

Palokallio

Occurrence type: occurrence

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

Easting EUREF: 279408,515
Northing EUREF: 6783328,31

Easting YKJ: 3279489
Northing YKJ: 6786176

Discovery year: 2006

Discovered by: Geological Survey of Finland

Province: Pirkkala (Au)

Comments: Discovery in outcrop as a follow-up of checking geochemical anomalies. The occurrence is characterised by mineralised shear zones and quartz veins some centimeters wide in a dioritic gabbro. The strike of these shear zones are variable at Palokallio, but most commonly it is NE-SW. The Palokallio occurrence is situated near the Jokisivu gold mine and the Ritakallio gold prospect.

References: 1, 2, 4, 5

Mineral deposit type

Group: Metallogenic deposit

Main type: Orogenic (metamorphic hydrothermal)

Sub type 1: Au

Dimension

Expression: NA

Area (ha): NA

Form: NA

Dip azim: NA

Shape: NA

Dip: NA

Length (m): NA

Plunge azim: NA

Width (m): NA

Plunge dip: NA

Thickness (m): NA

Orientation method: NA

Depth (m): NA

Dimension comments: Gold bearing shear zones some centimeters wide in a dioritic gabbro

Holder history

Previous holders:

Company	Years	Holding type	Comments
Scandian Metals AB	2016-2018	Reservation	NA
Geological Survey of Finland	2006-2009	Claim (old law)	Claim Palokallio 1

EXPLORATION ACTIVITY

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
2007-2007	regional geology	Saku Vuori	key geological features	
2007-2007	detailed geology	Sari Grönholm, Teemu Voipio	key geological features	5
<i>Detailed bedrock mapping, petrographic and ore mineralogy investigation, and lithogeochemical investigation</i>				
2007-2008	core drilling	Saku Vuori, Sari Grönholm	mineralized zone identified	
	<i>18 diamond-drill holes, total 1511.53 m. Drilling started with targetting an IP anomaly.</i>			
Intersections				
	HoleID	R327		
	From-To	NA		
	Length	1m		
	gold	17,6ppm		
	HoleID	R329		
	From-To	NA		
	Length	0,9m		
	gold	41,8ppm		
2006-2006	regional heavy mineral sampling	Saku Vuori	identification of an anomalous area	
	<i>Gold nugget anomaly</i>			
2006-2006	detailed geophysics	Sari Grönholm	key geological features	5
	<i>Ground magnetic and electromagnetic survey</i>			
2003-2007	detailed geochemistry	Niilo Kärkkäinen	geochemical anomaly	3, 4
	<i>Gold and pathfinder element anomalies detected in till geochemical survey at 4 samples per km2.</i>			
1990-1990	regional geophysics	Saku Vuori, Sari Grönholm	NA	2
	<i>Low-altitude airborne magnetic, electromagnetic and radiometric survey</i>			
Intersections				
	HoleID	R327		
	From-To	NA		
	Length	1m		
	gold	17,6ppm		
	HoleID	R329		
	From-To	NA		
	Length	0,9m		
	gold	41,8ppm		
1983-1983	regional geochemistry	NA	NA	2
	<i>Regional till geochemical survey</i>			

GEOLOGY

Host rock: Diorite

Wall rock: Quartz feldspar porphyry, Pegmatite, Mica gneiss, Uralite porphyrite

Diorite (Host rock)

Rock type: Host rock

Proportion: all

Grain size: Medium grained 2 - 5 mm

Color: Greenish

References: 1, 2, 5

Comments: Possibly tholeiitic in primary composition. K-enriched with mineralisation-related alteration.

Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	minor	<i>Arsenopyrite is the most common ore mineral</i>
Bismuth	trace	
Chalcopyrite	present	
Galena	trace	<i>Just a few grains detected, by SEM-EDS</i>
Gold	present	<i>Gold is mainly present in fractures and as inclusions in arsenopyrite and löllingite</i>
Hedleyite	trace	
Löllingite	present	<i>Löllingite occurs, almost without an exception, as inclusions in arsenopyrite. Also, gold inclusions are common at löllingite-arsenopyrite contacts. These features suggest that mineralisation took place under amphibolite-facies conditions and that arsenopyrite is a retrograde replacement of löllingite</i>
Pyrrhotite	minor	
Sphalerite	trace	

Other minerals:

Mineral	Proportion	Mineral texture
Biotite	major	
Bismuthinite	rare	
Hessite	rare	
Hornblende	major	
Ilmenite	minor	<i>With mineralisation-related alteration, ilmenite is replaced by titanite</i>
Joséite-B	trace	
Plagioclase	major	
Pyrite	rare	
Quartz	minor	
Rucklidgeite	trace	
Scheelite	present	<i>Scheelite is most common where arsenopyrite is most abundant</i>
Tellurobismuthite	trace	

Alteration:	Distribution:	Degree:	Relation to mineralization:
sulphidation	Shearing	Moderate	Syn
<i>Comments: Mainly formation of pyrrhotite and arsenopyrite</i>			
carbonate alteration	Banded	Weak	Syn
<i>Comments: max 2-3 vol-% carbonate in mineralised rock</i>			
sericitic alteration	Disseminated	Moderate	
<i>Comments: Alteration of plagioclase; unclear from the reports if this relates to mineralisation</i>			
chloritic alteration	Disseminated	Moderate	
<i>Comments: Alteration of mafic silicates; unclear from the reports if this relates to mineralisation</i>			

Quartz feldspar porphyry (Wall rock)

Rock type: Wall rock

Proportion: minor

References: 5

Comments: Minor dykes in the diorite intrusion. Weak sulphide dissemination; unclear from the reports if this relates to mineralisation

Pegmatite (Wall rock)

Rock type: Wall rock

Proportion: minor

References: 5

Comments: Simple pegmatite dykes occur both in the diorite intrusion and in the mica gneiss

Mica gneiss (Wall rock)

Rock type: Wall rock

References: 5

Comments: Country rock of the gabbro intrusion. Dominantly psammitic in origin.

Uralite porphyrite (Wall rock)

Rock type: Wall rock

Proportion: minor

References: 5

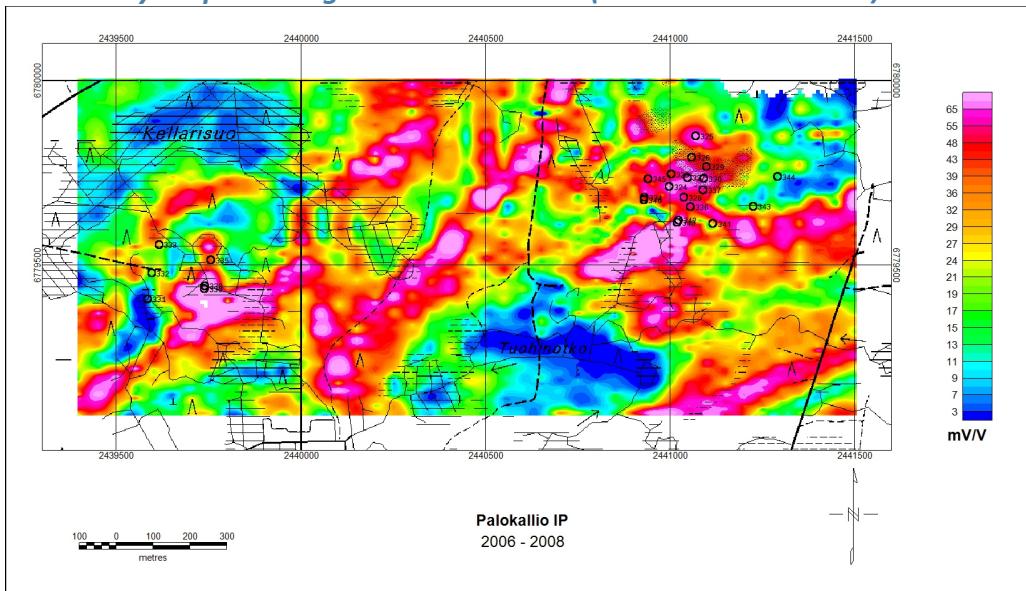
Comments: Minor dykes within the host intrusion.

Figures

The Palokallio gabbro with a mafic dyke. Photo: Sari Grönholm:



IP anomaly map showing drillhole locations (Grönholm et al 2011):



An arsenopyrite-bearing drill-core sample. R329, Au 6.39 ppm at 0,90m Photo: Sari

Grönholm:

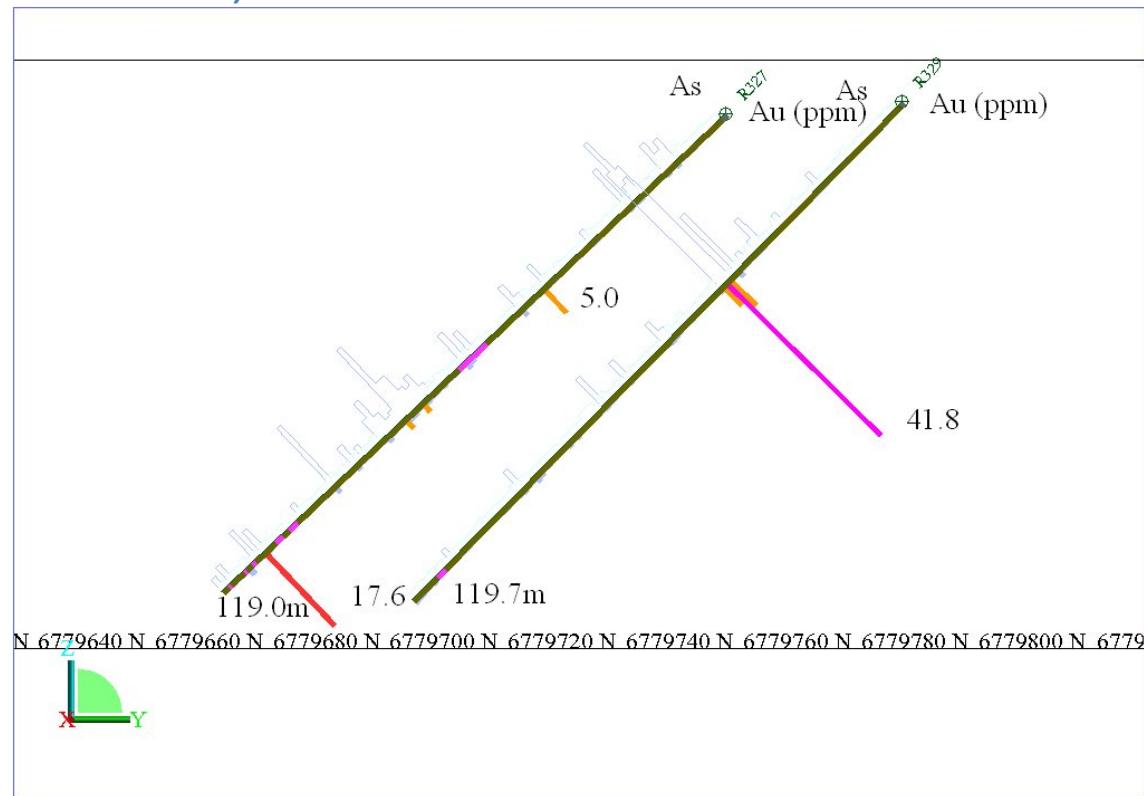


Quartz, sulphides and gold bearing shear zone in the gabbro. Photo: Saku Vuori:



A drilling profile with Au and As contents (drill cores R327 and R329) (Grönholm,

Kärkkäinen 2012):



REFERENCES

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