Sarjankylä

Occurence type: showing

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

Easting EUREF: 407361,329
Northing EUREF: 7102378,46
Easting YKJ: 3407496
Northing YKJ: 7105354

Discovery year: 1985
Discovered by: Geological Survey of Finland
Province: Laivakangas (Au, Cu)
District: Vesiperä (Au, Cu, Ag)
Comments: Discovery: the first indication in the region were auriferous erratics and outcrops found by a local farmer in 1939–1940; the Sarjankylä target was found in outcrop during a GTK exploration campaign, there is no diamond drilling in the target area

References: 4

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)
References: 7

Dimension

Expression: exposed
Form: discordant
Shape: NA
Length (m): NA
Width (m): NA
Thickness (m): NA
Depth (m): NA
Area (ha): NA
Dip azim: NA
Dip: 5
Plunge azim: NA
Plunge dip: NA
Orientation method: NA

Holder history

Previous holders:

Company	Years	Holding type	Comments
Geological Survey of Finland	NA	NA	NA
Lakeuden Malmi Oy	2022-2026	Exploration permit	NA
BR Gold Mining Oy	2014	Claim (old law)	application in 2010
Belvedere Resources Ltd	2010-2010	Claim reservation (old law)	NA

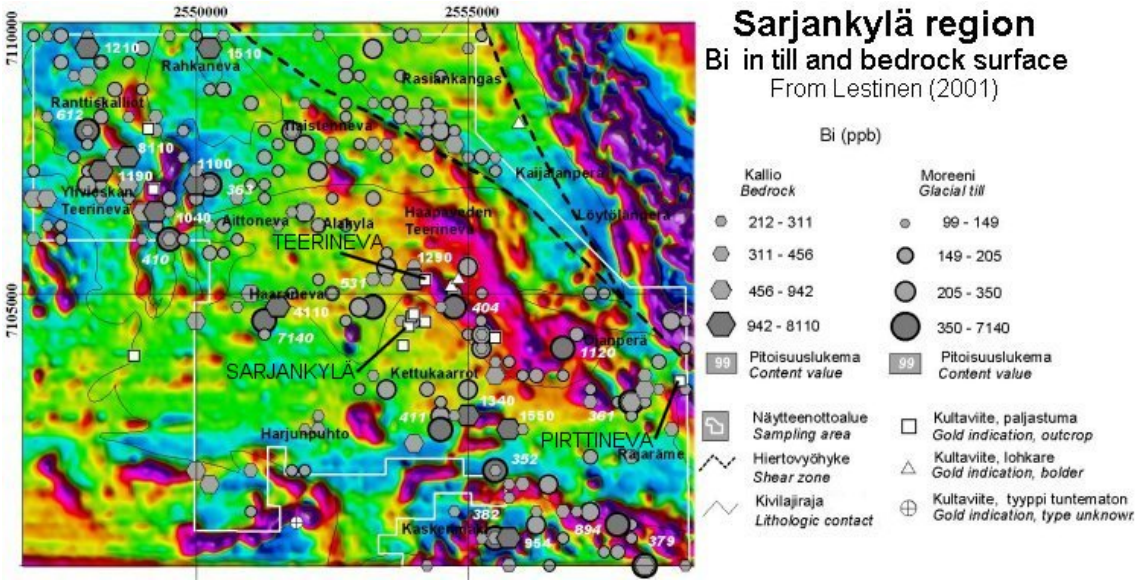
EXPLORATION ACTIVITY

Geological Survey of Finland

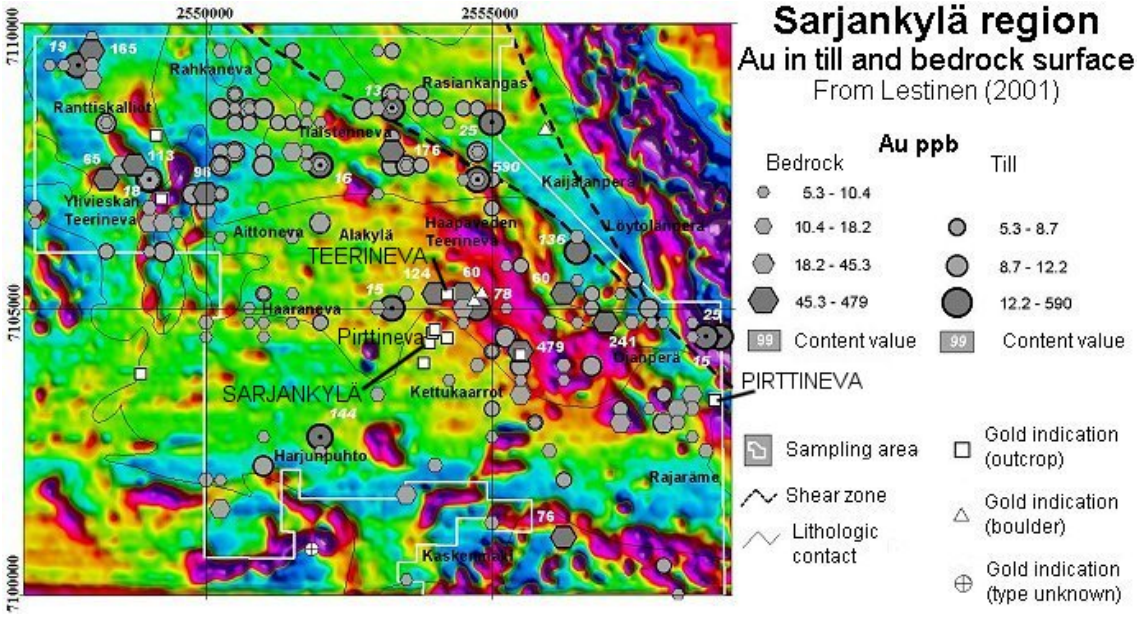
Years	Activity type	Geologist	Exploration result	Ref
2005-2005	detailed geophysics	P. Lestinen	NA	
2003-2007	detailed geology	P. Lestinen	NA	5, 6, 7, 8
1999-2004	detailed geochemistry	P. Lestinen	NA	6
	Detailed geochemistry (by percussion drilling) in 1999-2001 and 2004; As, Bi and Te best correlate with Au and form distinct anomalies; regionally, Au and As have a positive correlation (but not in a local scale); the As, Bi and Te anomalies extend >1 km from the Au mineralisation; in addition, there is an Sb anomaly of minor extent in till.Part of the Bi and Te anomalies in the area are related to sulphidic phyllites.			
1985-1985	detailed geology	Esko Sipilä	NA	5, 6, 7, 8
	First indication in the region were auriferous erratics and outcrops found by a local farmer in 1939-1940; the Sarjankylä occurrence was found in outcrop during a GTK exploration campaign. Minidrilling from outcrops; 0.5 m wide shear zone with 3.82 ppm Au			
1983-1983	regional geochemistry	NA	NA	5, 6, 7, 8
	Regional geochemical till survey			
1976-1976	regional geophysics	NA	key geological features	
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			
1939-1940	detailed geology	P. Ervamaa	NA	1, 2, 5, 7

Figures

Primary and secondary anomalies; Bi content in till and at the surface of bedrock:



Primary and secondary anomalies; Au content in till and at the surface of bedrock:



GEOLOGY

Host rock: Plagioclase porphyrite, Diorite, Gabbro, Quartz vein, Felsic volcanic rock, Granodiorite
Wall rock: Granitic rock

Plagioclase porphyrite (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 2, 5, 7
Comments: The auriferous shear zones postdate the formation of the pervasive, dominant, foliation in the area. Controlling structure; narrow, mylonitic, N- to NE- and NW-trending shear zones

Metamorphic description:

Other minerals:

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

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

Diorite (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 2, 5, 7
Comments: The auriferous shear zones postdate the formation of the pervasive, dominant, foliation in the area.

Metamorphic description:
Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	major	
Bornite	minor	
Chalcopyrite	minor	
Electrum	minor	
Galena	minor	
Gold	minor	
	Gold is as inclusions and in fractures of arsenopyrite and loellingite and silicates	
Löllingite	major	

Mackinawite	minor
Pyrite	minor
Pyrrhotite	minor
Scheelite	present
Sphalerite	minor

Other minerals:

Mineral	Proportion	Mineral texture
Epidote	present	
Quartz	present	

Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	amphibolite metamorphic facies	medium metamorphic grade	NA		
Comments: Plagioclase-hornblende-biotite-K feldspar-quartz.					

Gabbro (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 2, 7

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		
Comments: Plagioclase-hornblende-biotite-K feldspar-quartz.					

Quartz vein (Host rock)

Rock type: Host rock
Proportion: present
Grain size: NA
Color: NA
References: 1, 2, 7
Comments: Auriferous, arsenopyrite-bearing quartz veins in all host rocks. Epidote present in a quartz vein in plagioclase porphyry. Mineralised quartz veins and thin shear bands forming two parallel lodes in plagioclase porphyry and diorite

Felsic volcanic rock (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA

References: 2, 7
Comments: A felsic dyke cross cuts other intrusive rocks, but is mineralised as well.

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		

Granodiorite (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 2, 7

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		
Comments: Plagioclase-hornblende-biotite-K feldspar-quartz.					

Granitic rock (Wall rock)

Rock type: Wall rock
Proportion: present
Grain size: NA
Color: NA
References: 2, 3, 7
Comments: The sequence is intruded by synorogenic granitoids.

Metamorphic description:

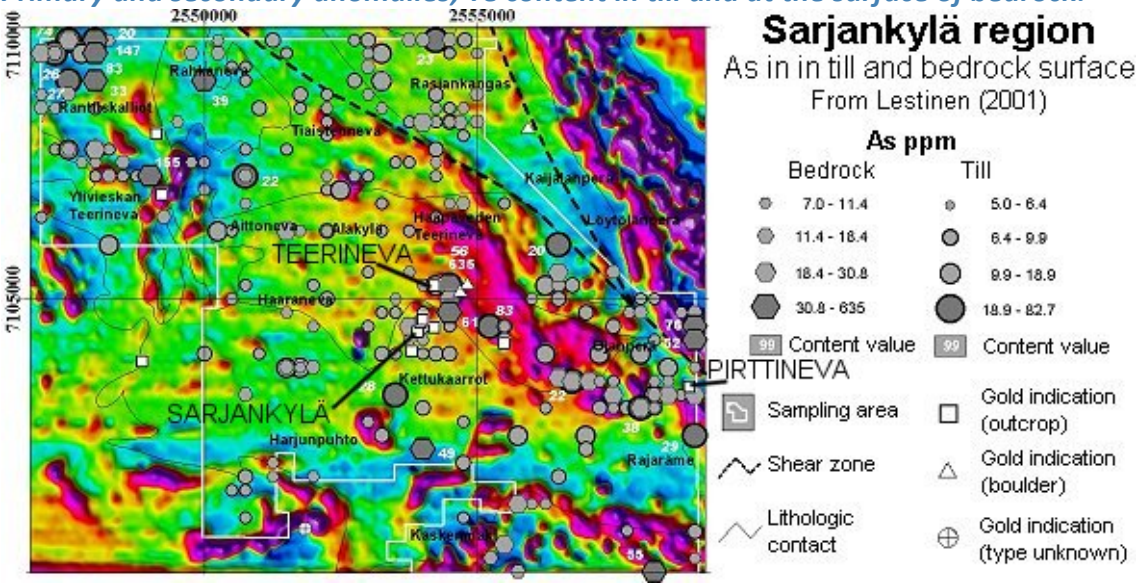
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	amphibolite metamorphic facies	medium metamorphic grade	NA		

Geological age:

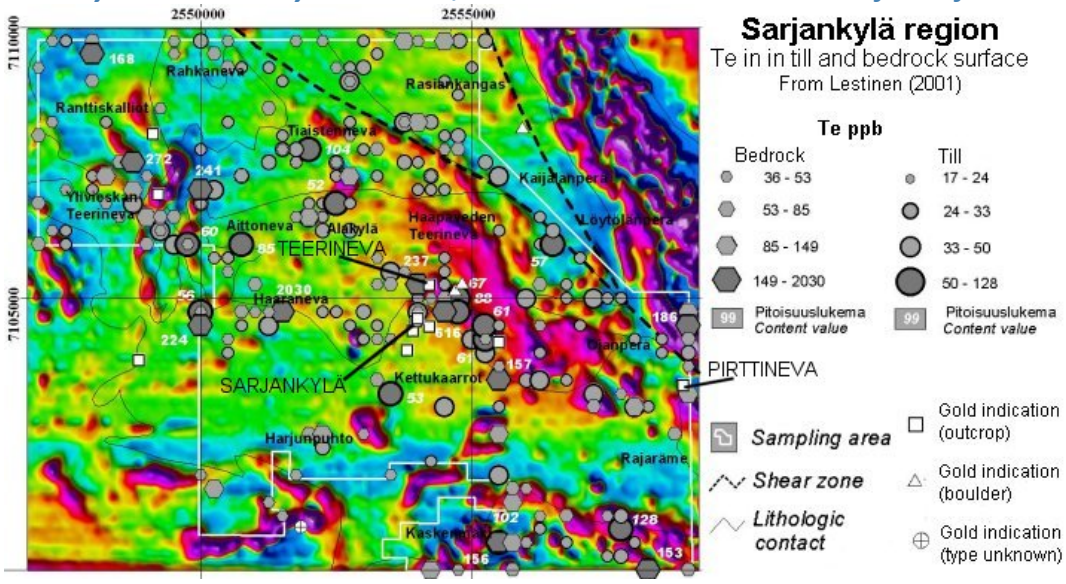
Geological era:	Max age - Minage (Ma):	Inferred age (Ma):	Age of mineralization:
Paleoproterozoic (2500-1600 Ma)	1880-1890		N

Figures

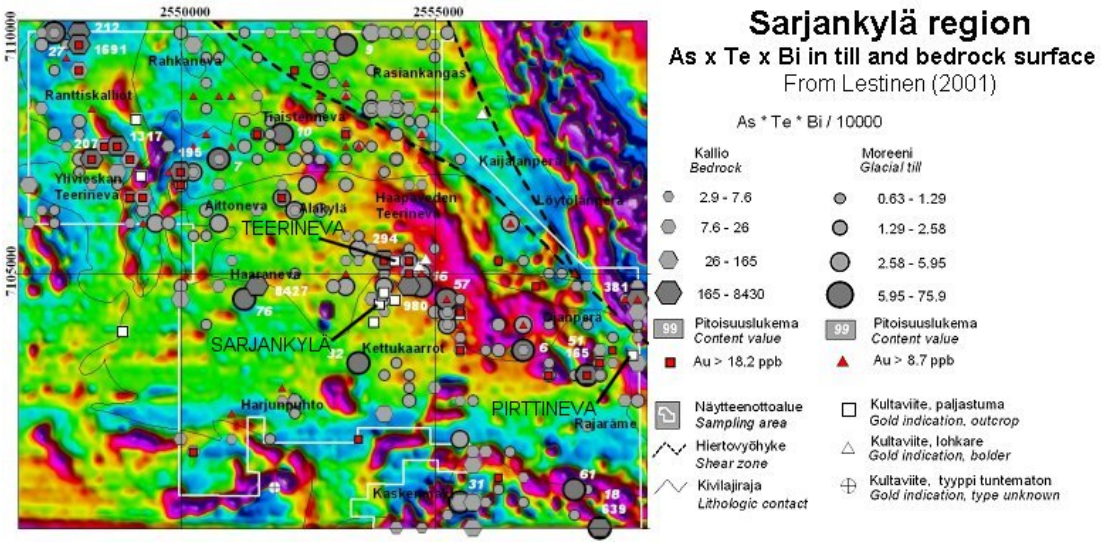
Primary and secondary anomalies; Te content in till and at the surface of bedrock:



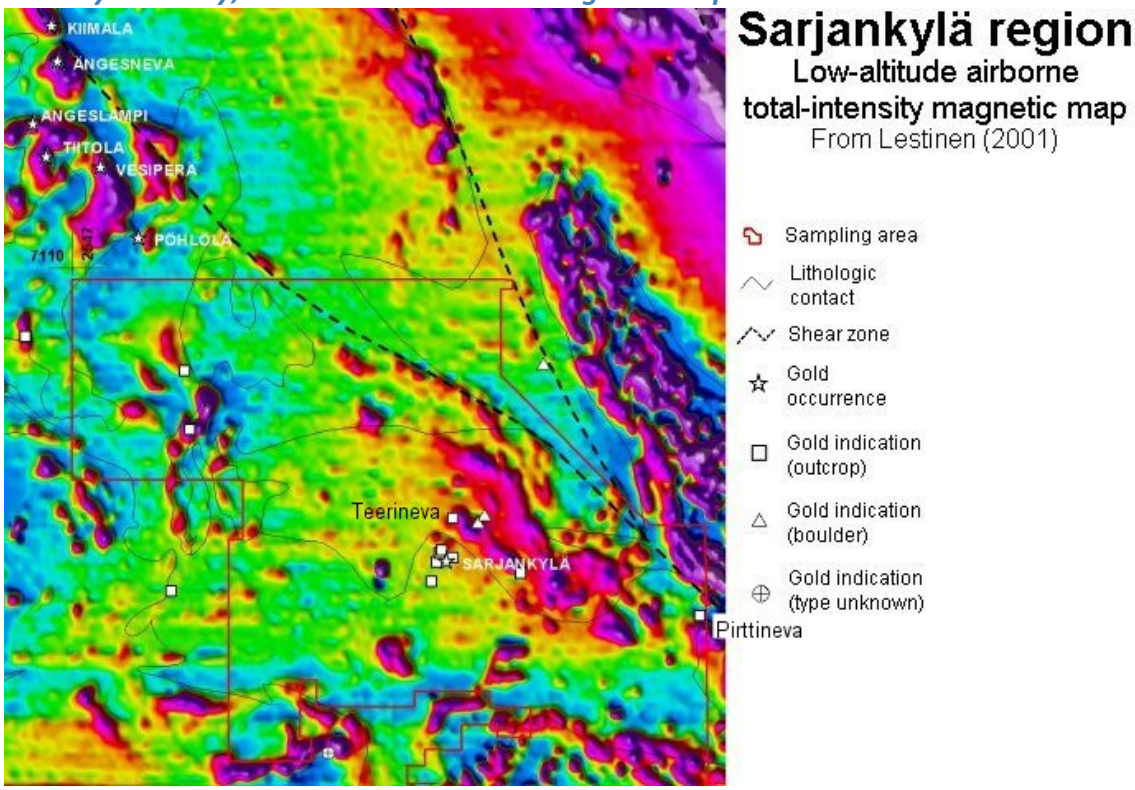
Primary and secondary anomalies; Te content in till and at the surface of bedrock:



Primary and secondary anomalies; As, Bi, Te in till and at the surface of bedrock:



Primary anomaly; low-altitude airborne magnetic map:



REFERENCES

1. Enkovaara, A. & Saraste, A. 1940. Selostus geologisen toimikunnan työryhmän aikana 2/8 - 26/8 1940 suorittamista töistä Nivalan Sarjankylän Pirttinevan alueella. Geological Survey of Finland, Report M17/N-40. 2 p.
http://tupa.gtk.fi/karttasovellus/mdae/references/306_Sarjankyl%C3%A4/m17_n_40.pdf

2. Ervamaa, P. 1952. Selostus Haapaveden Teerinevalla ja Pirttinevalla suoritetuista kultatutkimuksista. Geological Survey of Finland, Report M/17/Hpv-N/52/1. 6 p.
http://tupa.gtk.fi/karttasovellus/mdae/references/306_Sarjankyl%C3%A4/m17_hpv-n_52_1.pdf

3. 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.

4. Korsman, K., Koistinen, T., Kohonen, J., Wennerström, M., Ekdahl, E., Honkamo, M., Idman, H. & Pekkala, Y. (eds.) 1997. Suomen kallioperäkartta - Berggrundskarta över Finland - Bedrock map of Finland 1:1 000 000. Geological Survey of Finland.

5. Lestinen, P. 2001. Kallio- ja moreenigeokemialliset kultatutkimukset Sarjankylän alueella vuosina 1999-2001. English summary: Bedrock and till geochemical gold survey in the Sarjankylä area during 1999?2001. Geological Survey of Finland, Report S/41/2433/1/2001. 51 p.
http://tupa.gtk.fi/raportti/arkisto/s41_2433_1_2001.pdf

6. Makkonen, H., Kontoniemi, O., Lempiäinen, R., Lestinen, P., Mursu, J. & Mäkinen, J. 2003. Raahe-Laatokka-vyöhyke, nikkelin ja kullan etsintä-hankkeen (2108001) toiminta vuosina 1999-2003. English summary: Exploration for nickel and gold in the Raahe-Ladoga Zone during 1999-2003, GTK Project 2108001. Geological Survey of Finland, Report M 10.4/2003/5/10. 90 p.
http://tupa.gtk.fi/raportti/arkisto/m10_4_2003_5_10.pdf

7. Sipilä, E. 1990. Kultatutkimukset Nivalan Sarjankylässä 1985. Geological Survey of Finland, Report M19/2433/-90/1/1. 8 p. (in Finnish)*http://tupa.gtk.fi/raportti/arkisto/m19_2433_90_1_10.pdf*

8. Västi, K. 1993. Malmigeologiset tutkimukset Ylivieskan ja sen naapurikuntien alueella Rauhalan tyyppisten sulfidiesiintymien löytämiseksi vuosien 1986-1991 välisenä aikana. Geological Survey of Finland, Report M19/2431,2433/-93/1/10. (in Finnish)
http://tupa.gtk.fi/raportti/arkisto/m19_2431_2433_93_1_10.pdf