Vinsa

Alternative Names: Vinsanmaa
Occurence type: occurrence

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

Easting EUREF: 413220
Northing EUREF: 7361035
Easting YKJ: 3413358
Northing YKJ: 7364114

Discovery year: 1966
Discovered by: Outokumpu Oy
Province: Peräpohja (Cu, Co, Fe)
Comments: The occurrence is within 1 km from a major detachment fault within the Peräpohja supracrustal sequence.

References: 2, 7, 10, 11, 13, 14, 15, 19, 20

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)
Sub type 1: Au-Cu
References: 7, 11, 12, 19

Dimension

Expression: exposed
Form: discordant
Shape: NA
Length (m): 250
Width (m): 2
Thickness (m): NA
Depth (m): NA
Area (ha): NA
Dip azim: 90
Dip: 65
Plunge azim: NA
Plunge dip: NA
Orientation method: NA
Dimension comments: About 0.5-2.0 m wide and > 250 m long quartz vein dipping to the E 65° and trending NW-SE. East and South from the main vein small-scale gold- and copper-bearing quartz breccias or veins in albite rich parts of differentiated dolerite.

Holder history

Current holder: Latitude 66 Cobalt Oy
Years: 2023
Holding type: Application for exploration permit

Previous holders:

Company	Years	Holding type	Comments
Mawson Oy	2014	Application for exploration permit	NA
Talvivaara Kaivososakeyhtiö	2005-2010	Claim (old law)	NA
Polar Mining Oy	2003-2005	NA	NA
Outokumpu Oy	2001-2003	NA	NA
private enterprise	1989-1994	Claim (old law)	NA
Geological Survey of Finland	1983-1986	Claim (old law)	NA
private enterprise	1978-1983	Claim (old law)	NA
Outokumpu Oy	1966-1974	Claim (old law)	NA

Figures

Excavated trench along the main vein:

Main exploration trench at Vinsa, excavated along the main vein.
Photo Pasi Eilu 12/8/1998.

EXPLORATION ACTIVITY

Mawson Gold Limited

Years	Activity type	Geologist	Exploration result	Ref
2021-2021	detailed geology	NA	key geological features	8
	Regional outcrop and glacial erratic boulder mapping and sampling. One high grade Au-Cu sample reported.			

Talvivaara Kaivososakeyhtiö

Years	Activity type	Geologist	Exploration result	Ref
2005-2005	detailed surface exploration	Hannu Lahtinen	key geological features	6
	Reconnaisance exploration, grab outcrop sampling, six samples analysed: *Sample V1 (highest Cu grade): 15.7 % Cu, 5.37 ppm Au, 0.017 ppm Ag, 30.5 ppm Te, 0.407 % Bi, 0.569 % As* *Sample V5 (highest Auu grade): 2.11 % Cu, 19.0 ppm Au, 0.021 ppm Ag, 36.1 ppm Te, 0.547 % Bi, 0.155 % As*			

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
2003-2003	core drilling	Helena Hulkki	key geological features	
	10 diamond drill holes, 1473 m			
	Intersections			
	HoleID	2633/03/R567		
	From-To	105-106		
	Length	1m		
	gold	1,44ppm		
	copper	1,76%		
	HoleID	2633/03/R570		
	From-To	63,6-64,6		
	Length	1m		
	gold	2,4ppm		
	HoleID	2633/03/R570		
	From-To	64,6-65,6		
	Length	1m		
	gold	3,39ppm		

2003-2003	detailed geophysics	Helena Hulkki	NA	

2003-2003	detailed geology	Helena Hulkki	NA	

1990-1990	regional geophysics	MAtti Äyräs, Seppo Rossi	key geological features	
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			

1986-1986	core drilling	Matti Äyräs, Seppo Rossi	key geological features	11, 19

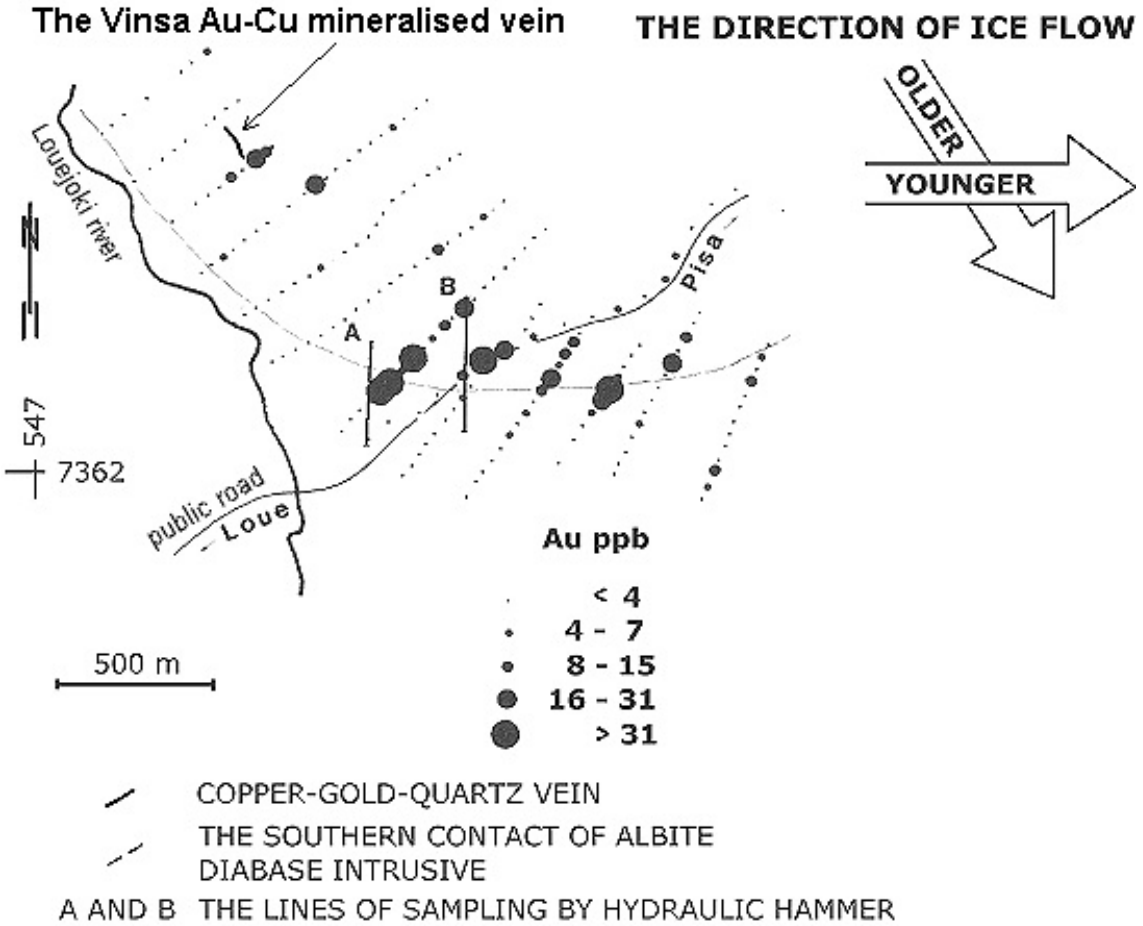
	11 vertical diamond-drill holes, each extending 5-10 m into bedrock.			
1986-1986	detailed geophysics	Matti Äyräs	NA	
1985-1985	detailed geochemistry	Matti Äyräs	NA	
1983-1983	detailed geochemistry	Terho Koivisto	NA	

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1967-1970	core drilling	Pentti Rouhunkoski	key geological features	4, 7, 13, 14, 18
	Core drilling (reconnaissance drilling): 9 diamond-drill holes, total 412 m.			
1966-1970	mining pilot	Pentti Rouhunkoski	key geological features	3, 4, 7, 12, 13, 14, 18
	very minor test mining			
1966-1970	detailed geochemistry	Pentti Rouhunkoski	geochemical anomaly	18, 19, 20, 21, 22
	An extensive Au anomaly in till, extent roughly 0.5x2 km, but this is not related to the known major vein, as the anomaly is about 1 km SE from the vein; no significant mineralisation has been found to be directly related to the anomaly. Possibly, a Cu anomaly in till.			
1966-1970	detailed geophysics	Pentti Rouhunkoski	geophysical anomaly	4, 19
	A distinct magnetic and VLF-R anomaly.			
1966-1970	excavation	Pentti Rouhunkoski	key geological features	3, 4, 7, 12, 13, 14, 18
	Trenching through the overburden and very minor test mining			
1966-1970	detailed geology	Pentti Rouhunkoski	mineral occurrences	3, 4, 7, 12, 13, 14, 18
	Glacial erratic boulders led to the discovery of the mineralisation in outcrop.			

Figures

Secondary anomaly:



Gold anomalies in till in the Vinsanmaa area. After Koivisto (1984).

(from Äyräs 1991)

Exploration trench at Vinsa, Peräpohja Schist Belt. 12/08/1998. Photo Pasi Eilu.

GEOLOGY

Host rock: Dolerite, Quartz vein

Dolerite (Host rock)

Rock type: Host rock
Comments: Conformable dolerite dikes.

Alteration:	Distribution:	Degree:	Relation to mineralization:
biotite alteration			
carbonate alteration		Weak	
pyritic alteration			

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			
Comments: Albite-actinolite-epidote-quartz-calcite.					

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, 5, 7, 9, 11, 12, 19, 20, 21, 22
Comments: One one-metre wide and several minor quartz veins containing minor amounts of sulphides, tourmaline and magnetite

Ore minerals:

Mineral	Proportion	Mineral texture
Bismuth	minor	
Chalcopyrite	major	
Cobaltpentlandite	minor	
Gold	minor	
	Native gold(?) associated with chalcopyrite, pyrite and pyrrhotite.	
Hessite	minor	
Mackinawite	minor	
Magnetite	minor	
Pyrite	major	
Pyrrhotite	major	
Sphalerite	minor	

Tellurobismuthite	minor

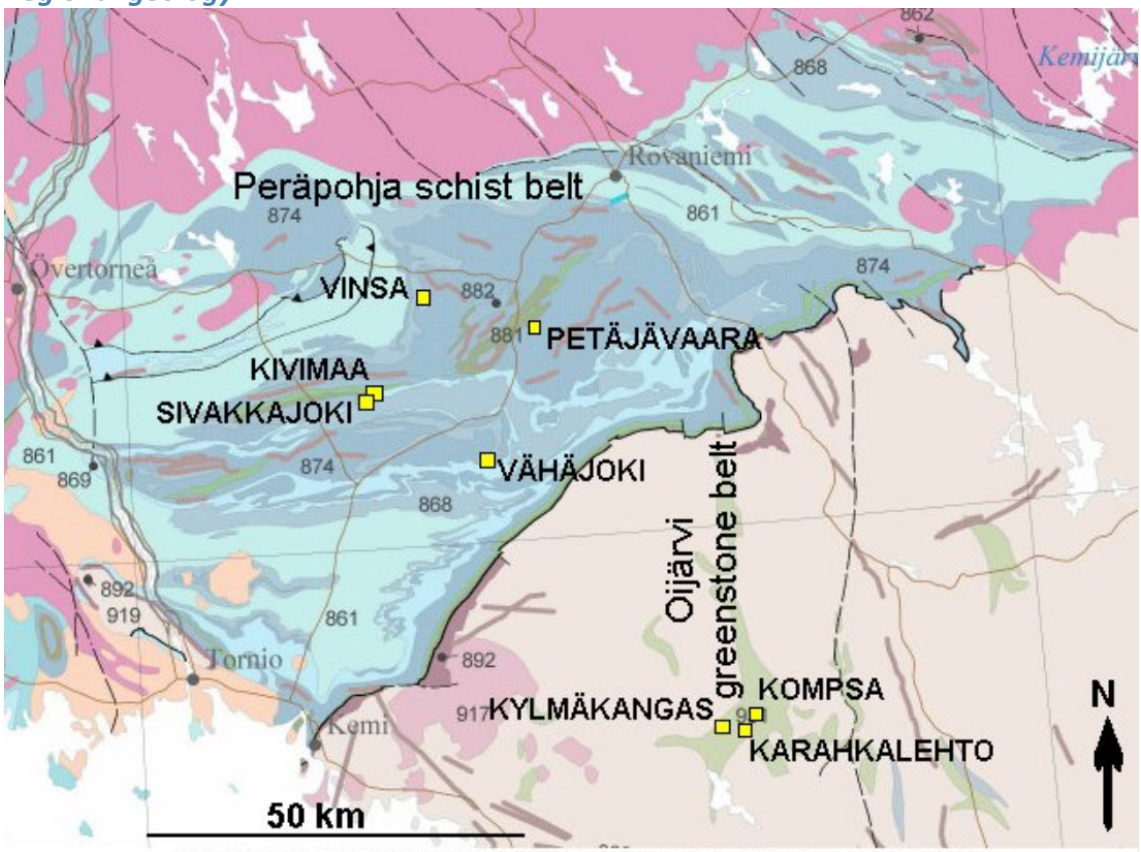
Other minerals:

Mineral	Proportion	Mineral texture
Albite	present	
Biotite	present	Alteration product
Plagioclase	present	Alteration product
Quartz	present	
Tourmaline	present	

Textures
Granoblastic

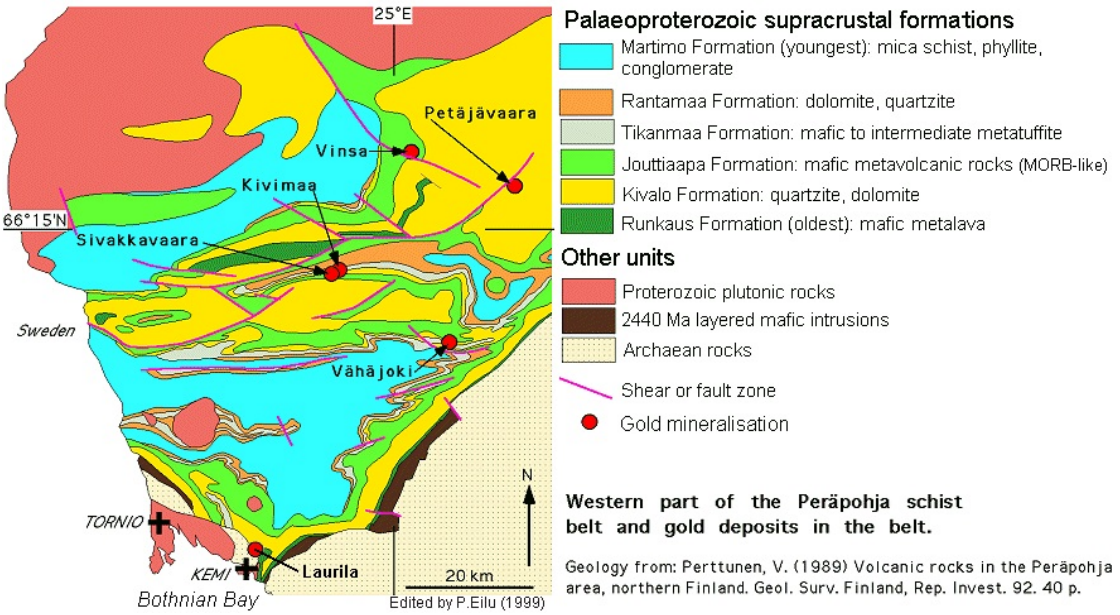
Figures

Regional geology:



Drilling-indicated gold occurrences in Oijärvi greenstone belt and Peräpohja schist belt. Geology from Korsman et al. (1997).

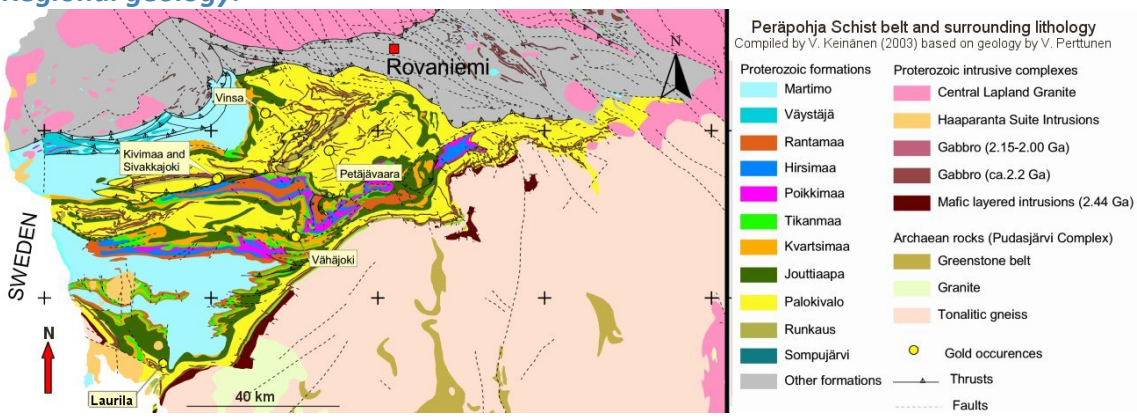
Regional geology:



Western part of the Peräpohja schist belt and gold deposits in the belt.

Geology from: Perttunen, V. (1989) Volcanic rocks in the Peräpohja area, northern Finland. Geol. Surv. Finland, Rep. Invest. 92. 40 p.

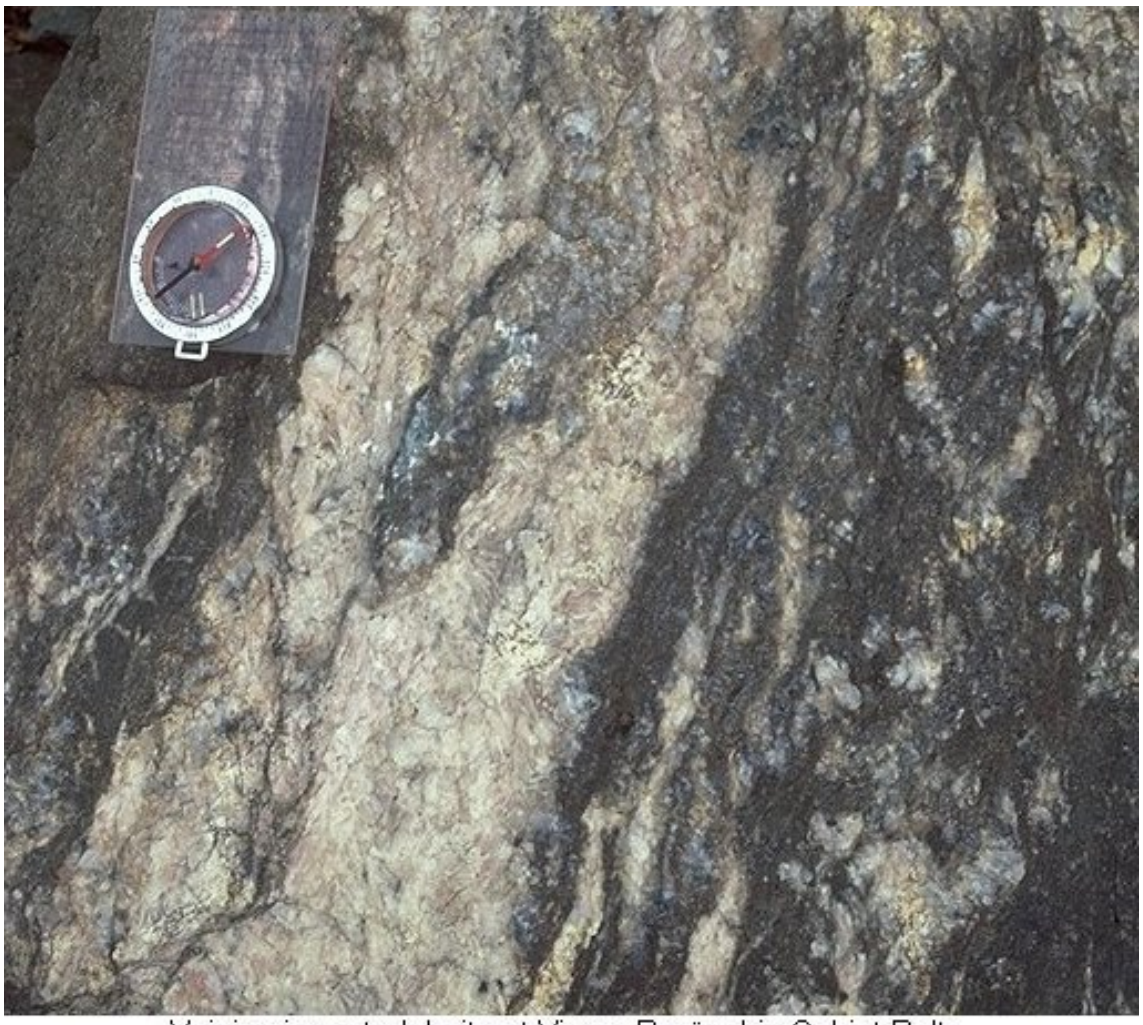
Regional geology:



Ore outcrop:

Part of the main, quartz-carbonate-sulphides vein at Vinsa. Wall rock is altered dolerite. Hammer handle is 80 cm long. Photo Pasi Eilu 12/8/1998.

Vein:



Veining in metadolerite at Vinsa, Peräpohja Schist Belt.
The compass plate is 11 cm long. 12/08/1998. Photo Pasi Eilu.

Major sulphides in the main vein:

Vinsa, Peräpohja Schist Belt. A sample from the main vein: quartz - pyrite (Py) - chalcopyrite (Cpy) - pyrrhotite (Po) with small, black, fragments of intensely altered wallrock. Sampling by Pasi Eilu in 1999. Field of view 9 cm. Photo Jari Väätäinen.

REFERENCES

1. Eilu, P. 1987. Diabaasikohteiden geokemiaa. In: H. Papunen (ed.) Lapin vulkaniittien tutkimusprojekti. Loppuraportti. Department of Geology, University of Turku, Report. 365-385. (in Finnish)

2. Hulkki, H. ja Turunen, P. 2008. kupari-kultatutkimukset Rovaniemen Vinsassa vuonna 2003. Geol. Surv. Finland, report M19/2633/2008/78. 30 p. (in Finnish)
http://tupa.gtk.fi/karttasovellus/mdae/references/345_Vinsa/345_m19_2633_2008_78.pdf

3. Isokangas, P. 1968. Kaivoslain 17§ edellyttämä tutkimusselostus suoritetuista töistä Rovaniemen mlk:ssa valtausalueella Vinsanmaa 1, kaivosrekisteri n:o 1990/1. Outokumpu Oy, Report. 2 p. (in Finnish)

4. Isokangas, P. 1974. Kaivoslain 17§ edellyttämä tutkimusselostus suoritetuista töistä Rovaniemen mlk:ssa valtausalueella Vinsanmaa 1, kaivosrekisteri n:o 2078/1. Outokumpu Oy, Report. 2 p. (in Finnish)

5. Koivisto, T. 1984. Geokemialliset tarkistustutkimukset Peräpohjan liuskealueella: Moreenigeokemialliset kultatutkimukset Kivimaan ja Vinsan tunnettujen Cu-Au-juonimuodostumien ympäristössä. Tutkimusraportti nro 1. Geological Survey of Finland, Report S/41/2544/1/1984. 19 p. (in Finnish)*http://tupa.gtk.fi/raportti/arkisto/s41_2544_1_1984.pdf*

6. Lahtinen, H. ja Lahtinen, T. 2012. Tutkimustyöselostus Vinsan Cu-Au-esiintymästä. (in Finnish)
http://tupa.gtk.fi/raportti/valtaus/8025.pdf

7. Lehtinen, M. & Eilu, P. 1987. Diabaaseihin liittyvät malmiaiheet: Vinsa. In: H. Papunen (ed.) Lapin vulkaniittien tutkimusprojekti. Loppuraportti. Department of Geology, University of Turku, Report. 341-346. (in Finnish)

8. Mawson Gold 2021. Media release 10 Nov 2021.
http://tupa.gtk.fi/karttasovellus/mdae/references/598_Kiimavuoma/598_Mawson144_new_discoveries_2021_11_10

9. Perttunen, V. & Hanski, E. 2003. Törmäsjärven ja Koivun kartta-alueiden kallioperä. Summary: Pre-Quaternary rock of the Törmäsjärvi and Koivu map-sheet areas. Geological Map of Finland 1:100 000. Explanation to the Maps of Pre-Quaternary Rocks 2631 and 2633. Geological Survey of Finland. 88 p.
http://tupa.gtk.fi/kartta/kallioperakartta100/kps_2631_2633.pdf

10. Piippo, S., Skyttä, P. & Kloppenburg, A. 2019. Linkage of crustal deformation between the Archaean basement and the Proterozoic cover in the Peräpohja Area, northern Fennoscandia. Precambrian Res. 324, 285-302.

11. Rossi, S. 1998. Personal communication on 14/8/1998.

12. Rouhunkoski, P. & Isokangas, P. 1974. The copper-gold vein deposit of Kivimaa at Tervola, N-Finland. Bulletin of the Geological Society of Finland 46, 29-35.
http://tupa.gtk.fi/julkaisu/sgs_bulletin/sgs_bt_046_1_pages_029_035.pdf

13. Rouhunkoski, P. 1969. Vinsan malmijuoni Rovaniemen maalaiskunnassa. Outokumpu Oy, Report 001/2633/PR/69. 2 p. (in Finnish)*http://tupa.gtk.fi/raportti/arkisto/001_2633_pr_69.pdf*

14. Rouhunkoski, P. 1971. Rovaniemen maalaiskunta 6/Vinsa. Täydennysraportti. Outokumpu Oy, Report 001/2633/PR/71. 3 p. (in Finnish)

15. Sarala, P. 2005. Till geochemistry in the ribbed moraine area of Peräpohjola, Finland. Applied Geochemistry 20, 1714-1736.

16. Sorjonen, E. 1984. Tutkimustyöselostus valtaus n:o 2833/1. (in Finnish) *http://tupa.gtk.fi/raportti/valtaus/2833_1.pdf*

17. Sorjonen, E. 1995. Tutkimustyöselostus valtaus n:o 4456/1. (in Finnish) *http://tupa.gtk.fi/raportti/valtaus/4456_1.pdf*

18. Wennervirta, H. 1967. Moreenitutkimus, Rovaniemen maalaiskunta, Vinsa. Outokumpu Oy, Report 062/2633/HW/67. 1 p. (in Finnish)

19. Äyräs, M. 1987. On the geochemical gold prospecting at Vinsanmaa, northern Finland. Geological Survey of Finland, Report S/41/2633/1/1987. 6 p. *http://tupa.gtk.fi/raportti/arkisto/s41_2633_1_1987.pdf*

20. Äyräs, M. 1987. Tutkimustyöselostus Rovaniemen maalaiskunnassa valtausalueella Vinsanmaa (Kaivosrekisterinro 3925/1) suoritetuista malmitutkimuksista. Geological Survey of Finland, Report M06/2633/-87/1/30. 3 p. (in Finnish)*http://tupa.gtk.fi/raportti/valtaus/m06_2633_87_1_30.pdf*

21. Äyräs, M. 1988. Geokemiallisia kultatutkimuksia Peräpohjan liuskealueella. Annales Universitatis Turkuensis, Sarja C, Tom 67, 89-98. (in Finnish)

22. Äyräs, M. 1991. Geochemical prospecting at Vinsanmaa, northern Finland. Journal of Geochemical Exploration 39, 379-386.