Huhta

Alternative Names: Huhdankangas, Huhtakylä
Occurence type: occurrence

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

Easting EUREF: 366856,665
Northing EUREF: 7105137,102
Easting YKJ: 3366975
Northing YKJ: 7108114

Discovery year: 1980
Discovered by: Outokumpu Oy
Province: Laivakangas (Au, Cu)
Comments: The Huhdankangas lode was found by Outokumpu in early 1980s, the Huhta 1 and Huhta 2 lodes by GTK in 2002-2006, by diamond drilling; first indications in the region were auriferous glacial erratics found by amateur prospectors

References: 3

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)
Comments: Mineralisation during the D2 stage of deformation.
References: 5, 6

Dimension

Expression: exposed
Form: discordant
Shape: NA
Length (m): NA
Width (m): NA
Thickness (m): NA
Depth (m): NA
Area (ha): NA
Dip azim: 295
Dip: 80
Plunge azim: NA
Plunge dip: NA
Orientation method: NA
Dimension comments: Two main lode zones: Huhta 1 (two WNW-trending subvertical lodes) is hosted by plagioclase porphyry and Huhta 2 by plagoiclase poprhyrite, the lodes are open along strike and at depth.

Holder history

Current holder: Magnus Minerals Oy
Years: 2022-2024

Holding type: Reservation

Previous holders:

Company	Years	Holding type	Comments
Geological Survey of Finland	-2000	NA	NA
Mineral Exploration Network (Finland) Limited	2012	Exploration permit	NA
Pyhäsalmi Mine Oy	2011-2012	Claim reservation (old law)	NA
Outokumpu Oy	1983-1983	Claim (old law)	NA

EXPLORATION ACTIVITY

Mineral Exploration Network (Finland) Limited

Years	Activity type	Geologist	Exploration result	Ref
2012-2016	regional reconnaissance	NA	geochemical anomaly	8
	Most work by MEN is assessing the previous work and the available data from previous exploration operators. By MEN, a number of arsenic anomalies in till detectedbou and and a boulder with 53 g/t discovered; however, it is not clear if these indications are from anywhere near the Hietajärvi occurrence, or from other parts of the area covered by the MEN to the north and NE of the Rautio Batholith.			

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
2002-2006	core drilling	Olavi Kontoniemi, Pekka Lestinen	mineral occurrences	4, 6
	Core drilling (reconnaissance drilling): 37 diamond-drill holes, total 4396 m.			
	Intersections			
	HoleID	R484		
	From-To	93,6-94,6		
	Length	1m		
	gold	8,1ppm		
	HoleID	R513		
	From-To	139,6-140,6		
	Length	1m		
	gold	3,3ppm		
	HoleID	R531		
	From-To	97,6-99,9		
	Length	2,3m		
	gold	1,04ppm		
	HoleID	R537		
	From-To	20,8-23,8		
	Length	3m		
	gold	1,4ppm		
	HoleID	R538		
	From-To	88,7-121,6		
	Length	32,9m		
	gold	0,65ppm		
	HoleID	NA		
	From-To	NA		
	Length	5m		
	gold	1,5ppm		

1984-1984	regional geochemistry	NA	NA	5, 6, 10
	Regional geochemical till survey			

1984-2003	detailed geophysics	Kaj Västi, Olavi Kontoniemi, Pekka Lestinen	NA	4

	Magntic anomalies defined by metamorphic magnetite-rich mafic to intermediate rock units of the area. An IP anomaly surrounding the Huhta 1 lodes, another IP anomaly follows the Huhta 2 lodes.			
1984-2006	detailed geology	Kaj Västi, Olavi Kontoniemi, Pekka Lestinen	NA	4, 6, 10
1984-2002	percussion drilling	Kaj Västi, Olavi Kontoniemi, Pekka Lestinen	NA	4, 6, 10
1984-2002	detailed geochemistry	Kaj Västi, Olavi Kontoniemi, Pekka Lestinen	NA	4, 7
	Regional As, Au, Cu, Sb anomalies in till.			

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1983-1983	core drilling	Markku Isohanni	NA	1, 5
	Core drilling (reconnaissance drilling): Four diamond-drill holes, total 279 m.			
	Intersections			
	HoleID	KJ/HUH3		
	From-To	11,3-16,9		
	Length	5,6m		
	gold	1,2ppm		
	HoleID	KJ/HUH4		
	From-To	69,8-73,8		
	Length	4m		
	gold	1,3ppm		
1979-1982	detailed geochemistry	M. Isohanni	NA	

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1979-1979	regional geophysics	NA	key geological features	5, 6, 10
	Low-altitude magnetic, aeromagnetic and radiometric survey in 1979			

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1960-1981	detailed geology	Markku Isohanni	NA	2, 6, 9
	bedrock mapping, glacial erratic survey in 1960's, in 1974-75 and in 1978-81. First indications in the region were auriferous glacial erratics found by amateur prospectors.			
1960-1981	detailed geophysics	Markku Isohanni	NA	2, 6, 9

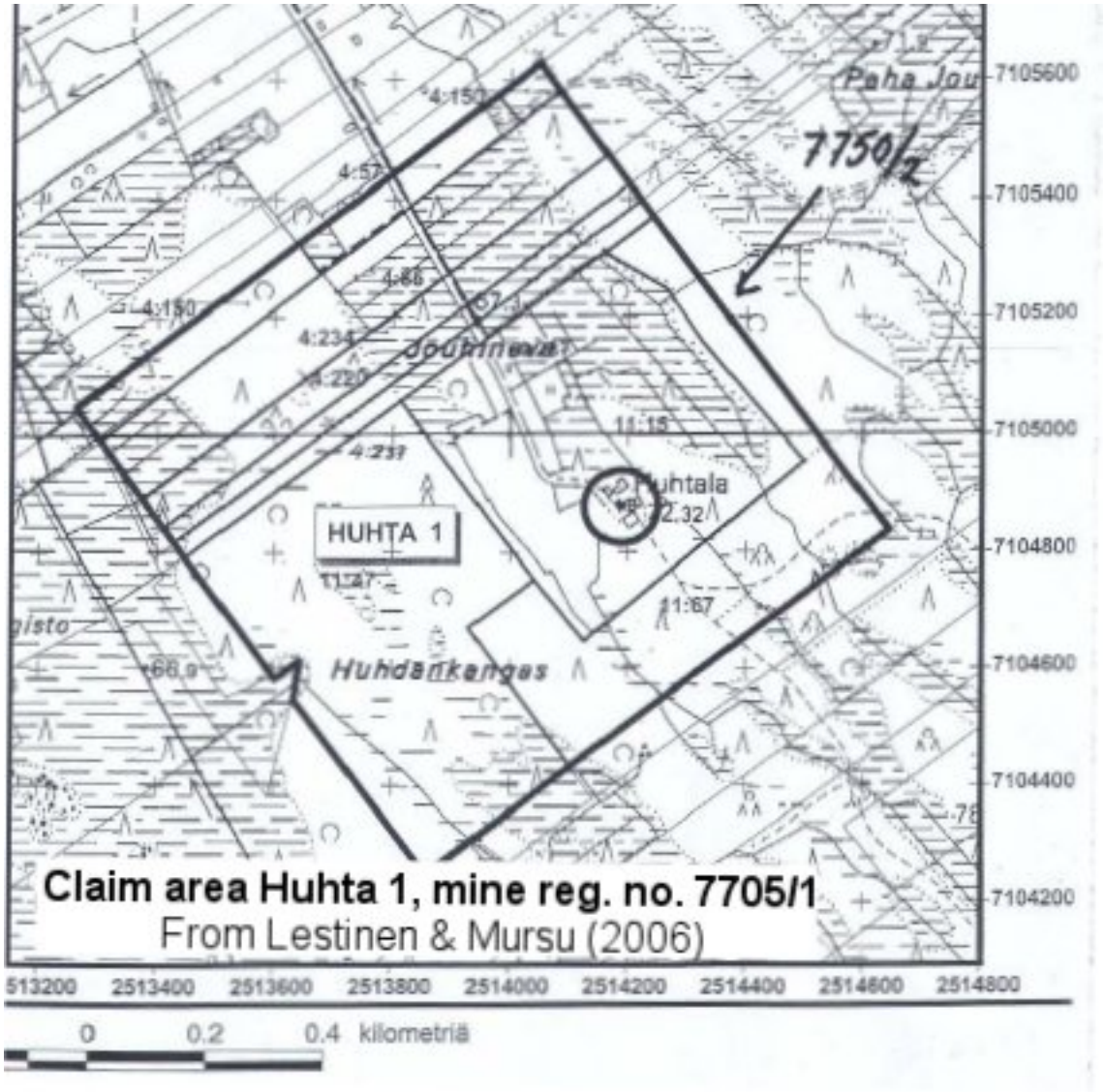
Vuoksenniska Oy

Years	Activity type	Geologist	Exploration result	Ref

1955-1957	regional geology	NA	NA	9

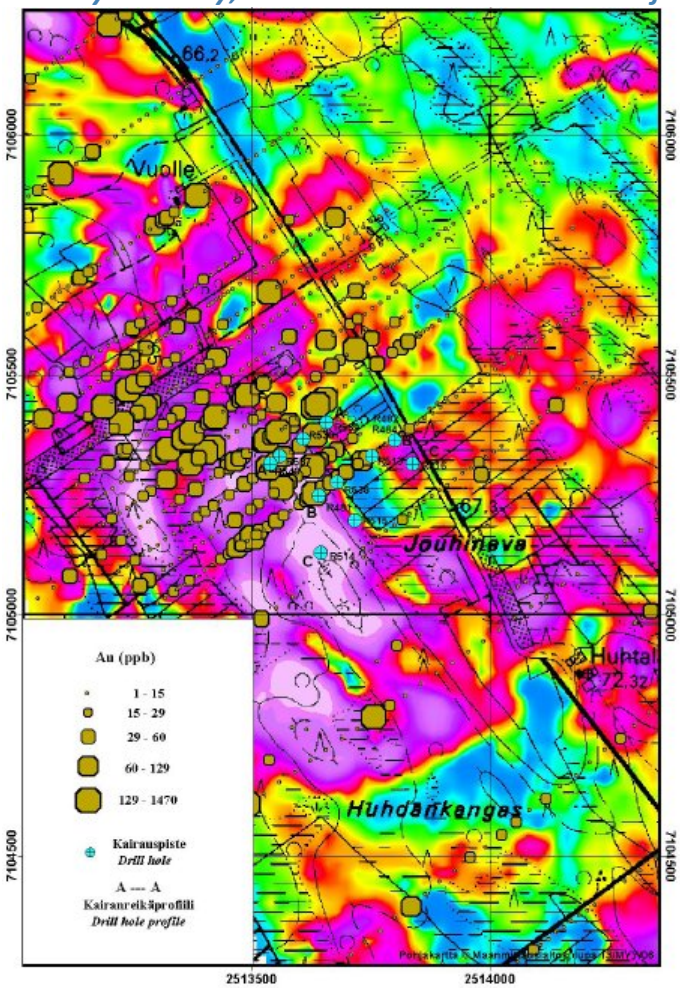
Figures

Claim area Huhta 1:



Claim area Huhta 1, mine reg. no. 7705/1
From Lestinen & Mursu (2006)

Primary anomaly; Au content in till-bedrock interface:



Gold in till-bedrock interface at Huhta 1
Background: IP apparent chargeability
From Lestinen & Mursu (2006)

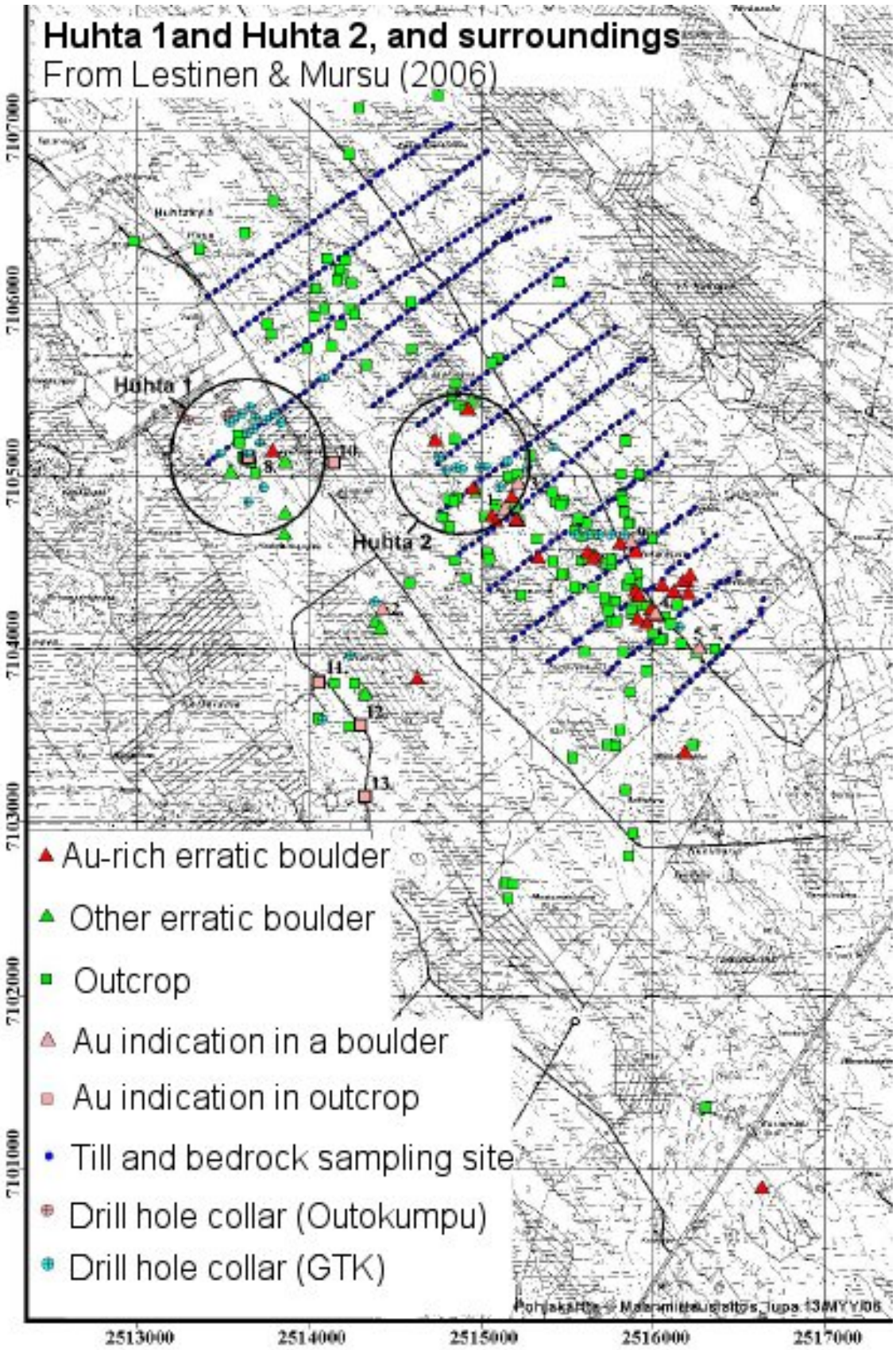
Au in ppb

Drill hole collars marked by
blue crossed dots

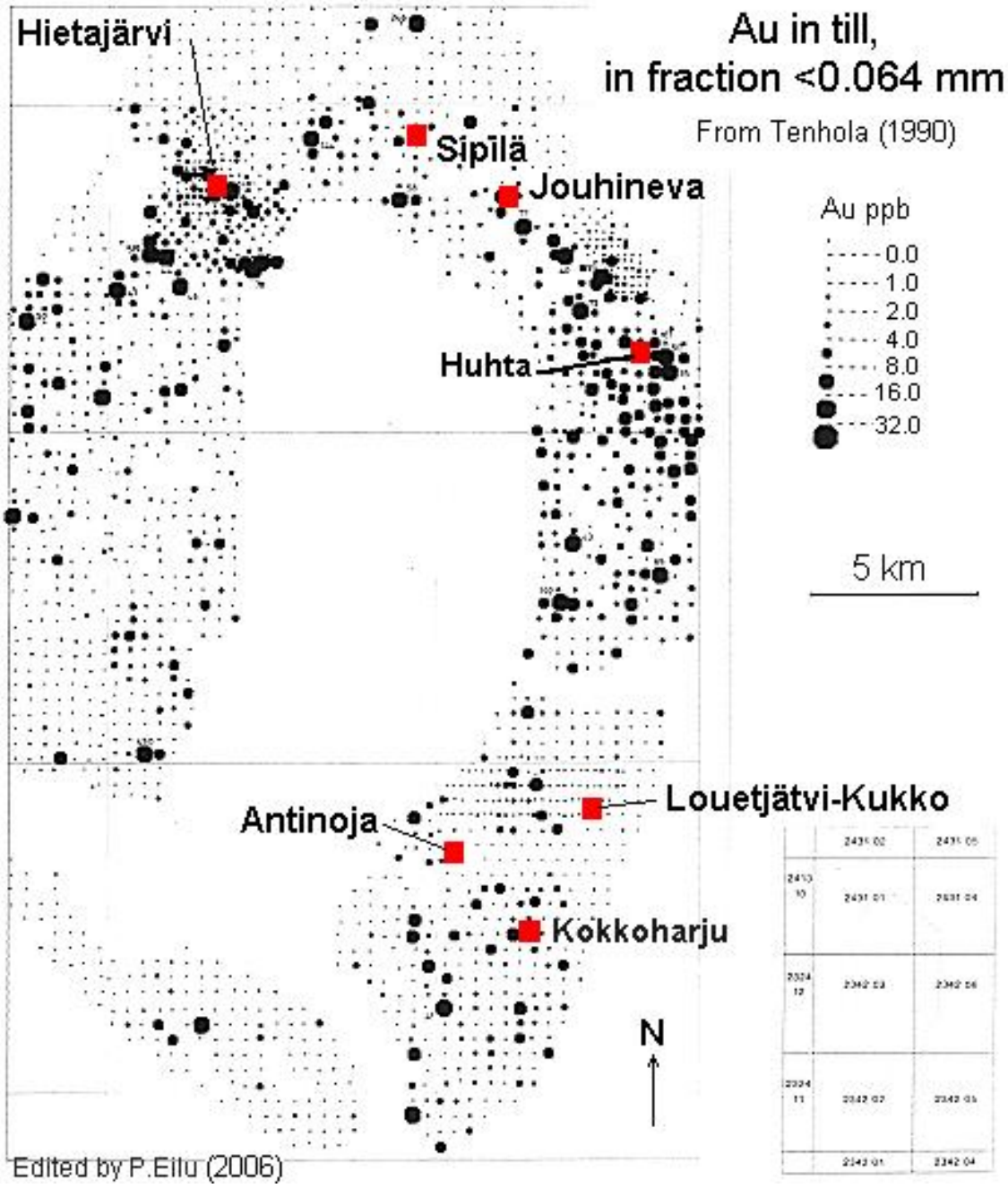
North up
1 km grid
National kkj-coordinates

Map of the investigated boulders, outcrops, the till and bedrock-surface samples and the

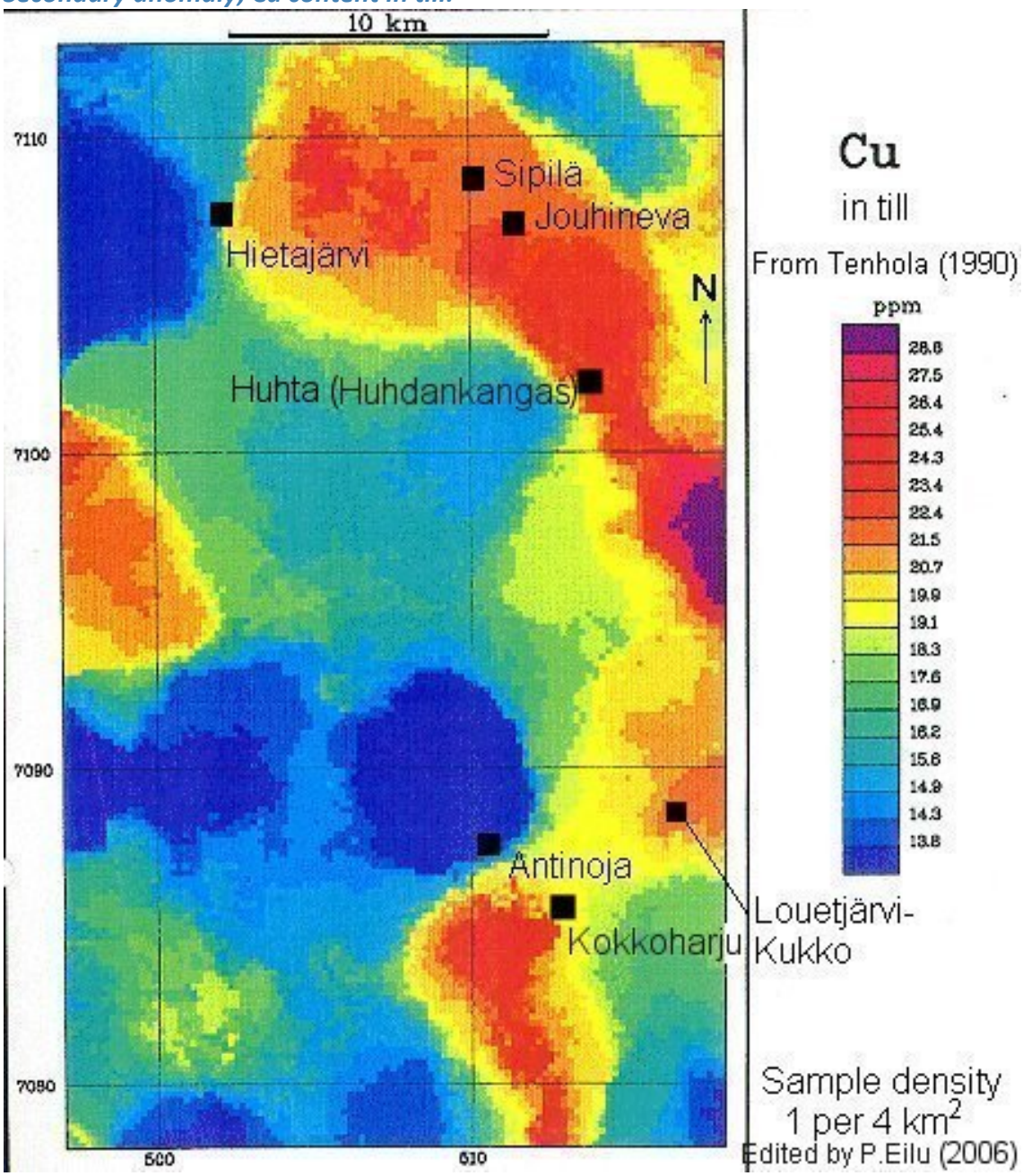
drill holes:


Huhta 1and Huhta 2, and surroundings
From Lestinen & Mursu (2006)
Huhta 1
Huhta 2
Au-rich erratic boulder
Other erratic boulder
Outcrop
Au indication in a boulder
Au indication in outcrop
Till and bedrock sampling site
Drill hole collar (Outokumpu)
Drill hole collar (GTK)
7107000
7106000
7105000
7104000
7103000
7102000
7101000
2513000
2514000
2515000
2516000
2517000

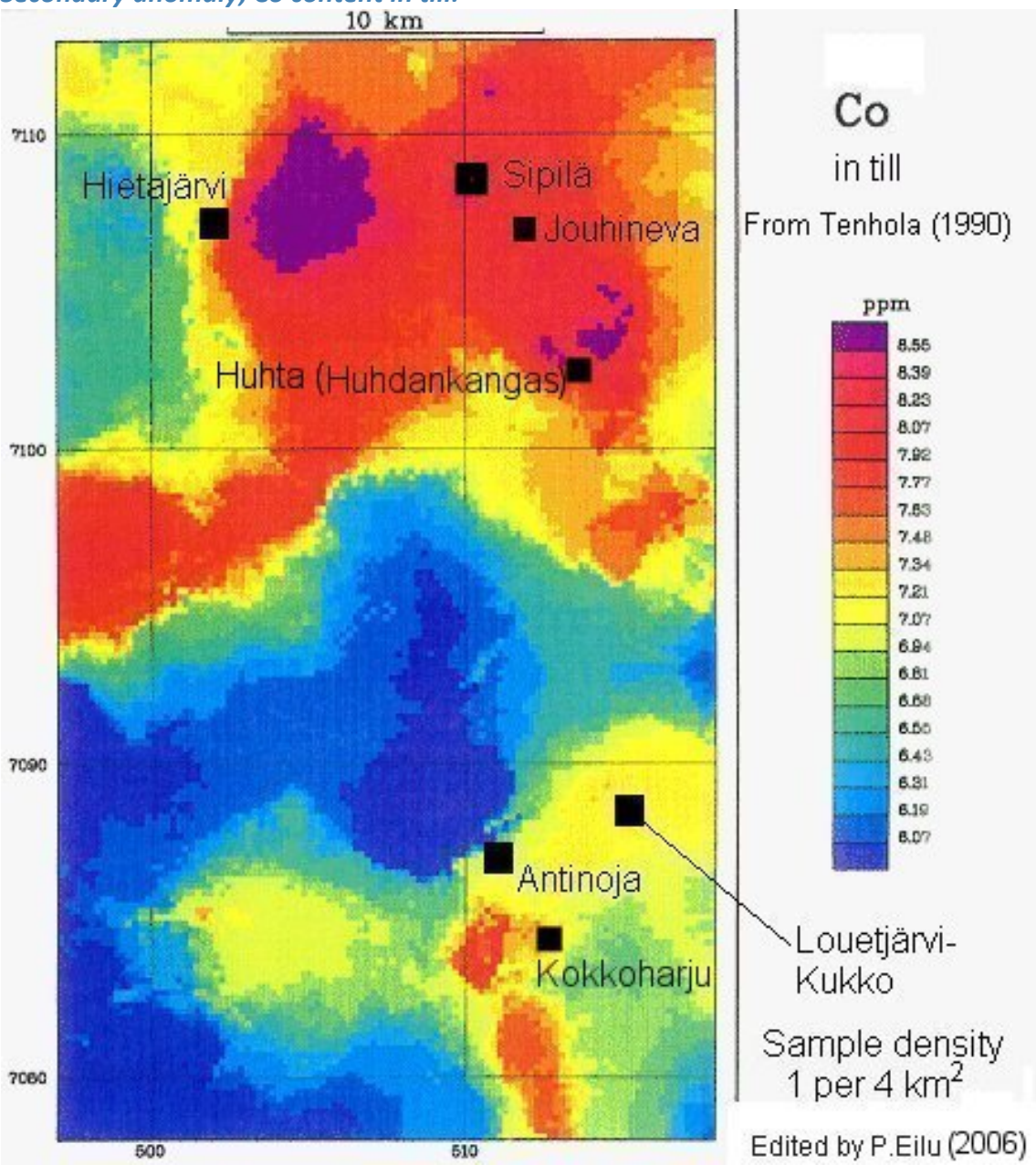
Secondary anomaly; Au content in till:



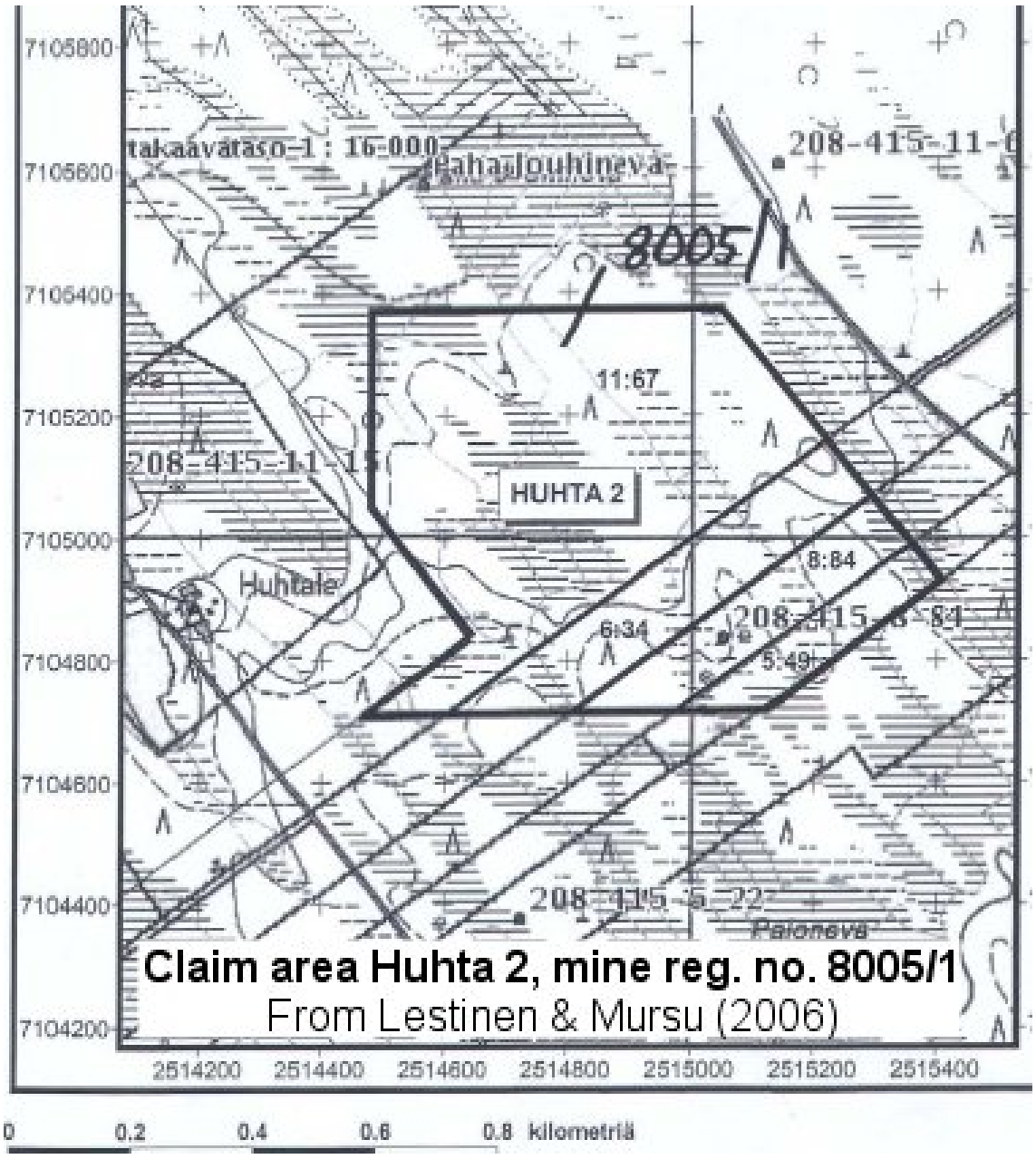
Secondary anomaly; Cu content in till:



Secondary anomaly; Co content in till:



Claim area Huhta 2:



GEOLOGY

Host rock: Intermediate tuff, Plagioclase porphyrite

Intermediate tuff (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 2, 5
Comments: The mineralisation is in shear bands and quartz veins in subvolcanic rocks formed in island arc environment. WNW-trending shear zones - these are parallel to the main foliation of the D2 stage

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: Metamorphic peak during D1, which is partially overprinted by the retrograde D2 and D3; Quartz-biotite-plagioclase ± hornblende, K feldspar, epidote, garnet.					

Plagioclase porphyrite (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 2, 5, 6
Comments: The mineralisation is in shear bands and quartz veins in subvolcanic rocks.

Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	major	
Bismuth	minor	
Chalcopyrite	minor	
Galena	minor	
Gold	present	
	Huhta 1: 10-25 % Ag in the gold grains which occur associated mostly with arsenopyrite, but also with silicate gangue.	
Löllingite	minor	
Pyrite	minor	
Pyrrhotite	major	
Scheelite	minor	
Sphalerite	minor	
Telluride	minor	

Other minerals:

Mineral	Proportion	Mineral texture
Amphibole	present	

Biotite	present
Chlorite	present
Muscovite	present
Plagioclase	present
Quartz	present

Structures
Veined
Comments: Auriferous quartz and carbonate veins

Textures
Porphyritic
Foliated
Granoblastic

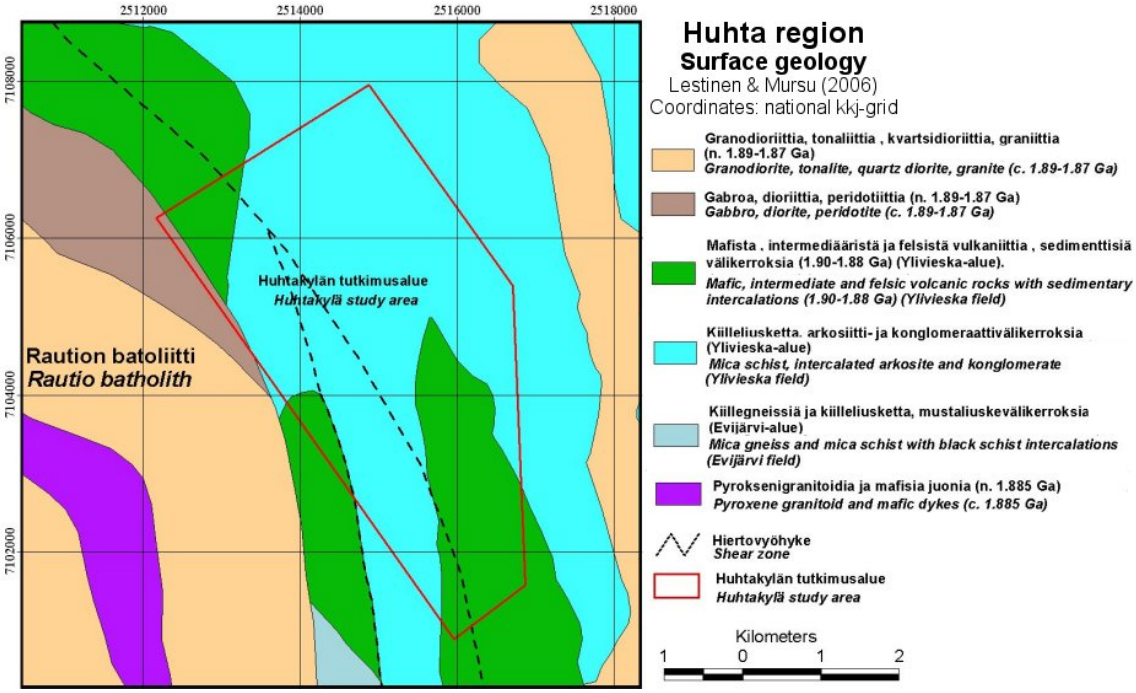
Alteration:	**Distribution:**	**Degree:**	**Relation to mineralization:**
chloritic alteration	NA	NA	NA
Comments: Formation of hornblende and chlorite			
carbonate alteration	NA	NA	NA
silicification	NA	NA	NA
sulphidation	NA	NA	NA

Metamorphic description:

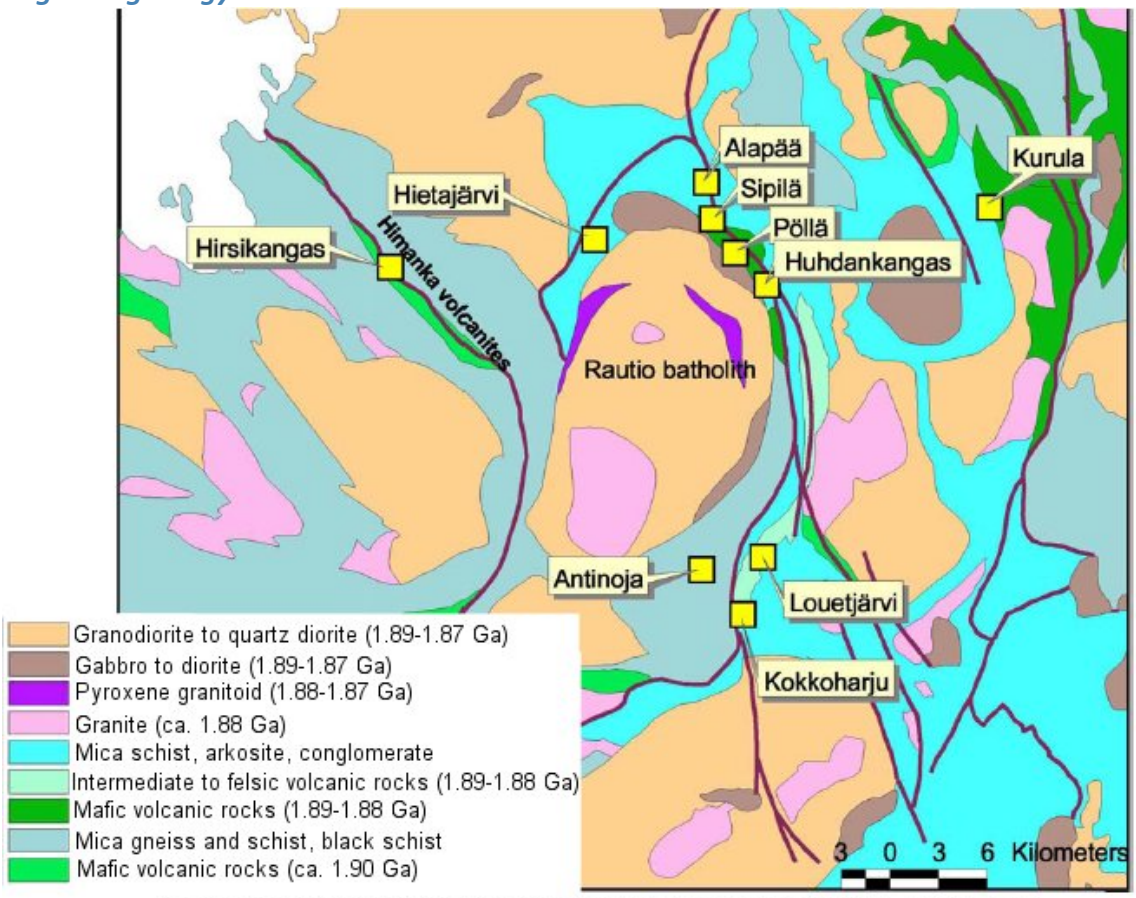
Type:	**Facies:**	**Degree:**	**Relation to mineralization:**	**Min P- Max P (kbar)**	**MIn T- Max T (°C)**
Regional	amphibolite metamorphic facies	medium metamorphic grade	NA		
Comments: Metamorphic peak during D1, which is partially overprinted by the retrograde D2 and D3; Plagioclase-hornblende-biotite-quartz-titanite ± chlorite, epidote, K feldspar.					

Figures

Local geology:

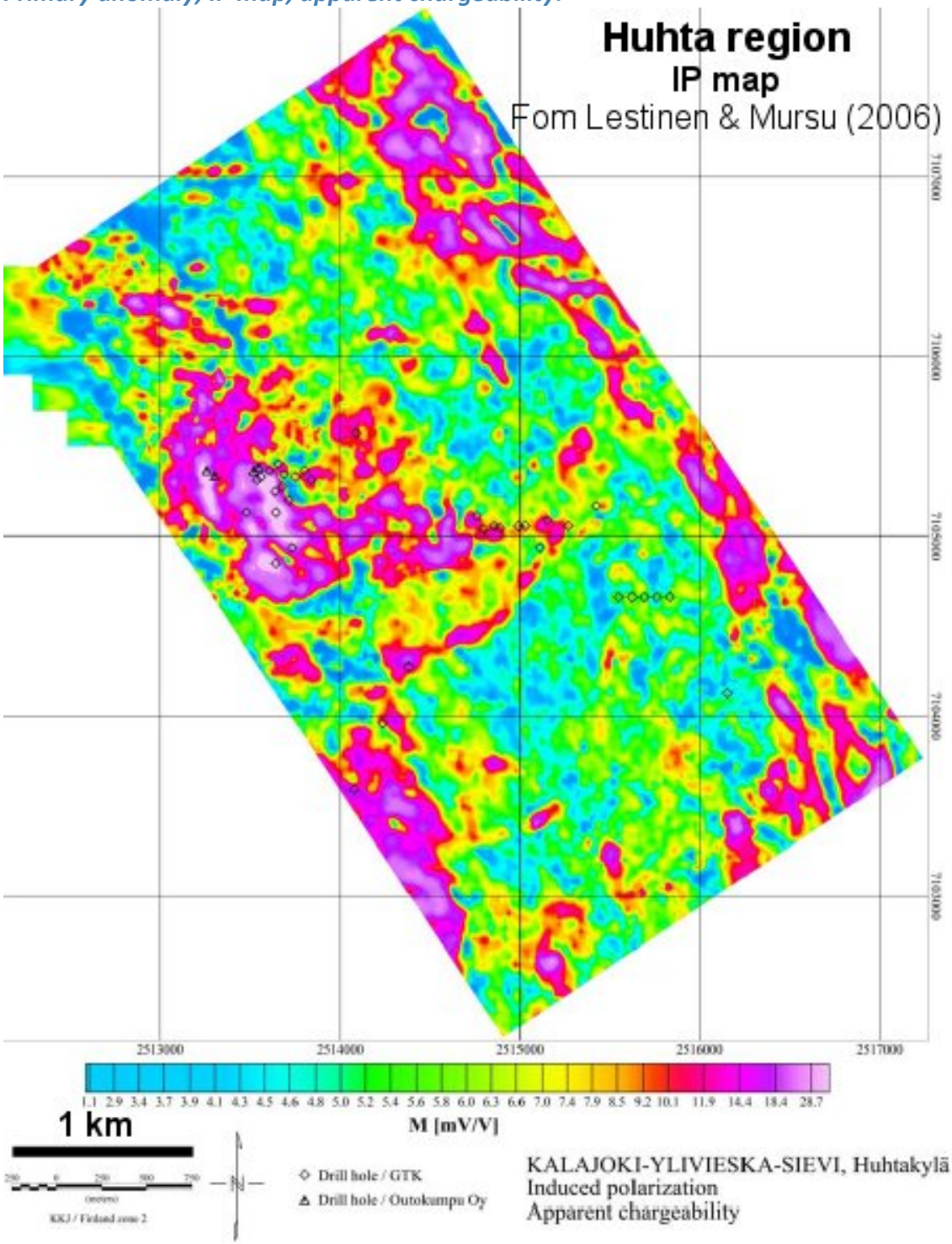


Regional geology:

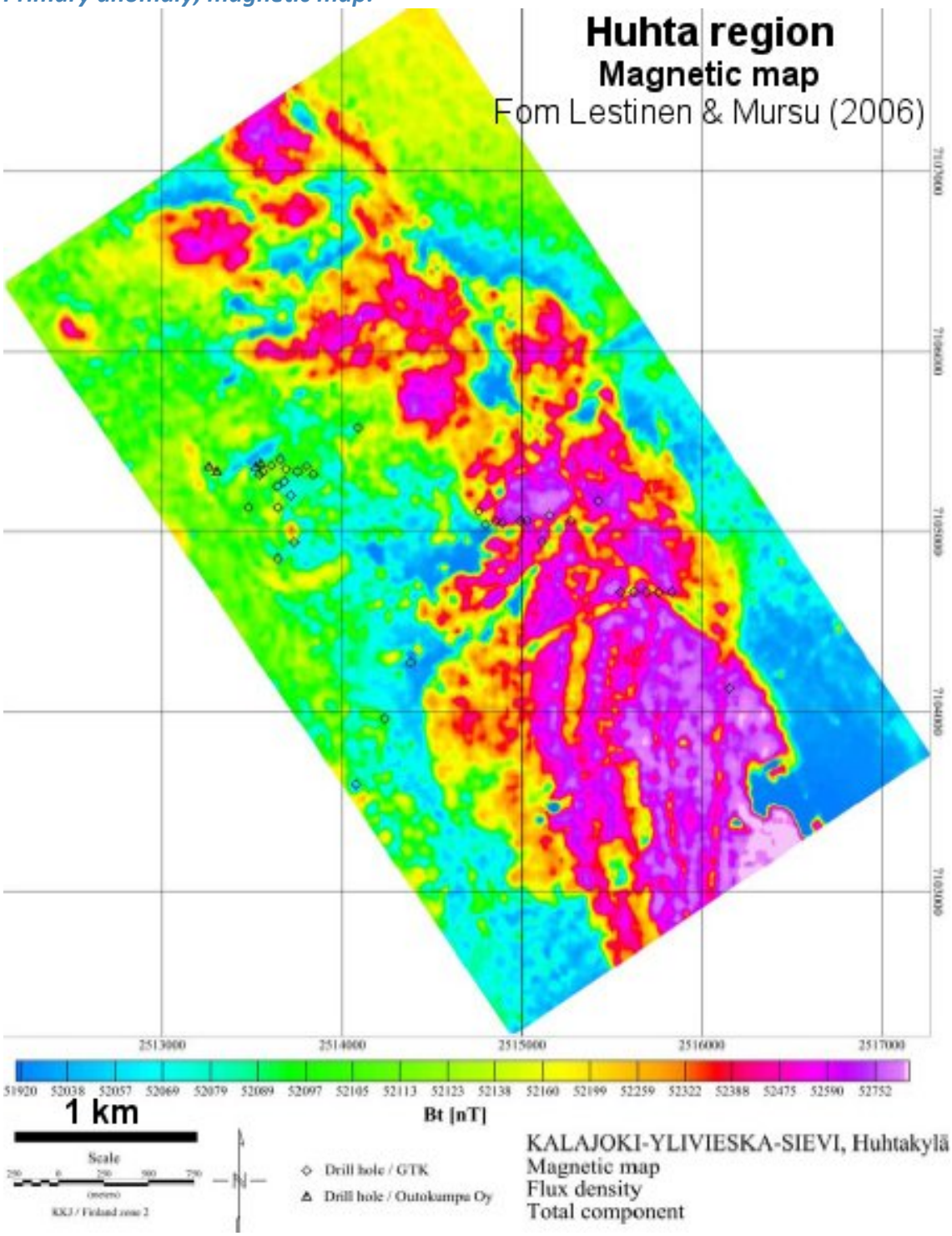


Gold showings and occurrences in the vicinity of the Rautio batholith. Deformation zones (mostly shear zones) are shown by purple lines. Geology after Korsman et al. (1997).
Figure from Kontoniemi & Mursu (2006)

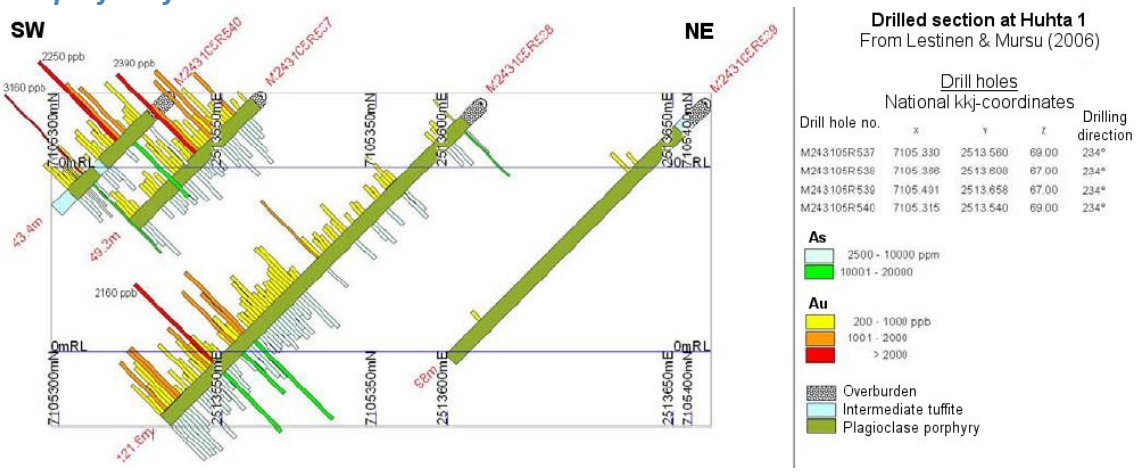
Primary anomaly; IP map, apparent chargeability:



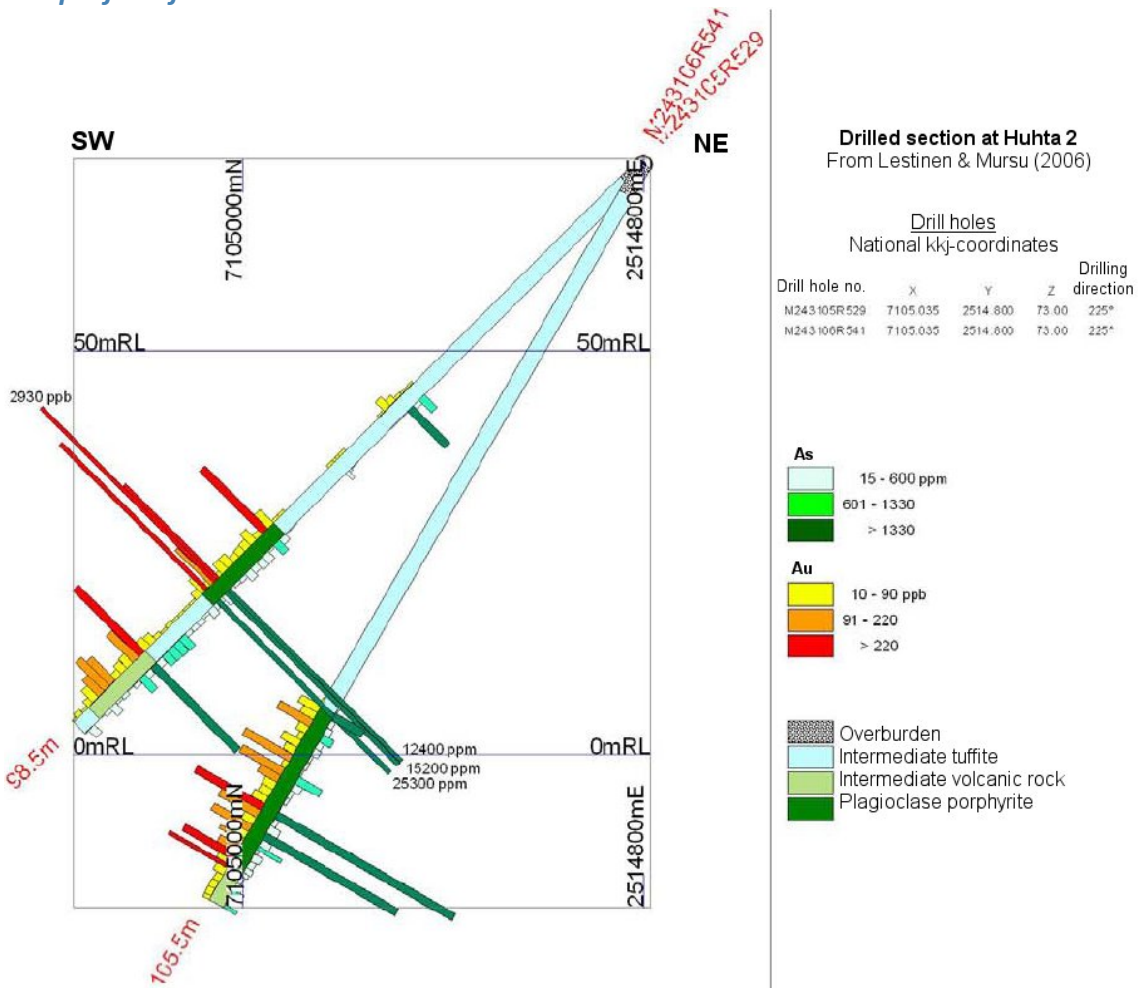
Primary anomaly; magnetic map:



The profile of drill cores at Huhta 1:



The profile of drill cores at Huhta 2:



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