Sukseton

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: 431546,351
Northing EUREF: 7553126,672
Easting YKJ: 3431691
Northing YKJ: 7556282

Discovery year: 1981
Discovered by: Outokumpu Oy
Province: Kittilä (Au, Cu)
Comments: Discovery during bedrock mapping for exploration

References: 7, 9

Mineral deposit type

Group: Metallogenic deposit
Main type: Orogenic (metamorphic hydrothermal)
Sub type 1: Au-Cu

Dimension

Expression: exposed
Form: NA
Shape: NA
Length (m): NA
Width (m): 100
Thickness (m): NA
Depth (m): NA
Area (ha): NA
Dip azim: NA
Dip: NA
Plunge azim: NA
Plunge dip: NA
Orientation method: NA
Dimension comments: The sulphide-bearing zone at Sukseton is more than 100 m wide and several hundred metres long, with Au and Cu concentrations distributed unevenly within it.

Holder history

Current holder: Agnico Eagle Finland Oy
Years: 2020
Holding type: Application for exploration permit

Previous holders:

Company	Years	Holding type	Comments
Agnico Eagle Finland Oy	2017-2020	Exploration permit	NA
Agnico Eagle Finland Oy	2012-2017	Application for exploration permit	NA
Polar Mining Oy	2007-2012	Exploration permit	NA

Polar Mining Oy	2004	NA	NA
Outokumpu Oy	1981-1992	Claim (old law)	NA

EXPLORATION ACTIVITY

Polar Mining Oy

Years	Activity type	Geologist	Exploration result	Ref
2007-2007	geological interpretation	NA	NA	1
	revaluation of the historic exploration data and and re-assaying of historic core and sample pulps			

Outokumpu Oy

Years	Activity type	Geologist	Exploration result	Ref
1981-1989	detailed geochemistry	Urpo Kuronen, R. Anttonen, R. Hugg	NA	6, 7, 10

1981-1989	detailed geophysics	Urpo Kuronen, R. Anttonen, R. Hugg	NA	6, 7, 10

1981-1989	core drilling	Urpo Kuronen, R. Anttonen, R. Hugg	NA	2, 3, 4, 6, 7, 10
	24 diamond-drill holes, total 3381 m			
	Intersections			
	HoleID	NA		
	From-To	NA		
	Length	6,5m		
	gold	0,35ppm		
	copper	0,61%		
	HoleID	NA		
	From-To	NA		
	Length	4,6m		
	gold	2,8ppm		

1981-1989	detailed geology	Urpo Kuronen, R. Anttonen, R. Hugg	NA	6, 7, 10

1981-1989	excavation	Urpo Kuronen, R. Anttonen, R. Hugg	NA	6, 7, 10

Geological Survey of Finland

Years	Activity type	Geologist	Exploration result	Ref
1979-1979	regional geophysics	NA	key geological features	
	Low-altitude airborne magnetic, electromagnetic and radiometric survey			

1973-1976	regional geochemistry	NA	NA	
	Regional till geochemical survey			

GEOLOGY

Host rock: Felsic volcanic rock, Intermediate tuff, Intermediate volcanic rock, Mafic tuff
Wall rock: Phyllite

Felsic volcanic rock (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 5, 7, 8, 10
Comments: Quartz-carbonate veins in felsic or intermediate metapyroclastic rock. The occurrence apparently is in a minor shear zone a few km from the larger, NW-trending Kuotko Shear Zone

Metamorphic description:
Ore minerals:

Mineral	Proportion	Mineral texture
Arsenopyrite	major	
Chalcopyrite	minor	
Gold	present	
	Mostly free-milling gold associated with arsenopyrite or gangue, locally coarse with grain size about 0.1 mm	
Pyrite	minor	
Pyrrhotite	major	
Sphalerite	minor	

Type:	Facies:	Degree:	Relation to mineralization:	Min P- Max P (kbar)	MIn T- Max T (°C)
Regional	greenschist metamorphic facies	low metamorphic grade	NA		
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.					

Geological age:

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

Intermediate tuff (Host rock)

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

Color: NA
References: 5, 8, 10

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	NA		
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.					

Geological age:

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

Intermediate volcanic rock (Host rock)

Rock type: Host rock
Proportion: major
Grain size: NA
Color: NA
References: 5, 8, 10
Comments: The mineralisation is within a sequence of mafic metavolcanic and intermediate to mafic volcanogenic metasedimentary rocks.

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	NA		
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.					

Geological age:

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

Mafic tuff (Host rock)

Rock type: Host rock
Proportion: minor
Grain size: NA
Color: NA
References: 5, 8, 10
Comments: The mineralisation is within a sequence of mafic metavolcanic and intermediate to mafic volcanogenic metasedimentary rocks.

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	NA		
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.					

Geological age:

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

Phyllite (Wall rock)

Rock type: Wall rock
Proportion: minor
Grain size: NA
Color: NA
References: 5, 8, 10

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	NA		
Comments: Metamorphic peak during D2, thrusting during D3 was at least partly post-peak, late metamorphic.					

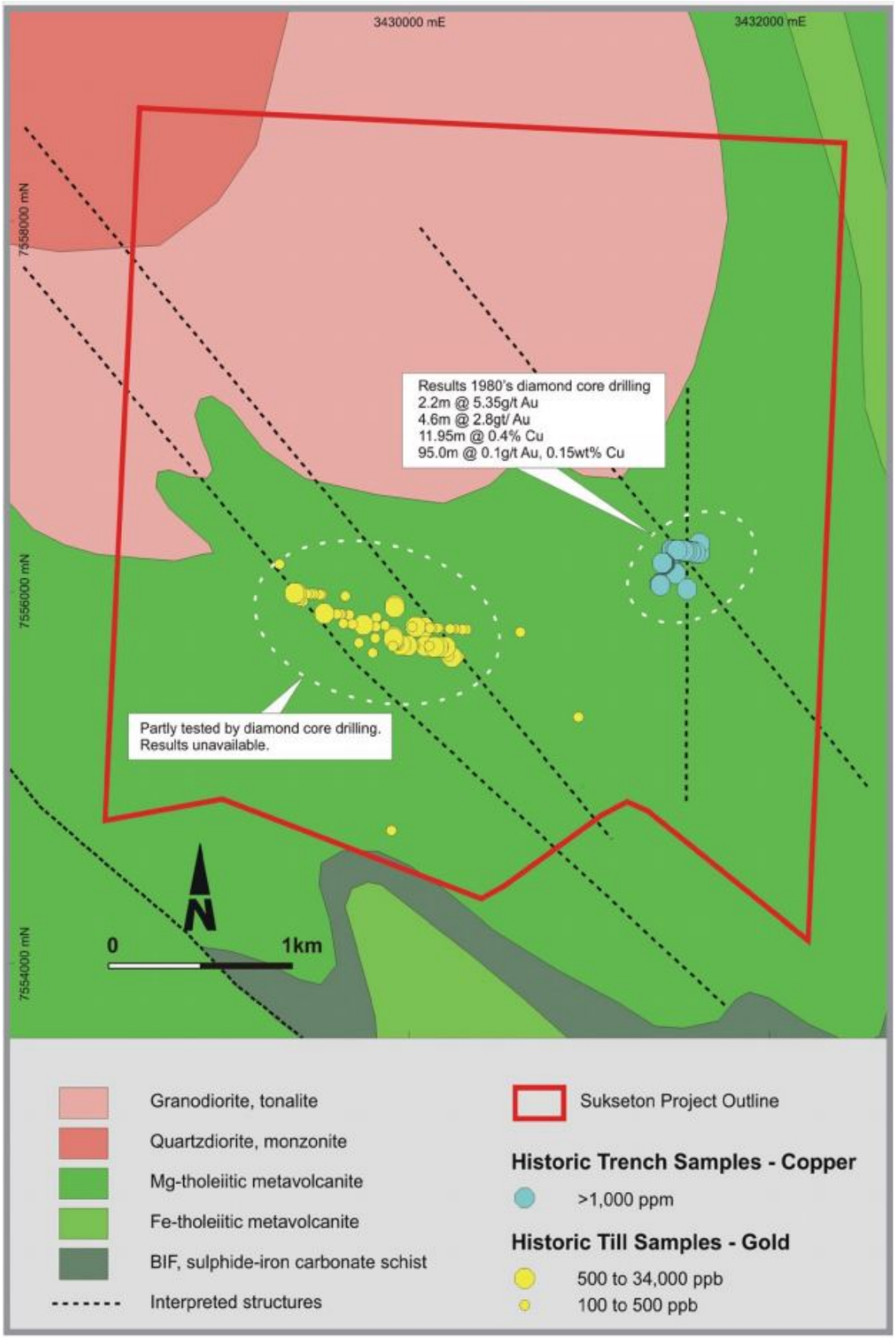
Geological age:

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

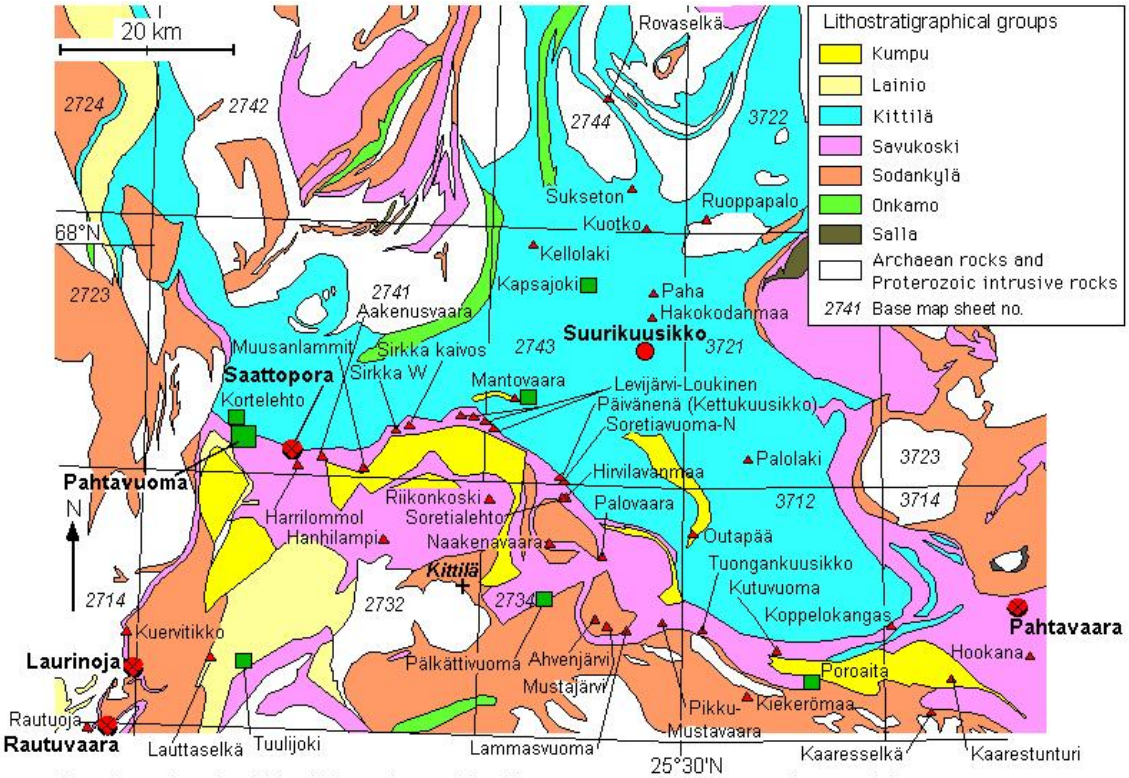
Figures

Local geology with some historical geochemical results (Dragon Mining, 2007 Annual

Report):


3430000 mE
3432000 mE
7558000 mN
7556000 mN
7554000 mN
Results 1980's diamond core drilling
2.2m @ 5.35g/t Au
4.6m @ 2.8gt/ Au
11.95m @ 0.4% Cu
95.0m @ 0.1g/t Au, 0.15wt% Cu
Partly tested by diamond core drilling.
Results unavailable.
N
0
1km
Granodiorite, tonalite
Quartzdiorite, monzonite
Mg-tholeiitic metavolcanite
Fe-tholeiitic metavolcanite
BIF, sulphide-iron carbonate schist
Interpreted structures
Sukseton Project Outline
Historic Trench Samples - Copper
>1,000 ppm
Historic Till Samples - Gold
500 to 34,000 ppb
100 to 500 ppb

Regional geology:



Zinc (green) and gold (red) deposits and significant prospects in the central parts of the Central Lapland greenstone belt. Lithostratigraphy from Lehtonen et al. (1998). Edited by P. Eilu (2007)

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