Polymetallic mineralisations in Kvæfjord, Troms

Straumsfjellet, Salen and Kvæfjord (Berg Mine)

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Kvæfjord

Geology

The West Troms Basement Complex is limited to the southwest by the 1.87-1.77 Ga gabbro-anorthosite-mangerite-charnockite-granite suite and Archaean gneisses of Lofoten and Vesterålen. Kvæfjord, in the Vesterålen region, is located on the island Hinnøya in Troms county. Archaean tonalitic gneiss and small greenstone belts, the latter being the target for this work, comprise most of the bedrock on Hinnøya. They are transected by Early Proterozoic plutonic rocks (Nordgulen & Andresen 2008). The basal thrust of the Caledonian nappes occurs due east of the license areas. In fact, the Straumsfjellet and Salen permits are underlain by Precambrian rocks interpreted by Gustavson (1974) to belong to the allochtonous Uppermost tectonic unit, the Straumsbotn Nappe, which is transported a short distance (fig. 1); whereas the Kvæfjord permit to the north is underlain by undisputable autochtonous to parautochtonous pre-Caledonian crystalline basement.

Studies by Bartley (1981a, 1984) represent significant revisions of the map relations of east Hinnøy and demonstrated the lithostratigraphic complexity of basement rocks at east Hinnøy to be markedly greater than previously recognised. All metasedimentary rocks and most amphibolite units had previously been assumed to be for the most part allochtonous along Caledonian thrusts. According to Bartley (1981a) many of these rocks are however intruded by Precambrian granitoid bodies and hence are themselves part of the pre-Caledonian basement.
Detailed mapping in the Middagstind area (Straumsfjellet permit) revealed that amphibolitic rocks and associated lenses of marble and quartzite there are part of the contact aureole of the 1726 Ma Middagstind Syenite pluton (Bartley 1981a).

Bartley`s work is challenged by Björklund (1987) who postulates the basal Caledonian thrust to occur considerably below the thrust Bartley identified as such, and his studies support large-scale involvement in thin-skinned tectonics of the uppermost basement crust and its sedimentary cover.

Mineralisations

Copper mineralisations were discovered at Straumsfjellet and Berg (Kvæfjord) during the 1880th and small scale trial mining took place periodically in 1895-1917. Between 1964 and 1980 both A/S Sydvaranger and NGU carried out exploration. This work did not reveal significant tonnages but assays in the NGU Ore Database show high levels of Au, Ag, U, PGE, V and REE (La) in the copper ores from Straumsfjellet and Berg. The polymetallic character of the known mineralisations and a previously unexplained conductor at Berg was the motivation for this survey which included geological mapping in the Straumsfjellet and Kvæfjord permits, and also soil sampling in the latter.
In 2012 NGU has covered the entire Kvæfjord area by helicopter geophysics (mag, rad, EM) and the data is released to the public by October 2012.

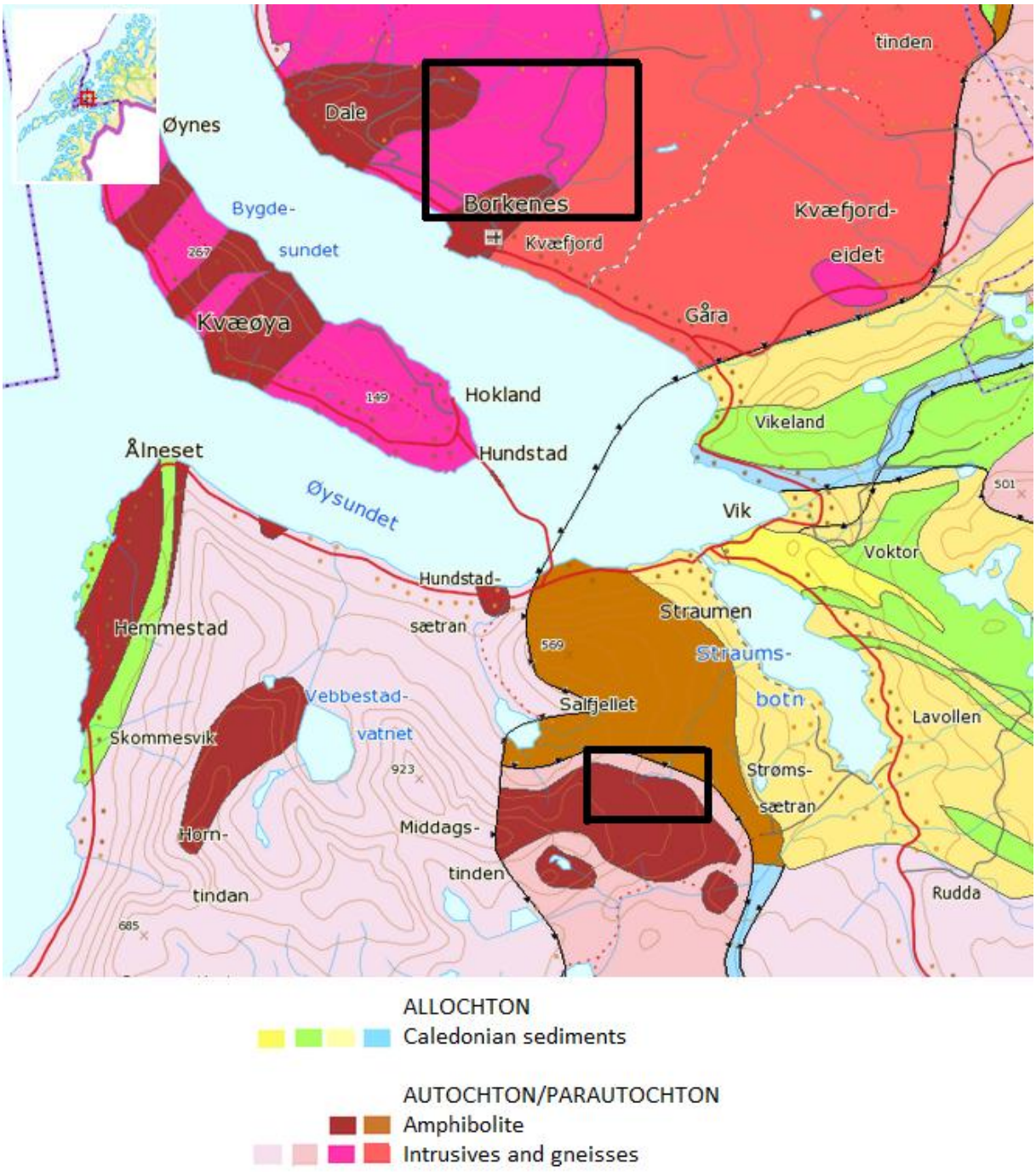

Fig. 1. Geological map of Kvæfjord (Gustavson 1974). Southern square: area of geological map Straumsfjellet, fig. 3. Northern square: area of soil survey Kvæfjord, fig. 5 and 6.

Straumsfjellet

The area of interest is located above the tree line at altitude 450-600 m and is accessible by a 3 km long gravel road and walking path from Straumsbotn.
Trial mining was carried out at Straumsfjellet by A/S Skandia Kobberverk in 1906-09. The area was geologically mapped by Flood (1961). A/S Sydvaranger/NGU conducted ground

geophysics (mag, EM, SP) in 1964 (Singsaas 1965). NGU carried out a VLF survey and geological mapping in 1977 (Often 1979) and airborne geophysics in 2012.

The mineralisations are tested with approximately 30 diggings and trenches which are GPS located and shown in fig. 3 together with geology from Often (1979). 8 rock samples from mineralisation were collected and assayed (tab. 1).

Several sulphide-oxide mineralised skarn horizons are hosted in a c. 600 m thick sequence of amphibolite and calcareous sediments over a strike length of 1 km (fig. 3).
Between the two levels of medium-grained, foliated amphibolite occurs a c. 250 m thick unit of calcareous metasediments, generally composed of a lower level of partly conglomeratic limestone and an upper level of fine-grained, more or less conglomeratic quartz-feldspar rock. The skarn altered horizons/lenses are in the order of a few meters thick, and up to 10-15 m. Skarn mineralogy are epidote, diopside, garnet and wollastonite. A 60-70 m wide zone of granitic gneiss occurs between the metasediments and the upper amphibolite. Few-meters wide granite dykes cuts through all the other lithologies.

Lens-shaped skarn bodies are found along certain stratigraphic levels in both limestone and amphibolite. The ore mineralogy is dependent of host rock. The amphibolite hosted skarn lenses carry chalcopyrite, pyrrhotite and magnetite as major ore minerals, and locally subordinate bornite. Within widths up to 1-2 m the ore minerals occur as dissemination, clusters and veining.
Skarn mineralisation in the calcareous metasediments are characterised by chalcocite, bornite, chalcopyrite, magnetite and accessoric covelin, digenite and native gold and silver. This type occurs more or less continuous over significant lengths along two levels. Low-grade mineralisation can reach 2-3 m in thickness, and significant grades (4-6 % Cu, 0.5-1.8 g/t Au and 60-190 g/t Ag) are observed in thickness up to 0.7 m. The limestone hosted mineralisation through sample locations ST12007 and 08 is accompanied by only very weak skarnification. The sulphide minerals typically occur as dissemination, and in places (also in the amphibolite hosted type) bound to veins of hydrothermal quartz.

The geophysical ground surveys, Turam in 1964 (Singsaas 1965) and VLF in 1977 (Often 1979), confirms the mapping, that the mineralisations are limited and of low conductivity, due both to the disseminated character and incontinuous extent.

Fig. 2. Straumsfjellet and Salen permits.

Even if the Middagstind Syenite pluton (if Bartley`s interpretation is wright) and associated granite dykes might be crucial as heat source for the skarn mineralisations, Bartley (1984) states that the outcrop of the contact aureole rocks reflects a nearly horizontal contact between the syenite and its wall rocks, which implies that the volume of potentially mineralised contact rocks are limited. In addition, when field observations and ground geophysics indicate that the mineralisations are thin and lens-shaped, the potential for significant volumes cannot be seen at Straumsfjellet. Hence, no follow-up work is proposed at Straumsfjellet.

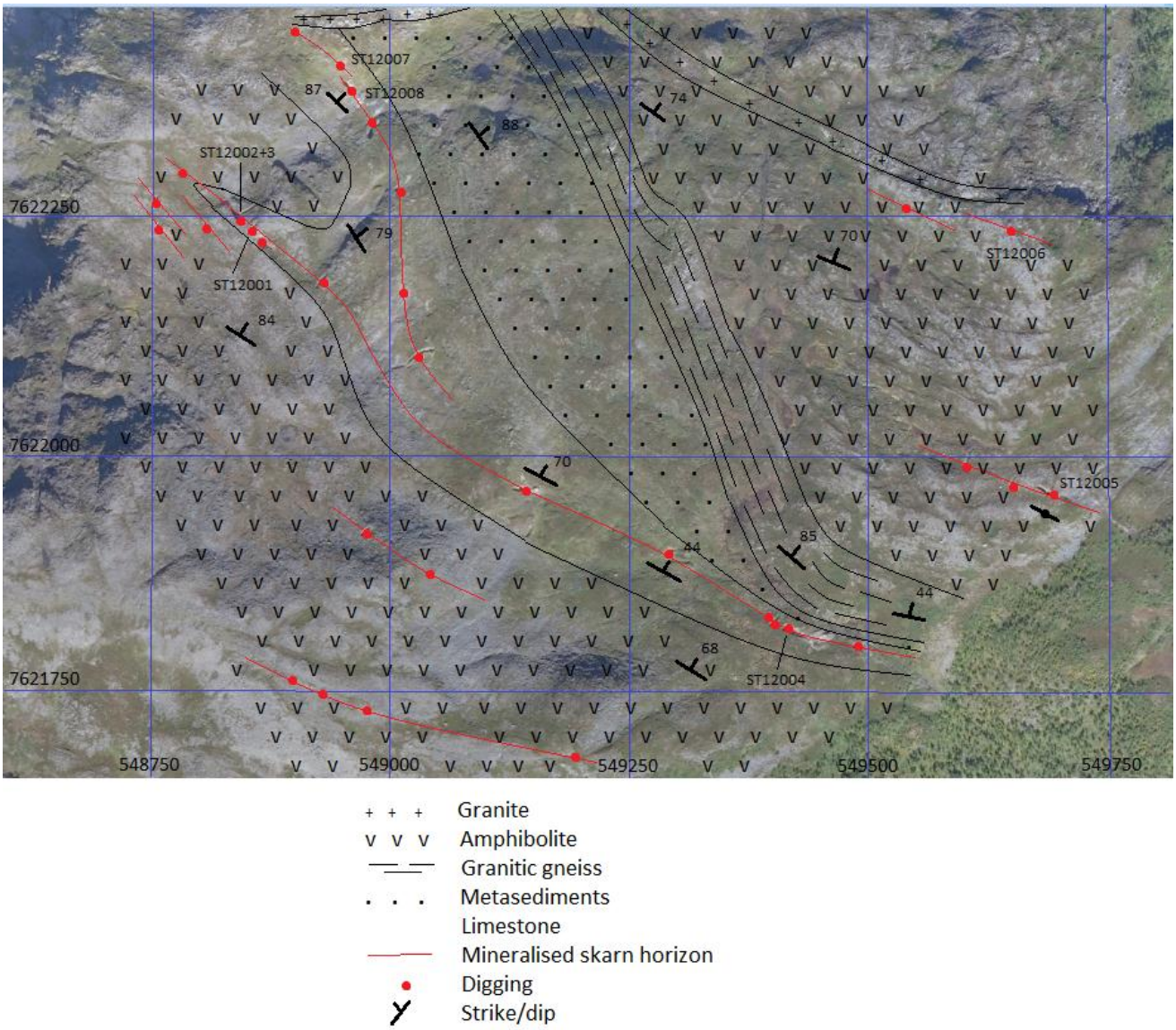

Fig. 3. Geological map Straumsfjellet. Based on own mapping and Often (1979). For location see fig. 1.

SAMPLE	UTMeast	UTMnorth	UTMzone	Au	Ag	Cu	Zn	Pb	Fe	S
				ppm	ppm	%	%	%	%	%
ST12001	548849	7622231	33	0,35	16,2	1,02	141	31	10,05	0,4
ST12002	548840	7622243	33	0,66	60,2	5,02	121	54	9,89	2,13
ST12003	548840	7622243	33	0,55	190	14,2	162	78	9,06	5,55
ST12004	549408	7621820	33	0,53	185	6,42	158	53	6,14	1,75
ST12005	549689	7621959	33	0,39	19,2	2,78	436	23	18,5	4,58
ST12006	549647	7622235	33	1,85	46,6	2,71	115	44	12	0,94
ST12007	548944	7622414	33	1,78	97	4,83	78	2120	1,61	0,9
ST12008	548962	7622378	33	1,03	103	5,72	140	193	1,65	1,56

Tab. 1. Assay results rock samples Straumsfjellet.

Salen

3 km north of Straumsfjellet, at Salen and Hoklandsætran, similar skarn mineralisations occur. They are not included in this investigation but they are described in the Ore database, NGU. It is copper mineralised skarn, apparently at two separate levels, with anomalous Au and PGE, where pyrite and chalcopyrite are bound to a network of calcite veins within few-meter thick skarn horizons.

Kvæfjord (Berg mine)

Fig. 4. Kvæfjord permit.

The aim for this work was to investigate the surroundings of the abandoned Berg copper mine (fig. 5). Historic exploration has revealed 1) significant contents of additional elements, such as Ag, U, V and Ba (Often 1982), 2) a more than 600m long unexplained, weak VLF anomaly extending ENE from the mine and out of the survey area (Singsaas 1977 and 1980), and 3) further ENE, 2km from the mine and presumably along strike extension of the VLF conductor, is a small digging (Storsurnåsen) in chalcopyrite-disseminated amphibolite which assays up to 2.2 g/t Au (the Ore Database, NGU).

The area is hilly and partly densely forested. The degree of exposure is poor. The quarternary cover is generally thin but continuous.

The Berg deposit was discovered in the 1880th. Trial mining took place during four periods between 1895 and 1917. According to Bryn & Lenschow (1917) it is extracted in excess of 500 tons of ore grading 5 % Cu and c. 2000 tons grading c. 2 % Cu.
During 1973-75 A/S Sydvaranger carried out geological mapping and stream sediment sampling (Færden 1973 and 1975). Their conclusion was negative concerning the ore potential within the area.
In the period 1976-80 NGU conducted geological mapping, soil- and rock sampling, SP- and VLF ground survey, and drilled 2 diamond drill holes totalling 47m to test a strong conductor 1km NE of the mine (they revealed banded, disseminated to semimassive pyrrhotite in a felsic gneiss).

The area is underlain by amphibolite grade (local retrograded epidote-chlorite assemblages is related to shear deformation) metasupracrustals which are intruded by two generations of granite. Amphibole gneiss (the dominant rock type), amphibolite, and felsic to intermediate gneisses have an interfingering relationship. A conspicuous feature, especially east and north of the NGU-mapped area, is repeated, rusty (disseminated pyrrhotite) chert-like rock outcropping along ridges. They are believed to represent silicified and sulphidised gneiss zones.

The mine workings are marked on fig. 5. The main southern part is at least 150m length of adits northwards from the main pit (triangle in fig. 5). This is now refilled and inaccessible. The mine was accessible during the NGU survey and a detail map is included in Often (1982). A few diggings occur N and NNW of the main pit (the larger one among them is refilled).

The southern part of the mineralisation at the Berg mine occurs between two smaller granite bodies, and is hosted within a 20-30m wide zone of epidotised amphibolites/amphibole gneiss, quartz-muscovite schist and biotite schist. Silicification is strong, expressed both as pervasive modification of the whole-rock and as hydrothermal quartz veining.
The extent of the northern part is less obvious as there are no outcrops between the diggings, but the total width influenced by the mineralised shear structures seems to be wider than in the south. The dominating lithology in the northern part is epidote-amphibolite gneiss with ENE shearing. Structures in the southern part trend NW-SE dipping 50-55° SW, while in the northern part the trend is ENE-WSW dipping 45-60° NNW.

Dominating sulphides in the irregularly distributed dissemination are chalcopyrite and pyrrhotite. The sulphide content reaches 25% in restricted lenses. Subordinate ore minerals are pyrite, bornite, magnetite, sphalerite, uraninite (restricted to weakly brecciated zones), digenite, covelin, mackinawite, molybdenite, pentlandite and native copper.

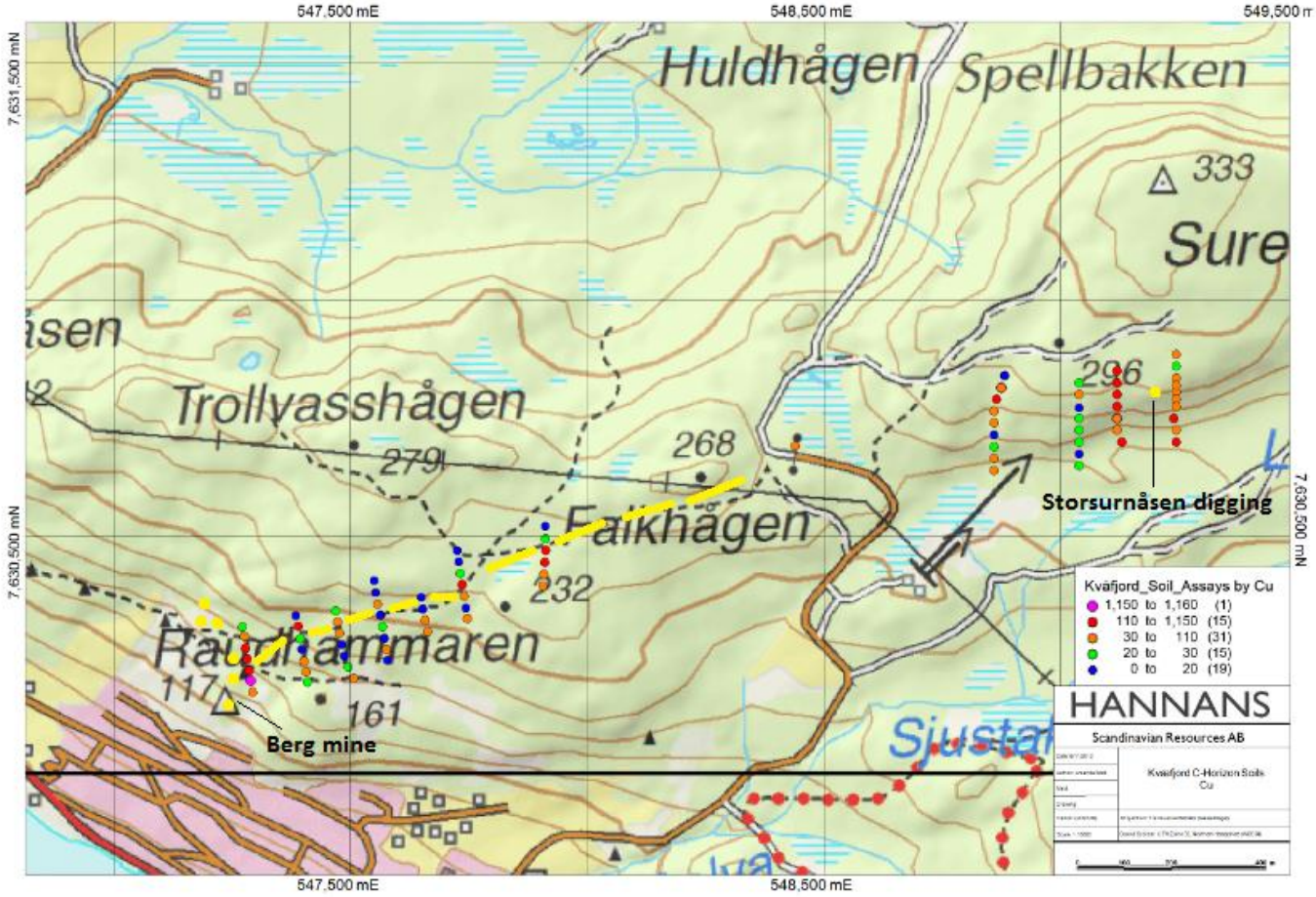

Fig. 5. Copper soil map, Berg. Yellow line is weak VLF conductor. Yellow dots are diggings.

Grab samples collected by NGU (Often 1982) have returned up to 6.3 % Cu, 124 g/t Ag, 0.9 % U, 0.21 % V, 0.16 % Ba and 0.1 g/t Au. NGU also collected 20 average channel samples along the adit walls. Average grades of 18 (excluding 2 from unmineralised granite) of them are 0.37 % Cu, <10 g/t Ag, 12 ppm U, 261 ppm V, 146 ppm Zn and <0.05 g/t Au, indicating low economic potential in the mine zone.

Of greater interest is to identify the cause for the VLF anomaly extending from the mine and ENE-wards. It is totally covered, including its ENE continuation towards the Storsurnåsen digging (fig. 5). This small digging in a steep hillside exposes an at least 5m wide Cu-Au mineralised brittle-ductile shear structure (250°/50°) in amphibole gneiss.

81 C-horizon soil samples (sampled with auger at 0.3-0.5 m depth) are collected during this survey along 11 profile lines intersecting this VLF anomaly and its continuation towards the

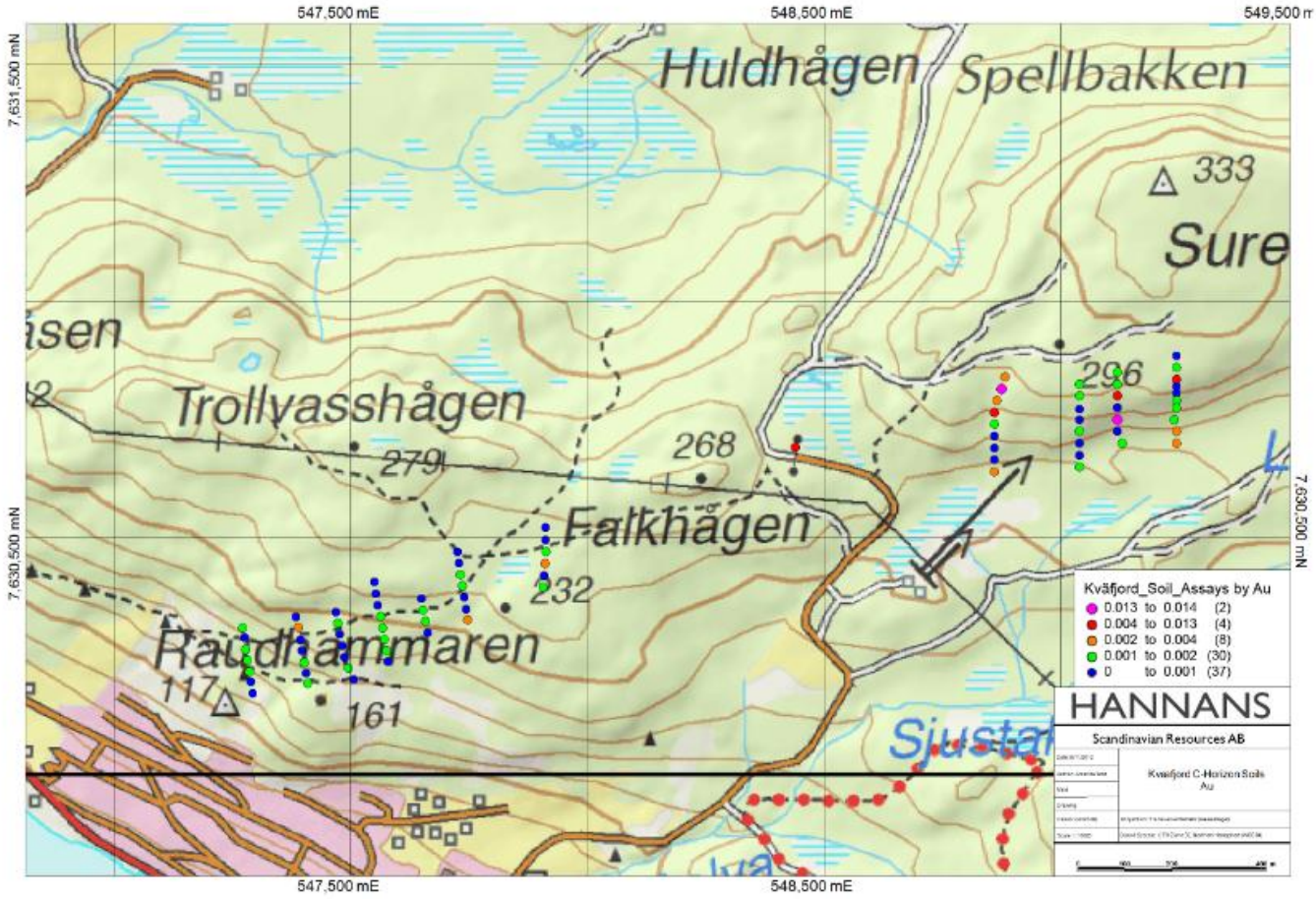

Fig. 6. Gold soil map Berg.

Storsurnåsen digging. The VLF anomaly is outlined on fig. 5. It might as well extend further eastwards from Falkhågen but this is outside of the VLF survey area.

SAMPLE	Au	Ag	As	Cu	Fe	Pb	S	Zn
	ppm	ppm	ppm	ppm	%	ppm	%	ppm
KV12101	0,001	0,41	7	315	4,42	7,6	0,08	96
KV12102	0,001	0,1	9,7	179	4,52	7,7	0,04	112
KV12103	0,001	0,21	9,5	113	4,9	10	0,04	68
KV12104	<0.001	0,05	7,2	64,5	3,95	8,5	0,02	77
KV12105	0,001	0,04	1,4	20,1	2,45	7,7	0,04	52
KV12106	<0.001	0,05	2,2	16,8	3,24	6,2	0,03	59
KV12107	0,002	0,14	8,2	134	4,13	7,6	0,03	63
KV12108	<0.001	0,05	3,8	23	3,01	7,8	0,01	47
KV12109	<0.001	0,02	5,3	17,9	2,85	5,9	0,02	73
KV12110	0,001	0,05	6,9	40,3	3,62	8,5	0,01	69
KV12111	<0.001	0,1	8,1	44	3,62	10	0,03	59
KV12112	0,001	0,1	4,3	21,1	3,2	8,3	0,02	74
KV12113	<0.001	4	403	1155	7,8	5,1	0,05	248

KV12114	<0.001	0,12	5,9	36	2,86	6,5	0,03	76
KV12115	<0.001	0,2	5,6	30,1	3,09	6,4	0,02	113
KV12116	0,001	0,12	4,8	22,8	2,85	5,5	0,01	92
KV12117	<0.001	0,04	4,3	5,8	2,46	7,9	0,01	24
KV12118	<0.001	0,04	7,2	11,2	3,72	6,8	0,02	48
KV12119	<0.001	0,05	5,8	58,2	3,94	7,2	0,02	69
KV12120	0,001	0,02	5,1	106,5	4,85	5,8	0,01	115
KV12121	<0.001	0,04	2,6	24,1	1,96	6,8	0,01	30
KV12122	0,001	0,06	3,4	16,1	2,77	5,7	0,02	43
KV12123	<0.001	0,04	5,6	43,8	4,51	6,9	0,02	104
KV12124	<0.001	0,1	3,1	13,7	2,26	7	0,01	38
KV12125	<0.001	0,06	4,8	16,1	2,96	5,8	0,02	50
KV12126	0,001	0,08	5,1	23,2	3,26	6,4	0,01	48
KV12127	0,001	0,06	4,5	13,2	3,18	4,7	0,02	34
KV12128	0,001	0,04	5,4	35,4	3,26	5,9	0,02	79
KV12129	<0.001	0,03	6,9	19,1	4,25	6,8	0,03	60
KV12130	<0.001	0,05	6,7	9,1	5,65	11,1	0,04	51
KV12131	0,001	0,08	2,9	7,2	2,6	6,5	0,02	32
KV12132	0,001	0,08	10,2	78,5	6,02	10,4	0,03	184
KV12133	<0.001	0,11	7,1	37,1	3,64	6,9	0,02	72
KV12134	<0.001	0,06	7,5	18,9	4,94	10,5	0,03	44
KV12135	<0.001	0,08	5,7	19	3,51	7,7	0,02	33
KV12136	0,001	0,16	8	26,1	4,85	7,4	0,04	54
KV12137	0,001	0,16	7,1	169,5	4,32	8,5	0,03	76
KV12138	<0.001	0,03	6,8	66	4,31	6,6	0,01	144
KV12139	<0.001	0,08	4,1	10	2,88	6,7	0,01	48
KV12140	0,002	0,32	14,8	82,4	7,48	19,4	0,12	181
KV12141	<0.001	0,08	4,3	12,8	4,04	12,1	0,03	63
KV12142	<0.001	0,1	6,3	29,7	3,91	7,8	0,03	63
KV12143	0,001	0,04	2,5	178,5	5,53	7,9	0,01	197
KV12144	0,002	0,25	6,9	267	3,61	8,6	0,02	89
KV12145	<0.001	0,16	10,8	43,9	4,12	13,7	0,03	63
KV12146	0,001	0,05	5,9	50,3	7,02	11	0,02	245
KV12147	<0.001	0,14	8,7	63,2	5,48	7,9	0,03	74
KV12148	0,001	0,13	1,8	22,2	2,73	6,4	0,02	27
KV12149	0,007	0,22	2,7	83,3	4,87	13,4	0,05	43
KV12150	<0.001	0,09	2,6	31,5	3,55	9	0,03	36
KV12151	<0.001	0,06	4,1	70,8	6,23	8,1	0,02	86
KV12152	0,001	0,08	4,2	75,2	6,28	18,4	0,06	133
KV12153	0,001	0,09	2	42,9	4,88	40,6	0,08	116
KV12154	0,001	0,08	6,6	173	5,57	15,9	0,03	103
KV12155	0,002	0,19	5,7	105,5	4,51	8,7	0,02	77
KV12156	0,002	0,13	5,8	128	4,69	10,1	0,03	90
KV12157	0,001	0,12	3,5	247	4	54,6	0,02	90
KV12158	<0.001	0,08	3,8	40,9	4,37	15,2	0,04	83
KV12159	0,014	0,06	4,6	65,7	4,86	13,1	0,02	102
KV12160	<0.001	0,03	4,8	142,5	4,51	9,6	0,02	95
KV12161	0,004	0,11	3,7	158	4,32	8,7	0,02	90
KV12162	0,001	0,07	3,8	434	3,36	10,1	0,04	90
KV12163	0,001	0,28	2,1	290	2,57	14	0,02	38
KV12164	0,001	0,08	4,4	23,3	5,2	3,8	0,02	77
KV12165	0,001	0,08	4,3	35,3	4,52	3	0,01	67
KV12166	<0.001	0,14	3,8	18,8	4,7	5,1	0,03	74
KV12167	<0.001	0,12	3,6	27,3	4,35	9	0,02	81
KV12168	0,001	0,1	4,1	23,9	6,89	14,9	0,04	105
KV12169	<0.001	0,11	4,1	29,9	4,81	8,9	0,02	105
KV12170	<0.001	0,06	4,5	17,9	3,45	11,9	0,03	84
KV12171	0,001	0,04	4,3	23,9	4,25	7,5	0,02	95
KV12172	0,002	0,26	5,1	51,2	5,21	15,2	0,03	131

KV12173	<0.001	0,19	7,5	60,1	5,82	13,6	0,04	113
KV12174	<0.001	0,12	5,7	23,1	4,79	9,7	0,04	68
KV12175	<0.001	0,1	3,3	12,7	2,7	8,1	0,02	52
KV12176	0,001	0,08	8,8	83,1	5,52	8,2	0,04	78
KV12177	0,006	0,09	7,4	52,4	3,39	13,4	0,02	59
KV12178	0,002	0,88	4,8	196	2,92	17	0,02	43
KV12179	0,013	0,09	4,9	33,6	3,71	11,5	0,02	44
KV12180	0,002	0,1	5,9	17,9	4,93	8,1	0,03	56
KV12181	0,004	0,44	23,2	78,6	6,21	11,6	0,41	67

Tab. 2. Assay results soils samples, Berg

The soil geochemistry shows slightly different signature in the eastern (Storsurnåsen) and the western (Berg-Falkhågen) part, e.g. in Au and V content. The VLF anomaly is accompanied by a weak copper anomaly, as is the Storsurnåsen mineralisation, but with no associated distinct gold enhancement.
Finding of a 10 kg boulder downslope from the VLF anomaly (UTM 547795 7630393) might possibly give an explanation to the conductor; it is graphitic mica gneiss with weak pyrrhotite-chalcopyrite dissemination (sample KV12007).

Short description of the workings at the Berg mine, from NNW to SSE:
547188 7630351: Small digging in at least 2 m wide shear zone (254°/60°) in amphibole gneiss. Granite veins intruded in the shear zone and subsequently brecciated (epidote filled veins). Silicification (hydrothermal quartz) in the most intensely sheared parts, which also contain shear bands of epidote. Sulphide mineralisation is irregular with pyrrhotite and chalcopyrite enriched in small lenses. KV12008 is composite sample over 1.5 m width and assays 0.56 % Cu. Exposed over 5 m length.
547150 7630375: Similar type of mineralisation but weaker. 226°/45°.
547141 7630377: At least 2 m thick hydrothermal quartz vein (270°/45°) in brecciated amphibole gneiss. Traces of chalcopyrite.
547178 7630309: Refilled working (`Fuchsen Mine`). Dump samples show dissemination, locally rich clusters, of pyrrhotite and chalcopyrite in both fine-grained amphibolite (KV12020: 1.67 % Cu and 48 g/t Ag) and hydrothermal quartz (KV12019: 1.10 % Cu and 25 g/t Ag). Exposed tectonised amphibole gneiss with red K-feldspar and magnetite dissemination between the Fuchsen Mine and the digging at:
547199 7630310: Small digging in sheared (64°/80°), pervasively epidotised amphibole gneiss with pyrrhotite-chalcopyrite dissemination. Sample KV12018 assays 0.62 % Cu and 48 g/t Ag. A few quartz veins (64°/80°) of few-cm thickness.
547259 7630252: Excavation. At least 4 m width of fine-grained, banded amphibole gneiss is rusty and pyrrhotite-chalcopyrite disseminated (KV120017: 0.84 % Cu, 19 g/t Ag and 70 ppm U). Banding: 120°/55°. A fault with parallel quartz- (KV12016: 188 ppm Cu) and garnet-biotite-hornblende granite veins has direction 241°/70°. Silicic and chloritic alteration of host rock.
547258 7630204: Excavation in banded amphibole gneiss (locally with garnet) and fine-grained, often silicified amphibolite, both with pyrrhotite-chalcopyrite dissemination. Foliation 142°/52°. Hydrothermal quartz veins with minor sulphide dissemination. Dump samples also show massive pyrrhotite. Samples KV12021 and 22 of mineralised amphibolite assay up to 1.02 % Cu, 15 g/t Ag and 0.26 % Cr.

547241 7630149: North end of refilled pit, where adit runs northwards. Sample KV12023 of fine-grained amphibolite with radiation and pyrrhotite-pyrite-chalcopyrite dissemination assays 1.43 % Cu, 33 g/t Ag and 0.25 % U. KV12024 of epidotised amphibolite with chalcopyrite-pyrrhotite dissemination assays 3.94 % Cu and 111 g/t Ag. Dump samples also show hydrothermal quartz with sulphides, silicified gneiss and massive chalcopyrite.

The small digging at Storsurnåsen (UTM 549197 7630792) is located in the upper part of a steep slope, in otherwise completely covered terrain. It exposes an at least 5 m wide brittle-ductile strain zone, trending 250°/50°, in fine- to medium-grained amphibolite gneiss which is weakly chlorite-epidote-sericite altered. It is intruded by irregular felsic (feldspar and hornblende) veining. The distribution of pyrite and chalcopyrite dissemination is very irregular within the zone. Samples KV12004-6 are collected from the mineralisation and assay up to 0.78 % Cu, 0.67 g/t Au and 12 g/t Ag. A composite sample (KV12006) collected across the 5 m wide zone assays 0.11 % Cu and 0.28 g/t Au.

The above mentioned rusty (disseminated pyrrhotite, pyrite and traces of chalcopyrite) chert-like rock outcropping along ridges, believed to represent silicified and sulphidised gneiss zones, are sampled (sample no KV12001, 2, 3, 9 and 10) east and north of Berg-Storsurnåsen. Both copper and gold contents are however low.

Scintillometer measurements in the area demonstrated very low radiation in all lithologies except a few active samples at the dump of the Berg main pit.

From the Berg Mine the supracrustal succession trends SW-wards (shown on the NGU airmag) and shows up on the island of Kvæøya. Here an abandoned iron mine in skarn host rock was in operation during 1902-04 and 1908-14, producing 4-8000 tons of sulphide contained magnetite ore per year. Samples KV12011-15 are collected at the mine dump at UTM 543986 7628336 and show up to 0.34 % Cu and 0.13 % Zn.

The current mapping and rock- and soil assays do not encourage further work at the Kvæfjord permit since the copper grades over widths of significance in the mine zone seem to be rather low and the gold contents are low. In addition, gold grades in the Storsurnåsen mineralisation are lower than expected, and the soil anomalies are not convincing.

SAMPLE	UTMeast	UTMnorth	UTMzone	Au	Ag	Cu	Zn	Pb	Fe	S	Cr	U
				ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm
KV12001	550904	7631491	33	0,02	0,9	91	37	22	10,75	2,53	53	10
KV12002	551063	7631028	33	<0.01	1	215	58	28	6,1	2,38	80	<10
KV12003	548675	7630829	33	0,07	0,9	224	64	24	5,59	2,45	71	<10
KV12004	549197	7630792	33	0,67	12,1	7840	175	18	13,1	0,99	94	<10
KV12005	549197	7630792	33	0,38	12,7	7860	195	19	14,05	1,14	122	<10
KV12006	549197	7630792	33	0,28	2,7	1185	179	21	10,65	0,21	105	<10
KV12007	547795	7630393	33	<0.01	<0.5	46	85	21	3,83	0,38	89	10
KV12008	547188	7630351	33	<0.01	7,5	5630	95	10	7,1	0,54	53	<10
KV12009	548697	7632945	33	<0.01	1,1	190	32	17	3,65	1,16	92	10
KV12010	548716	7632987	33	<0.01	0,8	174	31	26	2,97	1,24	81	10
KV12011	543986	7628336	33	<0.01	<0.5	312	1355	3	34	1,43	97	10
KV12012	543986	7628336	33	0,02	1,8	3470	912	4	22,4	5,36	111	10
KV12013	543986	7628336	33	<0.01	<0.5	32	50	<2	4,43	0,81	106	<10
KV12014	543986	7628336	33	<0.01	<0.5	894	876	3	22,8	3,7	388	10
KV12015	543986	7628336	33	<0.01	<0.5	292	872	4	41,1	0,68	86	10
KV12016	547259	7630252	33	<0.01	0,8	188	58	4	3,86	0,06	54	<10
KV12017	547259	7630252	33	0,02	19,5	8430	197	20	14,25	1,5	47	70
KV12018	547199	7630310	33	0,07	48,8	6210	136	6	9,77	0,41	483	10
KV12019	547178	7630309	33	0,03	24,9	11000	85	2	5,41	1,25	34	<10
KV12020	547178	7630309	33	0,09	48,1	16750	197	5	14,3	2,04	9	10
KV12021	547258	7630204	33	<0.01	9,2	6450	366	6	16,9	3,82	53	30
KV12022	547258	7630204	33	0,01	14,9	10250	295	7	18,95	5,9	2600	<10
KV12023	547241	7630149	33	0,02	33,4	14300	331	227	15	1,74	139	2510
KV12024	547241	7630149	33	0,08	111	39400	275	10	12,85	3,81	14	20

Tab. 3. Assay results rock samples Kvæfjord/Berg.

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