Ala

Alternative Names: Alapää
Occurence type: occurrence

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

Easting EUREF: 363173
Northing EUREF: 7111465
Easting YKJ: 3363290
Northing YKJ: 7114444

Discovery year: 2000
Discovered by: Geological Survey of Finland
Province: Laivakangas (Au, Cu)
Comments: Discovery by GTK; First indications were Au- and arsenopyrite-rich glacial erratics found by an amateur prospector in 1999. The occurrence was found by drilling into areas near the boulders where anomalous gold was also detected at till-bedrock interface

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)
References: 1

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: NA
Plunge azim: NA
Plunge dip: NA
Orientation method: NA

Holder history

Current holder: Magnus Minerals Oy
Years: 2022-2024
Holding type: Reservation

Previous holders:

Company	Years	Holding type	Comments
Mineral Exploration Network (Finland) Limited	2012	Exploration permit	NA
Mineral Exploration Network (Finland) Limited	2011-2012	Claim reservation (old law)	NA
Geological Survey of Finland	2001-2005	Claim (old law)	NA

Geological Survey of Finland	2000-2001	Reservation	NA
Outokumpu Oy	1966-1968	Claim (old law)	NA

EXPLORATION ACTIVITY

Mineral Exploration Network (Finland) Limited

Years	Activity type	Geologist	Exploration result	Ref
2012-2016	regional reconnaissance	NA	NA	2
	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
2001-2005	core drilling	Pekka Lestinen	NA	1
	Core drilling (reconnaissance drilling): 33 diamond-drill holes, total 2565 m.			
	Intersections			
	HoleID	R533		
	From-To	20,6-23,1		
	Length	2,5m		
	gold	2,7ppm		

2000-2005	detailed geology	Pekka Lestinen	NA	1

2000-2001	detailed geophysics	Pekka Lestinen	NA	1
	No clear indications detected for the causes of the IP anomalies of the area.			

2000-2004	percussion drilling	P. Lestinen	NA	

1984-1988	regional geochemistry	E. Iisalo, M. Tenhola	NA	4
	The geochemical sampling survey around the Rautio granodiorite			

1984-1984	regional geochemistry	NA	NA	
	Regional geochemical till survey			

1979-1979	regional geophysics	NA	NA	
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1967-1967	core drilling	NA	NA	3
	Four diamond-drill holes, total 666 m, 1.3 km to the SE of the occurrence detected by GTK.			

1963-1967	detailed geophysics	NA	NA	3
	IP survey			

1963-1967	detailed geology	NA	NA	3
	glacial erratic boulder survey, bedrock mapping			

Vuoksenniska Oy

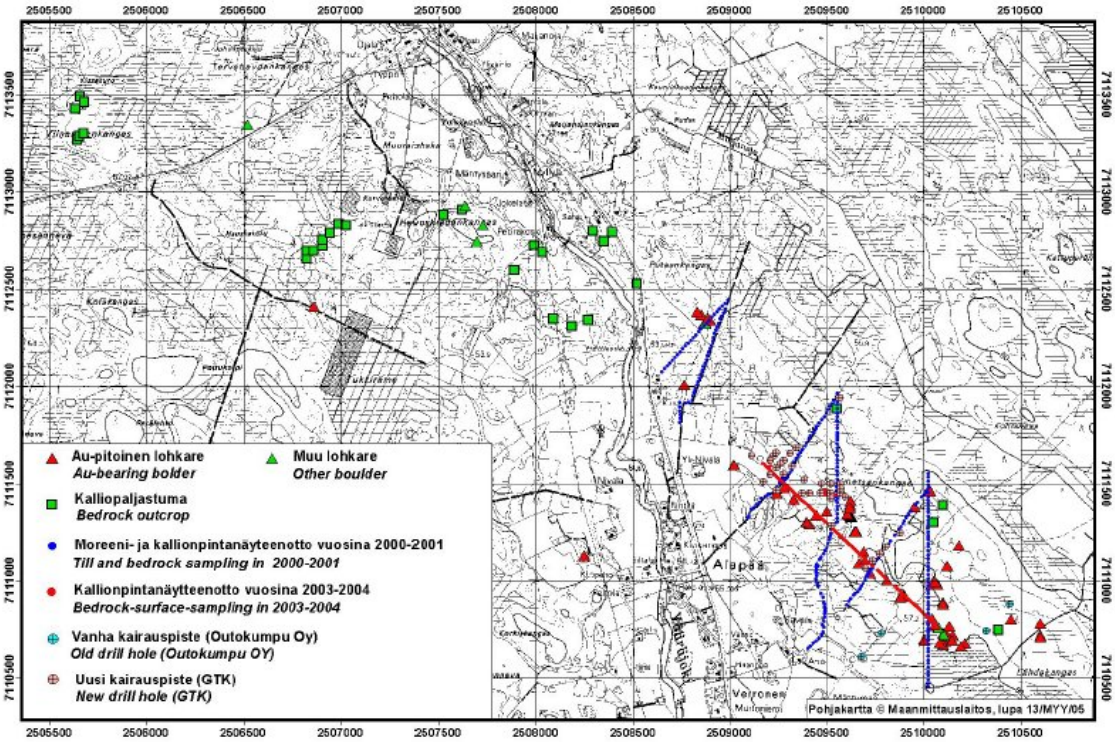
Years	Activity type	Geologist	Exploration result	Ref
1955-1957	regional geology	NA	key geological features	3

1955-1957	regional geophysics	NA	NA	3

Figures

Surveys performed by GTK:

Paljastuma- ja lohkarehavaintojen, moreeni- ja kallionpintanäytteiden, sekä kairanreikien kartta.
Map of the investigated bedrock outcrops and boulders, the till and bedrock-surface samples, and the drill holes.



GEOLOGY

Host rock: Porphyry

Porphyry (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 1
Comments: Two mineralised zones in the area: eastern and western. One of the NW-trending main shear zones of the Raahe-Ladoga Suture is 1-2 km to the east of the occurrence. The occurrence is in a mica schist-dominated, NW-trending, supracrustal sequence immediately to the north of the Rautio Batholith. The mineralised host rock dykes have a NW strike and dip at 80° to the NE. Minor quartz veins

Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	major	
Chalcopyrite	minor	
Galena	minor	
Gold	present	
	Up to 10 um grains of native gold in arsenopyrite.	
Ilmenite	minor	
Iron	minor	
Pyrrhotite	minor	

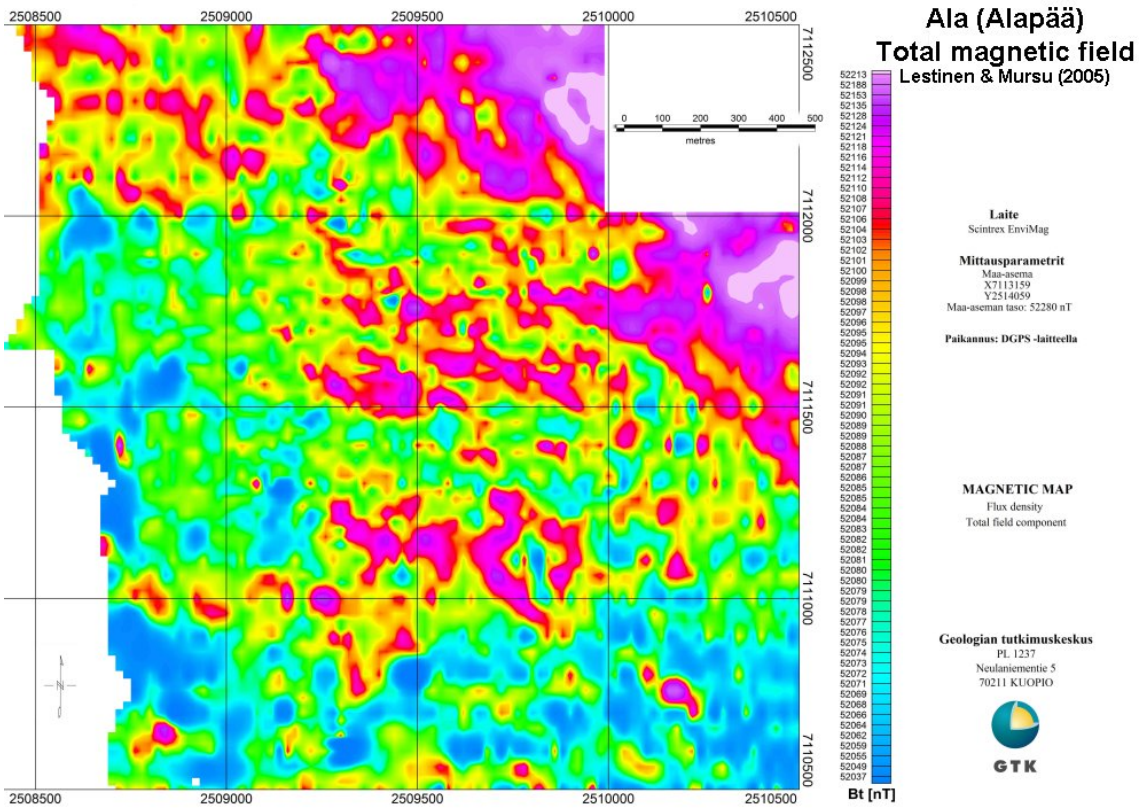
Alteration:	Distribution:	Degree:	Relation to mineralization:
biotite alteration	NA	NA	NA

Metamorphic description:

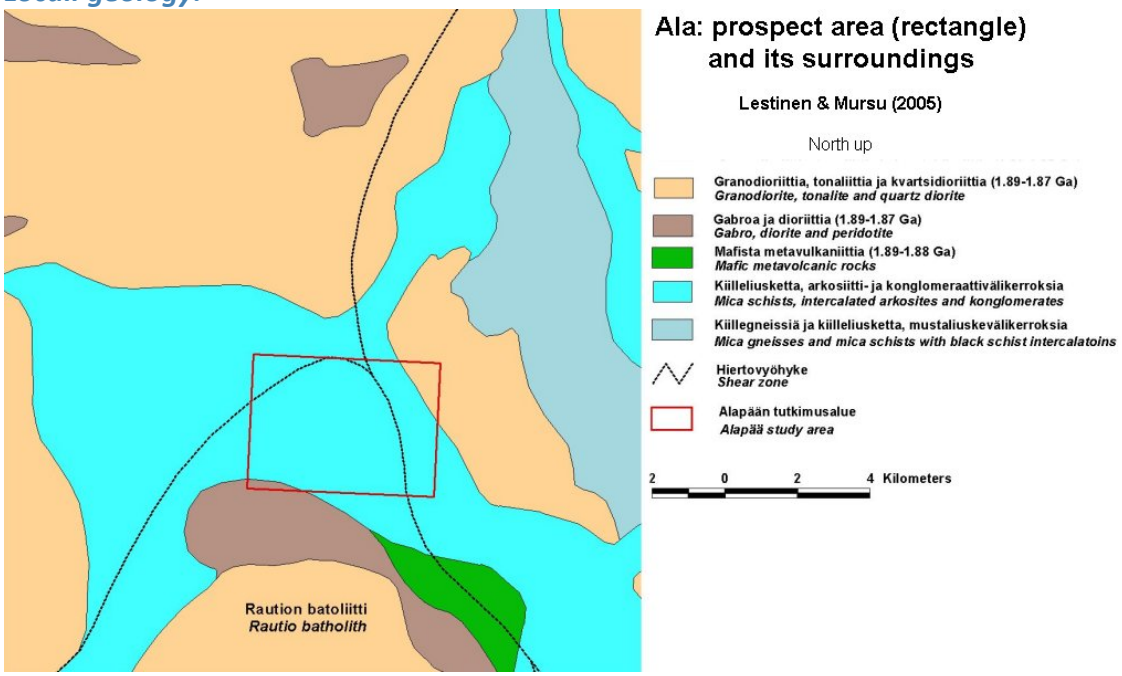
Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	amphibolite metamorphic facies	medium metamorphic grade	NA		
Comments: Metamorphic grade; Lower-amphibolite: andalusite-staurolite-muscovite zone					

Figures

Primary anomaly; magnetic map:



Locall geology:



Ore composition:

Taulukko 3. Mineralisaatiolävistysten analyysitilastoa.
Table 3. Analytical data of the mineralized drill core sections.

W-alue *(the W-area)*

	R532 (2.5 m*)			R473 (2.3 m)			R488 (2.6 m)		
	Keskiarvo *Mean*	Maks *Max*	Min *Min*	Keskiarvo *Mean*	Maks *Max*	Min *Min*	Keskiarvo *Mean*	Maks *Max*	Min *Min*
Au_ppb	1281	2230	243	1226	1620	593	769	2080	199
As_ppm	28440	32400	23800	18875	30400	12700	7683	14300	4730
Bi_ppb	1755	3210	823	491	891	238	844	1940	363
Cu_ppm	429	1520	39	46	92	17	272	417	109
Sb_ppb	8820	17400	1770	6615	14600	1750	414	685	194
Te_ppb	868	1270	608	276	423	149	187	325	102
S_ppm	13184	16000	5220	15375	17800	13800	18083	35100	7430
Al_ppm	8338	14700	3770	6698	9410	4630	7340	7690	6910
Ca_ppm	2262	5730	1120	1588	1810	1300	1543	1780	1300
Fe_ppm	39160	42000	35000	34775	37200	32800	37300	52500	23600
K_ppm	4724	11300	2160	3018	3930	2570	2763	3760	2150
Mg_ppm	4536	10800	1810	3350	8100	1290	2685	3760	2040
P_ppm	172	261	100	34	60	25	45	103	25
Ti_ppm	565	1090	295	401	612	242	482	680	408

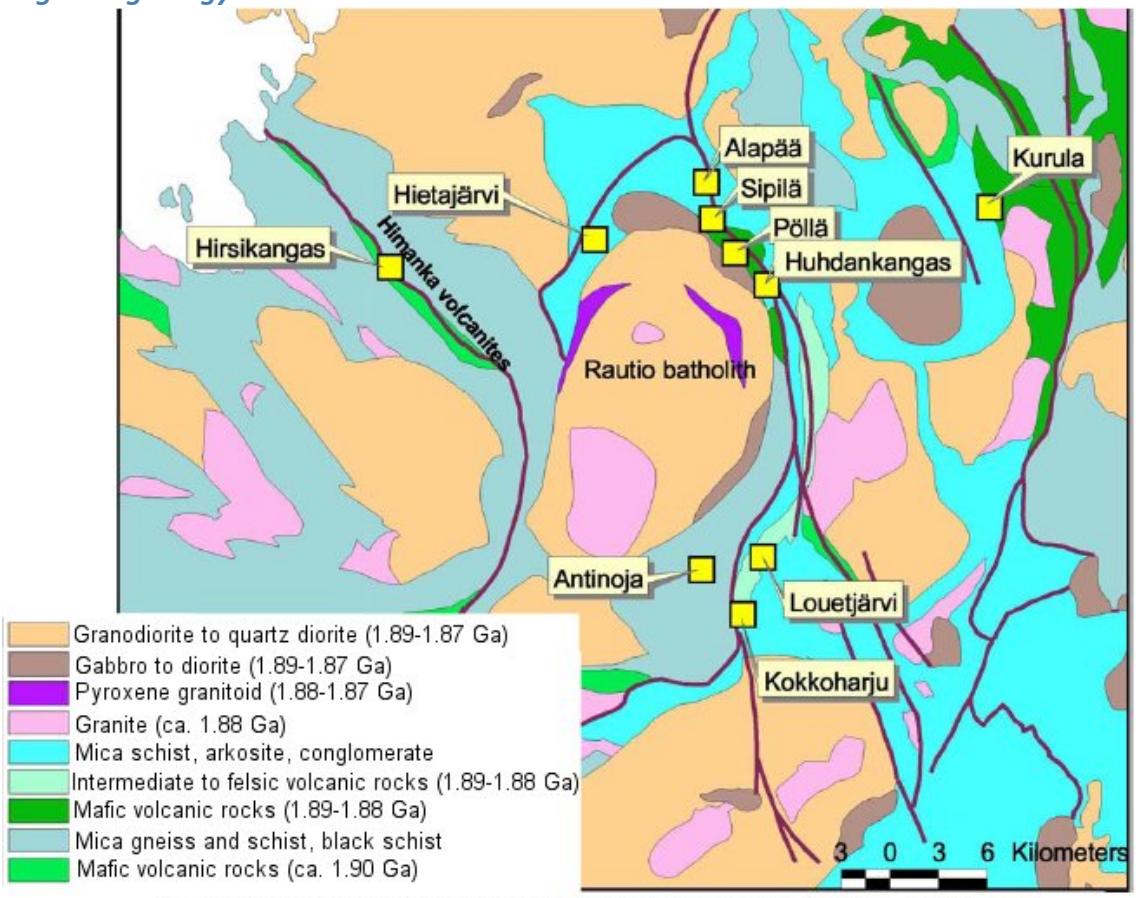
* Mineralisaatiolävistyksen pituus *(length of the mineralized drill core section)*

E-alue *(the E-area)*

	R501 (4.5 m*)			R503 (4.0 m)			R533 (2.5 m)		
	Keskiarvo *Mean*	Maks *Max*	Min *Min*	Keskiarvo *Mean*	Maks *Max*	Min *Min*	Keskiarvo *Mean*	Maks *Max*	Min *Min*
Au_ppb	953	1070	849	1545	2840	190	2688	5570	1140
As_ppm	17420	22800	14500	22782	30300	8990	25420	29000	21900
Bi_ppb	419	708	301	798	2740	206	612	914	331
Cu_ppm	89	118	58	65	98	47	29	42	16
Sb_ppb	2806	5800	1210	5539	12100	636	12980	15900	8000
Te_ppb	278	460	153	516	825	222	441	785	232
S_ppm	13260	15900	11000	11983	16900	5300	12620	15000	11400
Al_ppm	7204	10200	5730	5338	6730	3260	4968	9740	3450
Ca_ppm	1474	2340	1060	1942	2730	1260	1630	3580	948
Fe_ppm	33740	36400	30000	30117	36200	16300	30160	33700	27600
K_ppm	1584	2220	1140	1757	2400	692	1061	2700	492
Mg_ppm	3496	5630	2200	2001	3290	923	2380	4450	1790
P_ppm	172	309	119	148	183	79	141	187	116
Ti_ppm	202	306	109	329	386	205	274	509	156

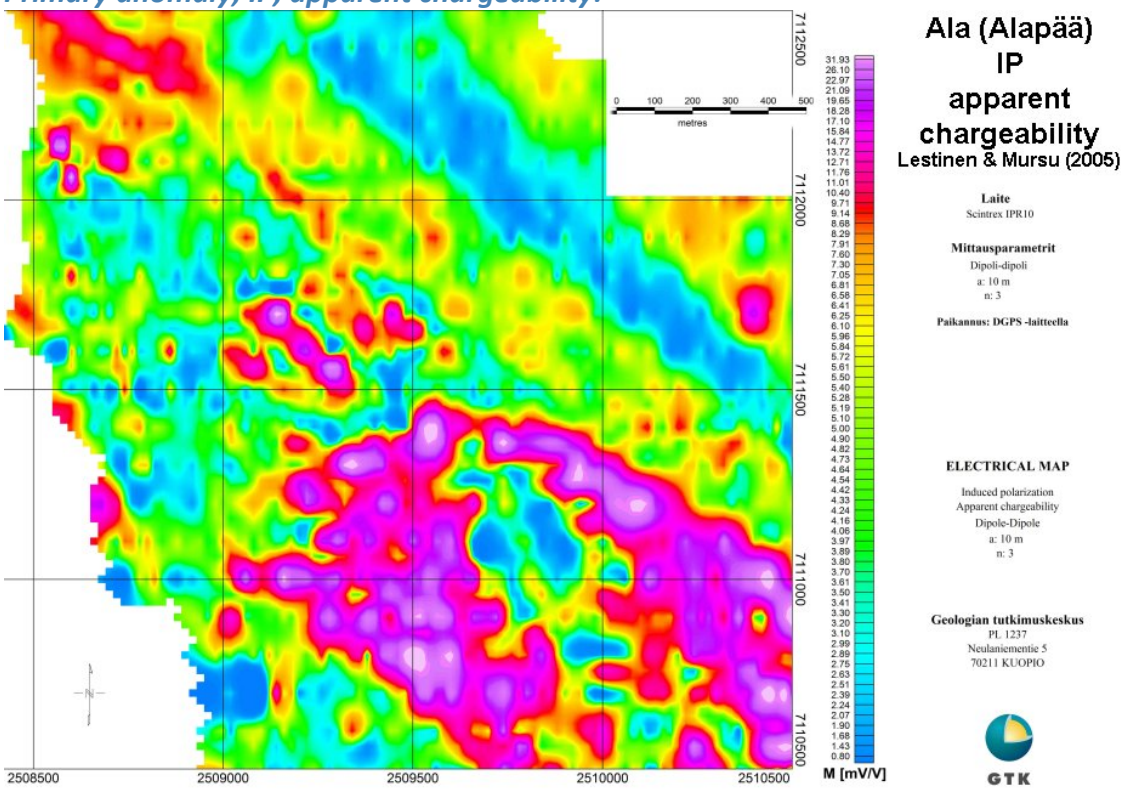
* Mineralisaatiolävistyksen pituus *(length of the mineralized drill core section)*

Regional geology:

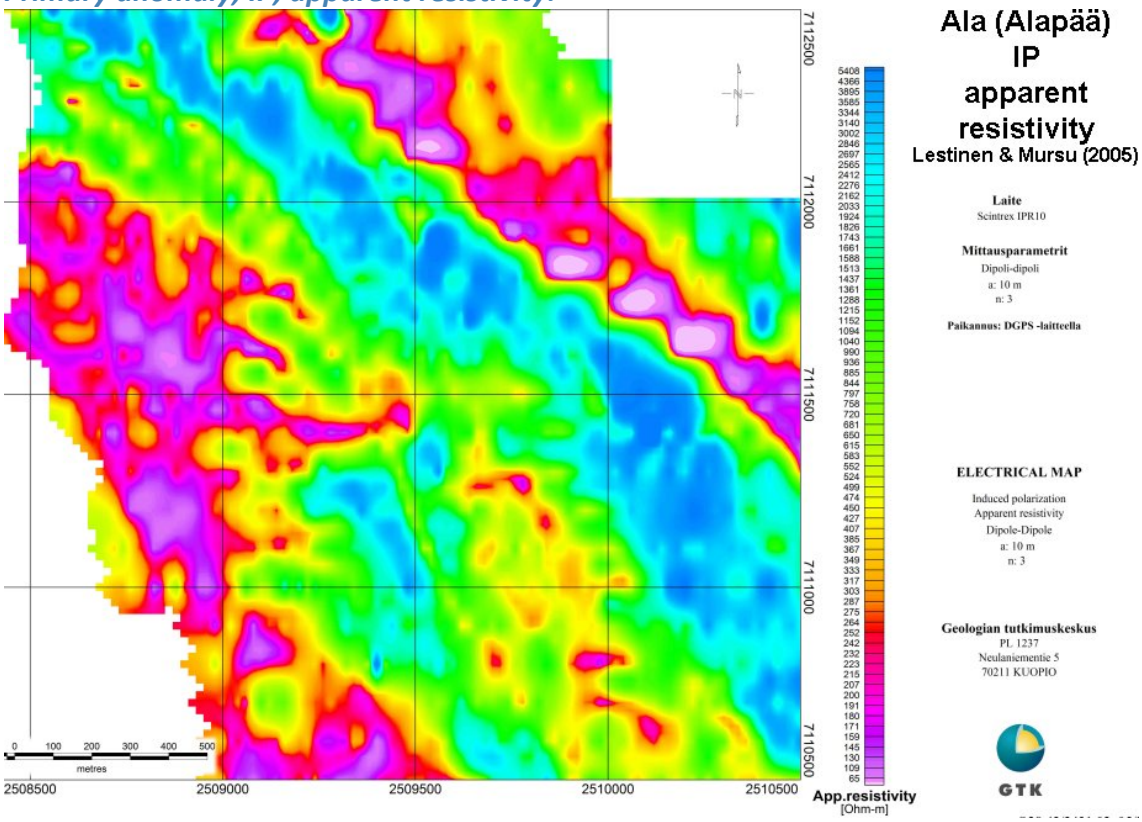


Gold showings and occurrences in the vicinity of the Rautio batholith. Deformation zones (mostly shear zones) are shown by purple lines. Geology after Korsman et al. (1997).
Figure from Kontoniemi & Mursu (2006)

Primary anomaly; IP, apparent chargeability:

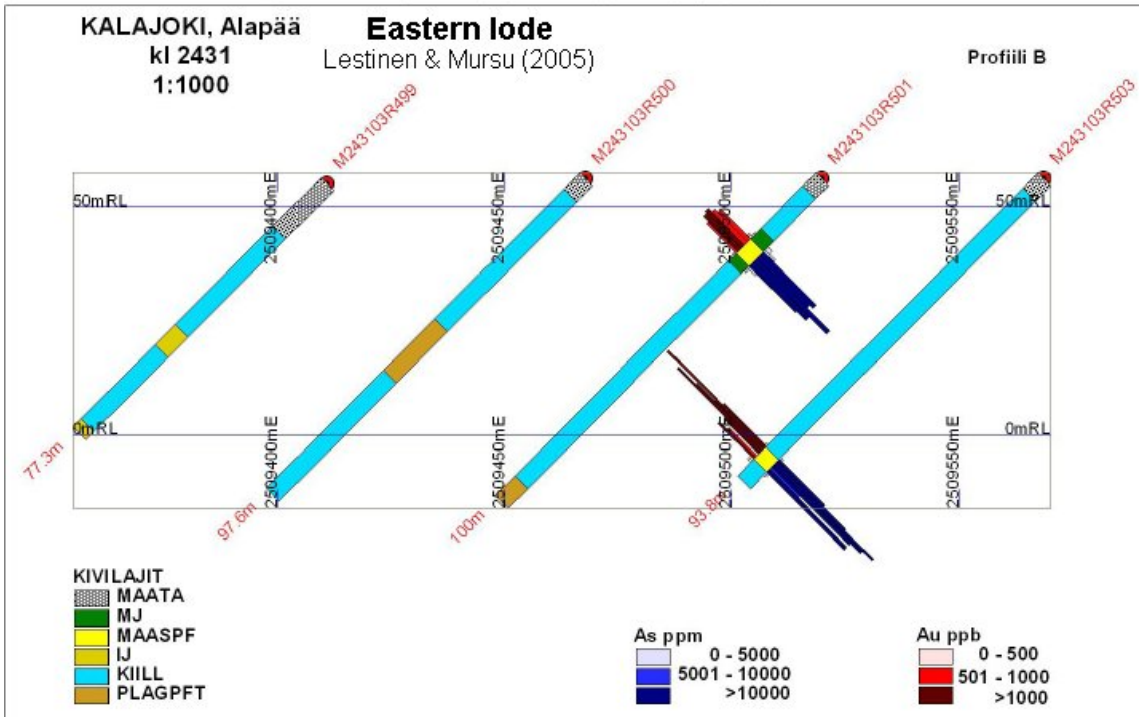


Primary anomaly; IP, apparent resistivity:



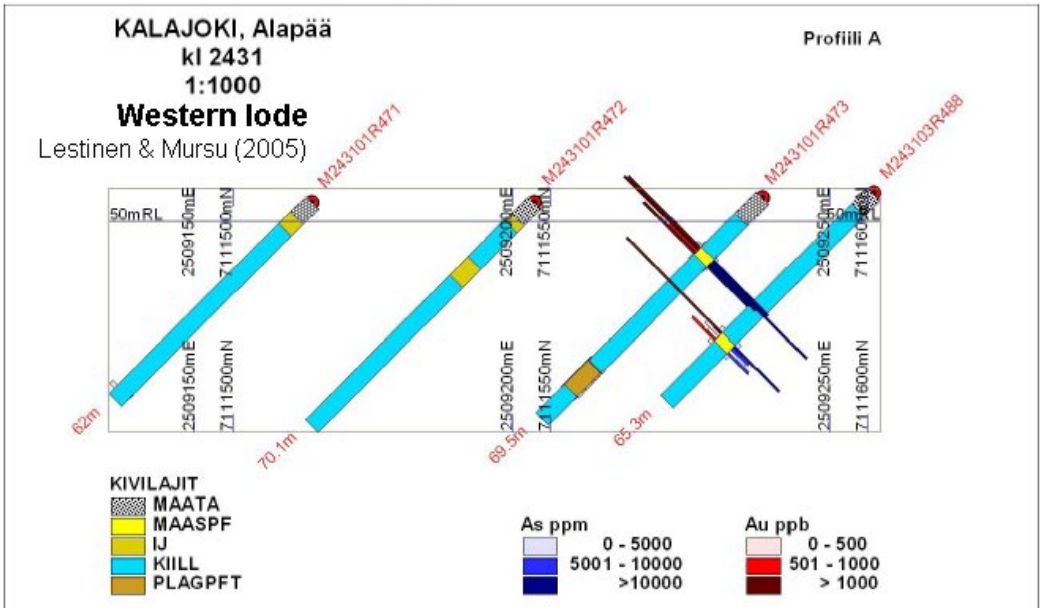
Cross section of drill holes of R499-R501 and R503:

Itäisen kultaesiintymän leikkaava kairausprofiili (profiili B liitteessä 11).
Drilling profile intersecting the eastern gold occurrence (the profile B in app. 11).
(MJ: Mafinen juoni – *Mafic dike*, MAASPF: Maasälpäporfyyri – *Feldspar porphyre*, IJ: Intermediäärinen juoni – *Intermediate dike or sill*, KILL: Kiilleliuske – *Mica schist*, PLAGPFT: Plagioklaasiporfyriitti – *Plagioclase porphyrite*)



Cross section of drill holes of R471-R473 and R488:

Läntisen kultaesiintymän leikkaava kairausprofiili (profiili A liitteessä 11).
Drilling profile intersecting the western gold occurrence (the profile A in app. 11).
(MAASPF: Maasälpäporfyyri – *Feldspar porphyre*, IJ: Intermediäärinen juoni – *Intermediate dike or sill*, KILL: Kiilleliuske – *Mica schist*, PLAGPFT: Plagioklaasiporfyriitti – *Plagioclase porphyrite*)



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