eilu, P., Pankka, H., Keinänen, V., Kortelainen, V., Niiranen, T. & Pulkkinen, E. 2007. Characteristics of gold mineralization in the greenstone belts of northern Finland. Geological Survey of Finland, Special Paper 44, 57-106. http://tupa GTK.fi/julkaisu/specialpaper/sp_044_pages_057_106.pdf

11. Hulkki, H. & Pulkkinen, E. 2007. Exploration history of the Kaaresselkä gold-copper occurrence, Central Lapland. Geological Survey of Finland, Special Paper 44, 155-162. http://tupa GTK.fi/julkaisu/specialpaper/sp_044_pages_155_164.pdf

12. Härkönen, Ilkka 1980. Selostus malmitutkimuksista Sodankylän Kaaresselän alueella 1978-1979. 20 s., 16 l. (2 geol.k.) Geologian tutkimuskeskus, arkistoraportti, M19/3714/-80/1/10. http://tupa GTK.fi/raportti/arkisto/m19_3714_81_1_10.pdf

13. Hölttä, P., Väisänen, M., Väänänen, J. & Manninen, T. 2007. Paleoproterozoic metamorphism and deformation in Central Lapland, Finland. Geological Survey of Finland, Special Paper 44, 7-56.

http://tupa GTK.fi/julkaisu/specialpaper/sp_044_pages_007_056.pdf

14. Karvinen, Antero 1981. Sinkki-lyijytutkimukset Kaaresselän alueella Sodankylässä vuosina 1978 - 1981. 21 s., 10 l. Geologian tutkimuskeskus, arkistoraportti, M19/3714/-81/2/10.

http://tupa GTK.fi/raportti/arkisto/m19_3714_81_2_10.pdf

15. Lehtonen, M., Airo, M.-L., Eilu, P., Hanski, E., Kortelainen, V., Lanne, E., Manninen, T., Rastas, P., Räsänen, J. & Virransalo, P. 1998. Kittilän vihreäkivialueen geologia: Lapin vulkaniittiprojektin raportti. Summary: The stratigraphy, petrology and geochemistry of the Kittilä greenstone area, northern Finland: a report of the Lapland Volcanite Project. Geological Survey of Finland, Report of Investigation 140. 144 p.http://tupa GTK.fi/julkaisu/tutkimusraportti/tr_140.pdf

16. Ojala, J. 2001. Personal communication 09/6/2001.

17. Patison, N.L. 2007. Structural controls on gold mineralisation in the Central Lapland Greenstone Belt. Geological Survey of Finland, Special Paper 44, 107-124.

http://tupa GTK.fi/julkaisu/specialpaper/sp_044_pages_107_124.pdf

18. Pulkkinen, E & Hulkki, H. 1999. Tutkimustyöselostus Sodankylän kunnassa valtausalueilla Kaaresselkä 6-11, kaiv.rek.numerot 6162/1, 6162/2, 6277/1, 6277/2, 6771/1 ja 6772/2 suoritetuista malmitutkimuksista. Geological Survey of Finland, report C/M 06/3714/99/1, 47 p (in Finnish with an English summary and figure captions).http://tupa GTK.fi/raportti/valtaus/m06_3714_99_1.pdf

19. Pulkkinen, E. 1998. Personal communication 21/8/1998.

20. Pulkkinen, E. 1998. Sodankylän Kaaresselän kultaesiintymät. In: Proterotsooisten nikkel- ja kultamalmien etsintä sekä orogeniavyöhykkeiden tektonomagmaattinen kehitys. Geological Survey of Finland, Excursion Guide 15-18.9.1998. (in Finnish)

21. Pulkkinen, E. 1998. Tutkimustyöselostus Sodankylän kunnassa valtausalueella Kaaresselkä 2, kaiv.rek. n:o 4445/1 suoritetuista malmitutkimuksista. Geological Survey of Finland, Report M06/3714/-97/1/10. 7 p. (in Finnish)http://tupa GTK.fi/raportti/valtaus/m06_3714_97_1_10.pdf

22. Pulkkinen, E. 1999. Personal communication 10/6/1999.

23. Pulkkinen, E. 1999. Summary report. The Kaaresselkä gold and copper prospects, Sodankylä, Finnish Lapland. Geological Survey of Finland report C/M 06/3714/-99/2.

<http://new GTK.fi/ExplorationFinland/Tender/kaaresselka/kaaresselka.htm>

24. Tertiary Minerals 2016. Kaaresselkä

25. Tertiary Minerals plc 2003. Press release 3/11/2003.

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_tertiary_PressRelease_03_11_03.pdf

26. Tertiary Minerals plc 2004. Annual Report 2004. Macclesfield, UK. 31 p.

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_TertiaryMinerals_annual_report2004.pdf

27. Tertiary Minerals plc 2004. Press release 17/06/2004.

28. Tertiary Minerals plc 2005. Press release 03/05/2005.

29. Tertiary Minerals plc 2005. Press release 10/03/2005.

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_ternary_10_03_05.pdf

30. Tertiary Minerals plc 2016. Press Release 5/12/2016

http://tupa GTK.fi/karttasovellus/mdae/references/377_Kaaresselk%C3%A4/377_TertiaryMinerals_PressRelease_05_16.pdf