JORC 2012 Technical Report and Exploration Target Report on the Kupukka Graphite Deposit, Siikalatva, Finland

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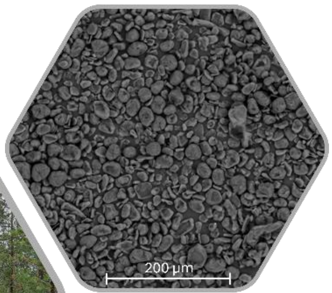
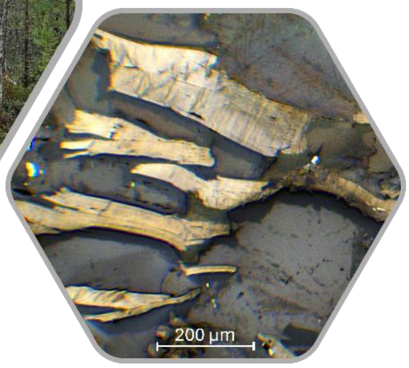
Report Prepared for
Kupukan Grafiitti Oy



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1 Summary

1.1 Introduction

The objective of this report was to prepare a Technical Report for the Kupukka Graphite Project owned 100% by Kupukan Grafiitti Oy, in compliance with the recommendations of the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC 2012), including an Exploration Target Classification of the Kupukka Graphite Deposit.

The Exploration Target Classification was completed by Mr. Ville-Matti Seppä of Afry Finland Oy, who is a Competent Person as defined by the Australasian Code for the Reporting of Mineral Resources and Ore Reserves (JORC Code) 2012 Edition.

1.2 Property description and location

The Kupukka property is centered at Latitude 64.43222 °N, Longitude 25.84457 °E in the Siikalatva municipality, central-western Finland, around 65 km south of the city of Oulu and around 480 km north of Helsinki (Figure 1-1).

The property is covered by one Exploration Permit, Kupukka (Registry No ML2023:0007-01) with an area of 1649.37 ha. The Kupukka Exploration Permit is valid until 19th July 2028 after which it can be applied for extensions to a maximum until 2035. Application for an Exploration Permit (Registry No ML2025:0069), Kupukka_SE, has been filed to Tukes on 17.12.2025 covering the southeastern extension of the Kupukka graphite trend. Further, around 30 km southeast of Kupukka, Kupukan Grafiitti Oy has an Exploration Reservation (Registry No VA2025:0055). Geological Survey of Finland (GTK) has two Exploration Permit applications south and south-west of Kupukka.

There are no known environmental liabilities on the Kupukka property. There are no royalties, back-in rights, payments or other encumbrances to which the property is subject. All the payments for damage compensations have been made up to date.

The property is wholly owned by Kupukan Grafiitti Oy and has no attached agreements or warrants with other parties. No expenditure requirements are attached to the property. The properties have not been legally surveyed, but boundaries are determined and finalized at time of application by the relevant Finnish government agency responsible for mining and exploration (currently the Finnish Safety and Chemical Agency, Tukes). No environmental liabilities are extant apart from normal legal requirements for damage compensation to landholders resulting from any exploration work. No permits are required to perform planned exploration activities within the Exploration Permit area. Private individuals own most of the land and surface rights.

The Kupukka property is located in Siikalatva municipality, and near the Highway number 4, only 0.5 – 5 km east of it. The nearest villages are Rantsila, some 10 km NNW and Pulkkila, some 20 km south of Kupukka. Access to the Kupukka area is easy via the several gravel roads and forest roads leading to the Kupukka area from the Highway. Off-road, ATVs can be used during the summertime and snowmobiles during the wintertime.

The service infrastructure is excellent. The main railway of Finland runs 45 km west of Kupukka and the Kupukka area is 55 km by road from the nearest railhead of the main railway, Tuomioja, from where there is a good railroad connection to Oulu and Raahe seaports, open throughout the year. The Oulu airport is around 70 km by road, with regular daily flights to Helsinki. In addition, high voltage power lines (400 kV and 220 kV) run through the Kupukka area, and several wind farms are planned near the Kupukka property. Water is readily available from the lakes or small rivers nearby.

Figure 1-1. Kupukka graphite deposit is located in central-western Finland, near the Finnish and Swedish coast with planned and active battery and steel industry. Coordinates in WGS 84.

The weather conditions are characteristic of the northern Fennoscandian climate, with temperate summers and cold winters. During the summer months (June-August), temperatures range usually from 10°C to 25°C, and during the winter months (November-March) from 0 °C to -20°C. The terrain is snow-covered in winter during which time bogs, small rivers and lakes are frozen. The annual rainfall is around 530 mm, distributed evenly throughout the year. The weather conditions do not interfere with open-pit or underground mining anywhere in Finland. Fresh water is usually plentiful around the property, but permission must be obtained to use it.

The Kupukka area sits around 75 m above sea level. The topography is gently undulating to flat, covered mainly by till and peat. Within the Kupukka area and close vicinity there are several historical energy peat production areas. In diamond drilling sites of the Kupukka area and in the surroundings, the soil depth varies between 4 to 20 meters. Outcrops are found only outside of the graphite-rich trends, mainly in the southernmost and northernmost parts of the Kupukka Property.

The Exploration Permit area is uninhabited, partly forest subject to intermittent logging activities and partly historical peat production area. The nearest settlement is south and SW from the Exploration Permit area with the distance to the nearest houses around 1 km from the border of the Permit area.

1.3 History

In Kupukka area and surroundings Outokumpu Oy has made regional bedrock mapping and base metal exploration during late1950's, during 1960's and during 1980's. Geological Survey of Finland (GTK) made during 1970's and 1980's surficial geochemical studies (percussion drillings with Cobra equipment) and studies on quaternary geology.

During 1980's Outokumpu Oy made exploration fieldwork in Kupukka area and surroundings including boulder tracing, bedrock mapping, geophysical ground surveys and percussion drilling (Cobra equipment). The focus was on base metals, and the study areas were chosen based mainly on airborne geophysics. Accordingly, in many studied locations the magnetic and EM anomalies turned out to be made by pyrrhotite-pyrite and graphite bearing gneiss (Pitkänen 1988).

Geological Survey of Finland (GTK) made shallow diamond drill holes in the vicinity of the Kupukka area during their bedrock mapping project in 1993. One vertical borehole by, four kilometres east of Kupukka intersected graphite mineralization over 12.90 m. This was the first drill proven indication of graphite mineralization in Kupukka area. Based on this Benzinium Oy (Jalonom Oy) made the first proper graphite exploration and drilled four holes on EM+mag anomalies during 2013, within the present Exploration Permit area of Kupukan Grafiitti.

During 2021-2023 exploration at Kupukka area was made by Suomen Malmitutkimus Oy, including data compilation, geophysics, bedrock mapping, microscopic studies and beneficiation tests for the drill core samples from the GTK borehole. In 2023 the mineral rights of Kupukka were transferred to Kupukan Grafiitti Oy. The Company purchased the 2013 drill cores from Jalonom Oy personnel and assayed them for graphitic carbon. The results included graphite-rich intercepts over tens of meters.

1.4 Geology and Mineralization

The Kupukka Property is located in the Fennoscandian Shield within the Paleoproterozoic Svecofennian domain and close to the boundary of the Archaean Karelian Craton. The Fennoscandian Shield is the largest (> 1 million km^2) exposed area of Precambrian rocks in Europe, and similar to the famous Shield regions of Canada and Australia. The Fennoscandian Shield is exposed in Finland, Sweden, Norway, and northwestern Russia, which, together with the Ukrainian Shield, represent the oldest exposed rocks in Europe.

Mica gneiss (age group 2050-1960 Ma) is one of the major rock types in the Kupukka area and surroundings. Most of the mica gneisses are more or less migmatitic. Quartz-feldspar schist or gneiss and calc-silicate intercalations and concretions are seen in places. Graphite schist layers or horizons are very common, especially in the Rantsila map-sheet area. Migmatization and high grade contact metamorphic zones around pyroxene granitoids have largely destroyed primary sedimentary structures, but a turbiditic origin is still obvious in some outcrops. The overall rock association, comprising turbiditic mica gneiss and graphite schist with mafic pillow lava intercalations, probably indicates a deep marine depositional environment. The mica gneisses are surrounded by a wide range of granitoids, including pyroxene granitoids.

Prevailing migmatization in mica gneiss in general indicates upper amphibolite facies metamorphism. The occurrence of garnet, cordierite and hypersthene, especially near the contact zones of pyroxene granitoids also indicates that high temperature granulite facies has been attained in contact aureoles.

Hornblende gneisses and amphibolites occur in places as separate, rather small bodies. Amphibolites contain readily recognizable primary volcanic primary structures such as pillows and pyroclastic breccias.

Based on the drillings by Kupukan Grafiitti the graphite mineralization at Kupukka is located within the mica gneiss unit or in the contact zone of amphibolite and mica gneiss. Also, amphibolite can host graphite mineralization. The mineralization is stratiform and represents a carbon-rich layer. Probably because of isoclinal folding during the early structural history narrow barren mica gneiss layers may occur within the mineralization. Also, granitic pegmatite dykes (≤ 8.4 m in drill core) cut in places the mineralization. The thickness (true width) of the main mineralization varies mainly between 30 – 80 m with a cut-off of 3 % Cg.

Two main graphite ore types have been recognized, 1) high-grade *breccia ore* and 2) lower-grade *disseminated ore*.

The host rock for the *breccia ore* has a breccia-type texture. Compared to the disseminated ore type the host rock for the breccia ore is quite massive and rich in clinoamphibole, which can be the dominating silicate in the rock, thus the rock is close to amphibolite in mineral composition.

The host rock for the *disseminated ore* is a graphite gneiss, which actually is a graphite-rich mica gneiss. The main silicate minerals are plagioclase, quartz and biotite. Graphite, pyrrhotite and to a lesser amount pyrite are the main opaque minerals in both ore types.

In both ore types, graphite occurs as flakes, up to 1.5 – 2.0 mm long.

Pyrrhotite is usually abundant in the graphite ore. Pyrrhotite is magnetic due to which the graphite ore usually has a high magnetic susceptibility and can be traced by magnetic measurements. In places, especially in the upper parts of the mineralization and within shears, pyrrhotite has been altered to pyrite losing its magnetic properties.

The graphite mineralization is stratiform and probably stratabound. It represents a carbon-rich layer near or within the contact zone of mica gneiss (turbidite) and amphibolite (mafic volcanic rock). The main schistosity (S_2) is mostly conforming with the layering and mostly subvertical or dipping west. Consequently, the mineralized bodies also are subvertical or dipping west.

The average density with a cut-off of 3.0 % Cg for the breccia-type mineralization is 2.78 g/cm^3 (71 measurements) and for the graphite gneiss hosted mineralization 2.76 g/cm^3 (87 measurements).

1.5 Deposit type

The bedrock of the Kupukka area represents mainly turbiditic sediments deposited on to the sea bottom as well as mafic pillow lavas (amphibolites) and possibly intermediate-mafic tuffs (hornblende gneisses). Graphite-rich layers occur often in the contact zone between sediments and mafic volcanics, which may indicate a quiet period in deposition of clastic sediments. Consequently, the Kupukka Graphite Deposit represents organic material originally deposited as sediment or mixed with sediment between 2.05 Ga -1.96 Ga. Also, the geochemistry shows the close association of graphite-rich rocks with amphibolites and hornblende gneisses. During regional metamorphism and contact metamorphism around the pyroxene-rich granitoids and gabbros-diorites the organic material was crystallized as flake graphite. Due to high metamorphic temperatures graphite crystallized as coarse flakes.

1.6 Exploration and Drilling

Geophysical surveys have been highly important to map the graphite mineralization trends at Kupukka. Geophysical EM and magnetic ground survey lines were made in March 2024 by GTK, on planned drill profiles. Radai Oy made Drone magnetic and EM surveys in October 2025 at Kupukka. The magnetic survey consisted of two separate areas, Kupukka North (the main mineralization) and Kupukka South. The surface area of the Kupukka North survey site was about 29 km^2 and total line length 646 km. For the Kupukka South the survey area was 4 km^2 and total line length 92.5 km. In both surveys, the nominal flight altitude was set at 37.5 m above ground level defined by DEM and flight line spacing was 50 m. The EM survey was made on the most prospective area within the Kupukka North survey site. The survey area was 4.7 km^2 and flight line spacing 75 m.

The Drone magnetic survey data was interpretated by GTK, and the 3D magnetic and EM inversions and interpretations were used in modelling the Kupukka main mineralization.

Kupukan Grafiitti drilled 7 holes (KUP-001 – KUP-007) in late autumn 2024. Total length of the drilling program was 1669.85 down-hole meters (Figure 1-2, Table 1-1). All holes had downhole deviation surveys and have produced oriented core for structural studies. Diamond drilling was carried out by the Finnish, Rovaniemi based drilling company Comadev Oy using HQ equipment that produces 63.5 mm diameter core. Samples were oriented using Axis Champ Ori tool by Comadev crew. All holes were measured for their azimuth and dip deviation for entire length using Reflex Sprint-IQ by Comadev crew. After drilling campaign was complete, all 7 drill hole collars were measured by Mitta Oy using Trimble GNSS (DGPS).

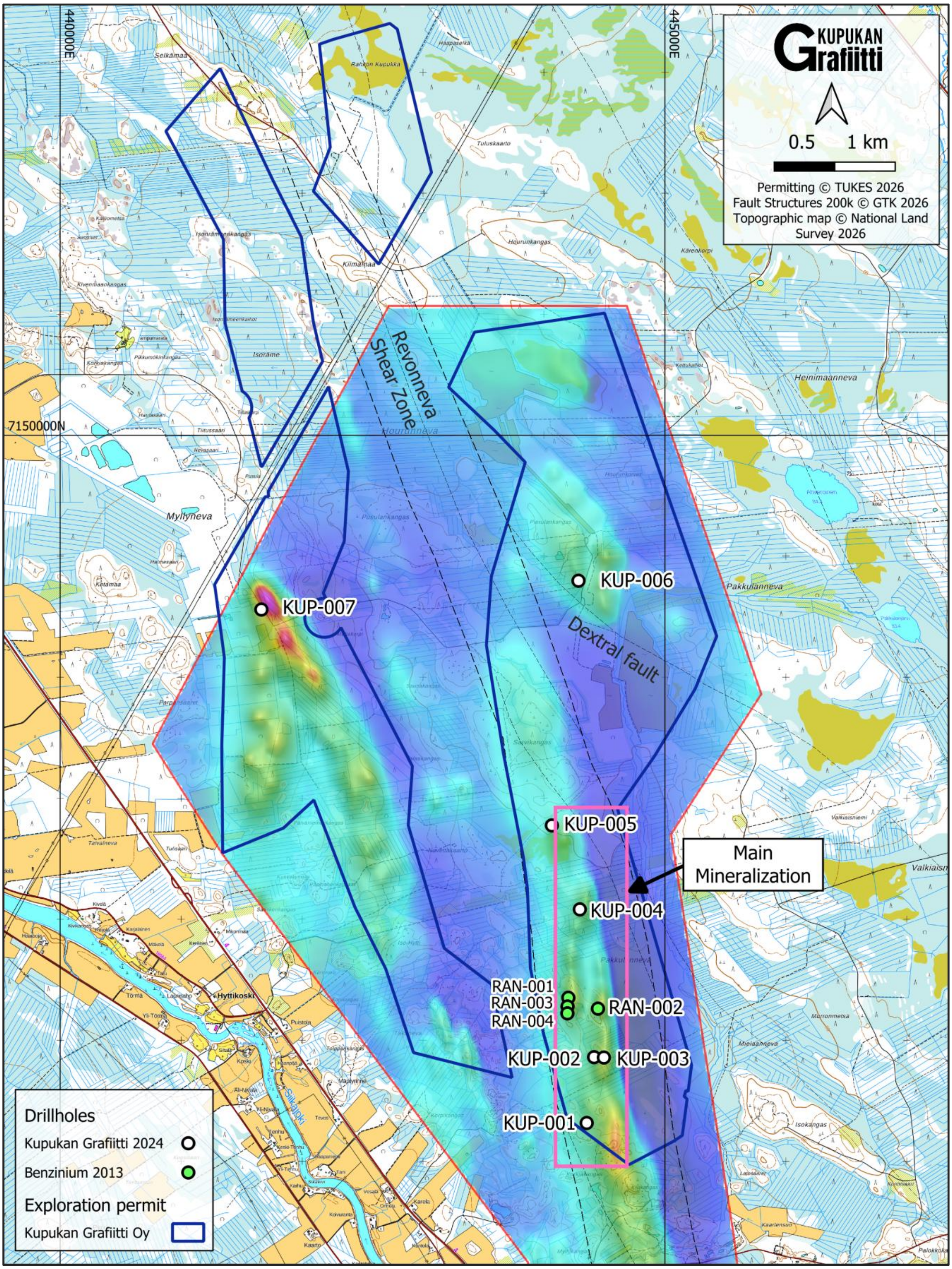


Figure 1-2. Drone magnetic map (red=maximum) at Kupukka depicting the graphite mineralized trends. The main mineralization is within the purple rectangle, which also marks the location of the 3D view in Figure 1-3. The western mineralization trend is intersected by DH KUP-007.

Table 1-1. Drillhole collar data for the 2024 Kupukan Grafiitti diamond drilling campaign.

Hole_ID	Location	Easting	Northing	Elevation	Azimuth degrees	Dip degrees	Length m	Core mm	Casing m
KUP-001	Pakkulanneva	444354.578	7144315.157	78.004	92.81	-51.77	334.50	63.5	16.5
KUP-002	Pakkulanneva	444414.783	7144854.517	77.159	91.24	-50.90	206.55	63.5	13.5
KUP-003	Pakkulanneva	444492.869	7144856.139	77.295	88.76	-50.30	116.15	63.5	9.0
KUP-004	Pakkulanneva	444292.682	7146080.377	77.589	94.61	-50.12	194.90	63.5	13.5
KUP-005	Sarvikangas	444065.341	7146771.186	80.193	92.15	-51.09	233.45	63.5	12.0
KUP-006	Pierulankangas	444261.220	7148794.742	80.612	92.19	-51.02	314.50	63.5	28.5
KUP-007	Multakorpi	441665.669	7148558.217	64.884	67.25	-51.81	269.80	63.5	10.5

Lithological logging included lithological intervals (rock type 1 being the main and rock type and rock type 2 the secondary lithology), texture, average grain size and relative grade of migmatization.

For structural measurements core was divided into structural domains based on their appearance, such as massive, foliated or sheared. Also, foliation direction change was a reason to start a new structural domain. At least one foliation measurement was done within each structural domain, depending on orientation line availability. Alpha angle was measured with a protractor angle ruler. Beta angle was measured using Kenometer tool. Gamma angle was measured with protractor.

Magnetic susceptibility was measured using Terraplus KT-20 device and its “measure” function of 10 kHz. In mineralized portions measurements were made in one-meter intervals and in non-mineralized portions in two meters intervals. In total 1180 measurements were done.

Specific gravity was measured for all sampled drill core + some extra. Total of 949 assayed samples were measured using Archimedes principle. Measurement was done to half core using full sample length. Two Kern professional scales with 0.1 g accuracy were used in the measuring process. Two standard samples were used, Stainless Steel and Aluminium. Total of 38 samples were also measured by ALS Sodankylä using OA-GRA08 method. Results were well in line with the measurements by Kupukan Grafiitti.

Geotechnical measurements for drill holes KUP-002, KUP-003 and KUP-004 included only RQD with mainly one-meter intervals. For holes KUP-001, KUP-005, KUP-006 and KUP-007 geotechnical measurements included first classification of the drill core into domains. This was based on changes in geotechnical parameters like variance in the number of joint sets and degree of weathering. Maximum length of the interval was 4.2 meters, but vast majority of the domains was 3 meters long, which is the length of one drill run. Each interval was assigned a type, such as Jointed Rock, Foliated Rock or Broken Core. The measured and reported parameters were:

weathering and alteration, core recovery and RQD, fracture count, microfractures, Joint Set Number (J_n), Joint Roughness (J_r), Joint Alteration (J_a) and Intact Rock Strength.

Sampling was done based on visual appearance of graphite in the drill core. Rule of thumb was that if graphite is present in more than just a trace, sampling will be done. Graphite-void rock was included in the sampled section before and after. Sample length was between 0.35 m to 2.45 m with an average of 1.17 m. Visually poorer grades were sampled with longer sample lengths. Sample boundaries were also placed in lithologic contacts; sample never crosses them.

Graphitic carbon (Cg) was assayed in Actlabs, Ontario with the method 4F-C-Graphitic (infrared), which has lower detection limit of 0.05 %. The other elements were assayed in ALS laboratories Ireland with the method ME-ICP 41a (Aqua Regia leach, ICP).

Each drill hole intersected a thick graphite mineralization (Table 1-2).

Table 1-2. Graphite-rich intercepts in 2024 drillings by Kupukan Grafiitti Oy, cut-off 3.0 % Cg, longest included interval below the cut-off is 22.95 m (KUP-003). True width is estimated to be 65-85 % of the intercept length.

Hole_ID	From (m)	To (m)	Intercept length (m)	Cg %
KUP-001	237.00	332.65	95.65	3.09
including	237.00	260.70	23.70	4.35
KUP-002	82.60	194.45	111.85	4.48
including 1	82.60	100.30	17.70	5.25
including 2	118.20	140.75	22.55	9.16
KUP-003	26.00	110.30	84.30	3.66
including	26.00	46.45	20.45	8.01
KUP-004	39.00	130.00	91.00	3.42
including	83.00	119.00	36.00	3.96
KUP-005	183.00	222.00	39.00	3.80
KUP-006	36.30	100.00	63.70	4.47
including	88.25	100.00	11.75	8.60
KUP-007	70.15	80.80	10.65	3.46
KUP-007	124.70	255.00	130.30	3.35
including	227.05	236.40	9.35	4.11

1.7 Beneficiation tests

Preliminary beneficiation tests for the drill core material from GTK drill hole some 4 km east of Kupukka were made during 2021-2022 at GTK Mintec. The chemically purified flotation concentrate (98% carbon) was studied by MLA and Raman microscopy showing liberation degree of 99.7% for graphite and a very high graphite crystallinity.

ProGraphite GmbH was contracted in June 2025 to do flotation concentrate for breccia ore and disseminated ore samples from Kupukan Grafiitti 2024 drillings. The initial target was to get around 4 kg of Concentrate 95 % C from both types of ore, which could be used as feed material for further tests and analysis. Tests to produce purified spherical graphite were also planned.

Flotation of the breccia ore has been completed and 4 kg of final concentrate with an LOI of 94.6% from the breccia ore has been produced. The flotation tests of the disseminated ore are ongoing. The first tests of the disseminated ore did not produce the desired result, and more sample material has been sent for further tests.

The breccia ore concentrate was used to produce spherical graphite (SPG). Two types of spherical graphite were targeted: one with a mean particle size (d50 value) of 20 microns (SPG 20) and one with 15 microns (SPG 15). These are both typical examples of spherical graphite.

Usable spherical graphite was produced for both grades. Particle size distribution is very typical for spherical graphite. The specific surface area was slightly increased in both cases, and the tap density is not optimal but still acceptable (0.89 kg/l for SPG 20, 0.91 kg/l for SPG 15).

For the purification test work, alkaline purification (SPG 20) and acid purification methods (SPG 15) were investigated. The purification process slightly increased the tap density, to 0.90 kg/l and 0.92 kg/l for alkaline and acid purification, respectively. The specific surface area of both types decreased slightly due to purification, which is also a positive aspect. The purification process yielded a LOI %C of 99.96 with alkaline and 99.97 with acid purification. Both products are therefore very pure and can be effectively purified using both alkaline and acidic methods.

1.8 Social license to operate

The Kupukka Exploration Permit area is uninhabited, partly forest subject to intermittent logging activities and partly historical peat production area. There are no natural conservation areas near Kupukka. The nearest settlement is south and SW from the Exploration Permit area with the distance to the nearest houses around 1 km from the border of the Permit area. Even though Kupukka area is not pristine, unaltered nature, it still has value to local population. From the very beginning of the exploration plans and activities the locals and other landowners have been contacted and informed continuously. In planning the exploration activities, the landowners have been contacted to select the best timing for them and to cause the least possible disruption. Also contacts with the municipality of Siikalatva have been permanent and valuable and the municipality fully supports the Kupukka Project.

With aiming for good cooperation, care and relations with the locals, Kupukan Grafiitti has achieved a strong social license to operate.

1.9 Interpretation and Conclusions

A substantial flake graphite mineralization has been discovered and started to be outlined at Kupukka Table 1-3. The main mineralized trend is 3 km long and has been drilled to date on 57-830m spaced drill profiles. The mineralization stands out clearly on magnetic and electromagnetic maps produced from Drone-surveys. Just north of the drill-proven main mineralization magnetic data suggests the main mineralization continues but is not outcropping. Further 1.8 km north of the main mineralization a separate high-grade body has been drill proven (KUP-006). 1-2 km west of the main mineralization trend another graphite-mineralized trend has been intersected by one drill hole. Based on geophysics this western mineralization can be 1 – 4 km long (Figure 1-2).

With a cut-off of 3 % Cg the subvertical main mineralization has true thicknesses varying mainly between 30 – 80 m. The deepest intersections are at the 250m level from the ground surface. Based on geophysics the mineralization extends further down. Based on drillings and geophysical interpretation the mineralization is outcropping on most of the drill profiles. Figure 1-3 depicts the 3D model of the main mineralization.

Interpretations and inversions of the Drone magnetic and EM data indicate that the main mineralization is continuous with short breaks. Figure 1-4 presents a magnetic inversion model constrained by the borders of the drill intersected mineralization (cut-off 3% Cg). The model suggests that the main mineralization has a depth extension down to at least the 375m level below the ground surface, especially in the southern part.

Table 1-3. JORC 2012 Exploration Target classification for the Kupukka main mineralization and bridging to UNFC-2019.

	Tonnes Low (Mt)	Tonnes High (Mt)	Grade Low Cg (%)	Grade High Cg (%)	Contained Cg Low (t)	Contained Cg High (t)	Contained Cg Average (t)	UNFC Category
Sarvi	2.7	4.8	3.7	4.6	99 000	220 000	160 000	334
Pakkula	18.4	76.1	3.4	5.5	630 000	4 200 000	2 415 000	334
Akka	2	12.6	3.2	4.2	65 000	530 000	298 000	334
Total	23.1	93.5	3.4	5.3	793 000	4 932 000	2 863 000	

The potential quantity and grade are conceptual in nature, there are insufficient exploration to define a Mineral Resource, and it is uncertain that further exploration will result in the determination of a Mineral Resource. Differences may occur in totals due to rounding.

Importantly, the Exploration Target includes high-grade zones @ 8-9 % Cg (Table 1-2).

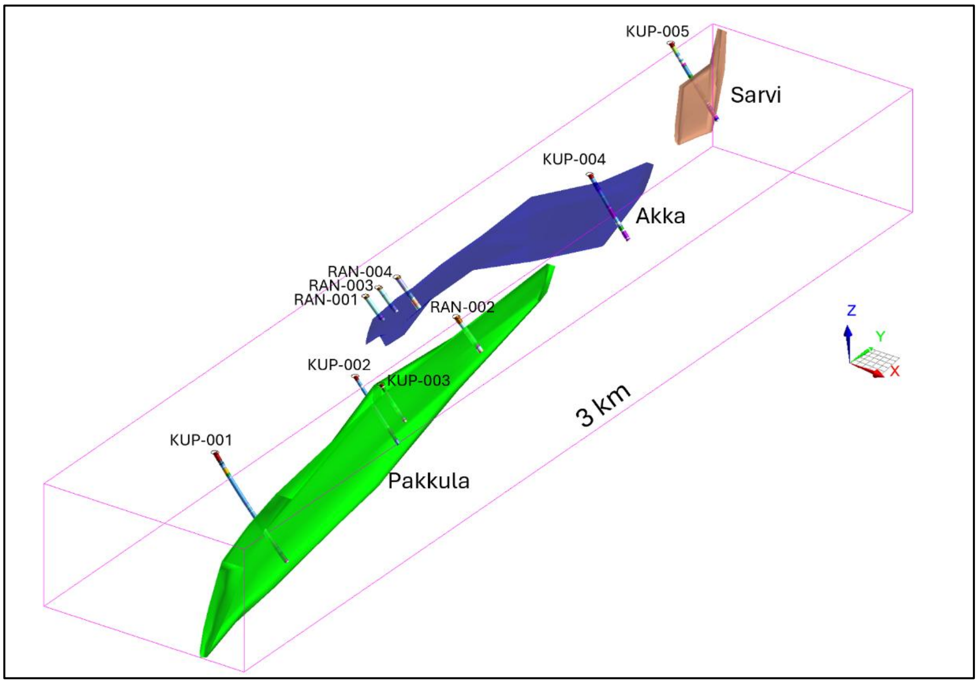


Figure 1-3. Three-dimensional model for the Kupukka main mineralization (cut-off 3 % Cg). Oblique view towards NW.

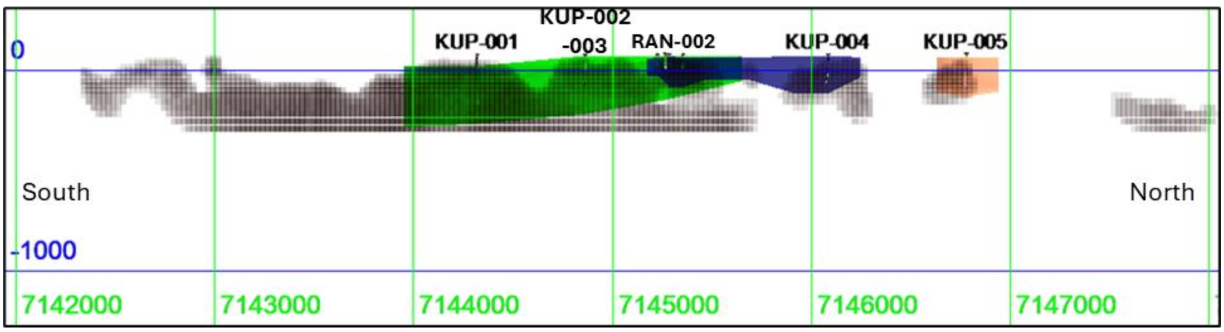


Figure 1-4. North-south section of the interpreted main mineralization as colored solids and magnetic inversion with the magnetic susceptibility over 0.06 SI as grey nodes (from xyz file). The magnetic inversion is constrained by modelled solids and has a depth limit of 300m from the zero level (around 375m below the ground surface).

Two main graphite ore types have been recognized, 1) high-grade breccia ore and 2) lower-grade disseminated ore. The mineralization is located within the high metamorphic grade mica gneiss unit or in the contact zone of amphibolite and mica gneiss. Also, amphibolite can host graphite mineralization. Graphite occurs as flakes up to 1.5 – 2 mm long.

Beneficiation tests show that spherical graphite can be produced from the breccia ore. Tests for the disseminated ore are ongoing. Because graphite is relatively coarse at Kupukka also tests for applications other than battery industry will be done.

1.10 Recommendations

Drilling at Kupukka is widely spaced within the main mineralization and only includes two drill holes outside. The data density is not yet sufficient to enable an estimate of grade, and calculation of a Mineral Resource Estimate.

The spacing between drillhole profiles needs to be reduced to100m, and the number of holes on each profile needs to be increased. The objective should be to provide a data density that supports an Inferred Resource as a minimum (i.e. sufficient confidence to assume geological and grade continuity).

The recent geological understanding of the mineralization as well as the recent geophysical data with 3D interpretations enables planning of the infill drilling. Some of the future drill profiles need geophysical ground surveys to help place drill hole collars in optimal locations. Also, after drilling, some geophysical borehole surveys should be done. Also, there is possibility of trenching in a few places, where the soil depth is ≤ 5m.

More comprehensive assay data is needed to secure that all valuable elements have been assayed (e.g. checks for gold and PGEs). Also, more assay data is needed to study the host rocks, wall rocks and country rocks, for side stream uses.

Additional beneficiation tests are needed to specify the most profitable products made from the graphite concentrate.

Following the results of infill drilling the Mineral Resource Estimate (MRE) can be made. Also, with the data of the graphite deposit outlined the Environmental Impact Assessment (EIA) is possible to perform.

The work program recommended above is estimated to take two years. Table 1-4 presents the budget of the two years' work program.

Table 1-4. Budget for recommended work program at Kupukka.

Estimated Costs	M€
Geophysics	
Ground Survey lines	0.03
Borehole Surveys	0.03
Infill Drilling (including assays and other costs)	
20 000 meters @ 200 €/m	4.00
Beneficiation Tests	0.40
Environmental Impact Assessment	0.30
Mineral Resource Estimate	0.10
Personnel	1.00
Grand Total	**5.86**

Cautionary Note Regarding Forward-looking Information and Statements

This Report contains information relating to an Exploration Target. The potential quantity and grade of the Exploration Target are conceptual in nature and there has been insufficient exploration undertaken to estimate a Mineral Resource in accordance with the JORC Code (2012). It is uncertain if further exploration work will result in the determination of a Mineral Resource.

The Exploration Target has been stated to provide an indication of the potential scale of the mineralization and is not intended to imply that an economically viable Mineral Resource or Ore Reserve will be defined. Any Exploration Target estimate is based on the interpretation of available geological, geophysical and/or sampling information and assumptions which are subject to change as additional information becomes available.

Any forward-looking statements, including statements relating to future exploration programs, the potential size, grade and continuity of mineralization, the potential conversion of the Exploration Target to a Mineral Resource, metallurgical performance, development outcomes, project economics, timelines and budgets, reflect management's current expectations as at the date of this Report. Such statements involve known and unknown risks, uncertainties, assumptions and other factors that may cause actual results to differ materially from those expressed or implied. These factors include, but are not limited to, changes in commodity prices, exchange rates, general economic conditions, availability of funding, exploration and drilling results, sampling and analytical accuracy, model assumptions, mining and metallurgical performance, environmental and permitting approvals, land access, native title and third-party rights, and regulatory changes.

Readers are cautioned not to place undue reliance on these forward-looking statements. The Company does not undertake to update any forward-looking statements or Exploration Target information except where required to do so under applicable law, including the ASX Listing Rules and the Corporations Act 2001 (Cth).

2 Introduction and Terms of Reference

This report was prepared at the request of Kupukan Grafiitti Oy, on the completion of the geological studies and geophysical surveys carried out on the Kupukka property during 2021-2026 as well as on the completion of the 2024 diamond-drilling program and related beneficiation tests for the Kupukka Graphite Deposit. The objective of the report was:

To prepare a Technical Report for the Kupukka Graphite Project in compliance with the recommendations of the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC 2012), including an Exploration Target Classification of the Kupukka Graphite Deposit.

The Exploration Target Classification was completed by Mr. Ville-Matti Seppä, who is a Competent Person as defined by the Australasian Code for the Reporting of Mineral Resources and Ore Reserves (JORC Code) 2012 Edition.

Mr Seppä visited the site 19 November 2025. The inspection included:

- Visiting the drill core storage.
- Overall view of the property.
- Inspection of drilling sites, collar coordinates, dip and azimuth.
- Inspection of drill cores and logging procedures.
- Discussions with Hannu Makkonen, CEO of Kupukan Grafiitti Oy and Project Geologist Juha-Matti Kekki.

All measurement units used in this report are metric. All map coordinates are presented in ETRS-TM35FIN system (EPSG:3067) unless otherwise stated.

2.1 Responsible authors

Mr. Ville-Matti Seppä is responsible for Chapters 9, 11 and 12 and as the Competent Person has the overall responsibility of the Technical Report.

Mr. Juha-Matti Kekki is responsible for Chapters 5.1, 7.2.6, 8.1.4, 8.2.2, 13 and has responsibility for most of the maps of the Technical Report.

Mr. Hannu Makkonen is responsible for the rest of the Chapters of the Technical Report.

2.2 Sources of Information and Data

The sources of information for this report have been drawn from the results of geological studies, geophysical surveys and drilling (in total 7 holes, 1669.80 m) with related beneficiation tests carried out on the Kupukka property during 2023-2025 by Kupukan Grafiitti Oy. In addition, further historical exploration and mapping data by Geological Survey of Finland (GTK) and exploration data by Benzinium Oy (a private historical company) as well as exploration data by Suomen Malmitutkimus Oy have been used. Copies of these files have either been supplied by Kupukan Grafiitti or are publicly available on various Finnish data repositories. References for the sources of information are provided throughout the report.

The Competent Person has relied on information provided by Kupukan Grafiitti Oy to prepare this report. The Competent Person has no reason to believe that this information is materially misleading, incomplete, or contains material errors. The data has been reviewed by the Competent Person and deemed suitable for the study.

2.2.1 Reliance on Other Experts

The Competent Person has relied on additional data from The Exploration and Mining Registry (permitting), Finnish Safety and Chemicals Agency, Tukes.

The information, conclusions, and recommendations contained in this report are based on:

- The Competent Person field observations.
- Data, reports, documentation and other information supplied by Kupukan Grafiitti and third parties (e.g. Geological Survey of Finland).

To the report, Competent Person, Mr Ville-Matti Seppä has relied on the ownership data provided by Kupukan Grafiitti Oy and believes that such data and information is complete and correct. Mr Ville-Matti Seppä has not completed an extensive property title and ownership search on Kupukka and expresses no legal opinion on the ownership status of the property.

2.3 Units and abbreviations

The units and abbreviations used in this report are provided in Table 2-1. All currency amounts are stated in Euros. Quantities are stated in metric units, including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area.

Table 2-1. List of abbreviations.

Abbreviation	Description	Abbreviation	Description
3D	three dimensional	QA	quality assurance
ATV	all-terrain vehicle	QC	quality control
BH	bore hole	RQD	rock quality designation
Cg	graphitic carbon	SD	standard deviation
CLOSS	core loss	sf	sulphide fraction
DDH	diamond drillhole	SPG	spherical graphite
DH	drillhole	SG	specific gravity
EIA	environmental impact assessment	TUKES	Finnish Safety and Chemicals Agency
EM	electro-magnetic	WPB	within-plate basalt
EMORB	enriched mid-ocean ridge basalt	w-%	weight %
ESG	environmental social governance	AMPE	amphibolite
GTK	Geological Survey of Finland	BRC	breccia
ICP	inductivity coupled plasma mass spectroscopy	CRDGN	cordierite gneiss
IR	infra-red	GGN	graphite gneiss
Ma	Mega annum, million years	GR	granite
MML	National Land Survey (Finland)	GRDR	granodiorite
MORB	mid-ocean ridge basalt	HBLGN	hornblende gneiss
MRE	mineral resource estimate	MCGN	mica gneiss
Mt	million tonnes	PG	pegmatite
OVB	overburden	QZFSGN	quartz-feldspar gneiss
ppm	parts per million		

3 Property location

The Kupukka property is centred at Latitude 64.43222 °N, Longitude 25.84457 °E in the Siikalatva municipality, central-western Finland, around 65 km south of the city of Oulu and around 480 km north of Helsinki (Figure 3-1).

Figure 3-1. Kupukka graphite deposit is located in central-western Finland, near the Finnish and Swedish coast with planned and active battery and steel industry. Coordinates in WGS 84.

4 Mineral rights

The property is covered by one Exploration Permit, Kupukka (Registry No ML2023:0007-01) with an area of 1649.37 ha. The Kupukka Exploration Permit is valid until 19th July 2028 after which it can be applied for extensions to a maximum until 2035. Application for an Exploration Permit, Kupukka_SE, has been filed to Tukes (Mining Authority in Finland) on 17.12.2025 covering the southeastern extension of the Kupukka graphite trend. Further, around 30 km southeast of Kupukka, Kupukan Grafiitti Oy submitted a notification to Tukes for an exploration reservation on 17.11.2025), which was granted by Tukes on 03.12.2025. No appeals have been made about any applications by Kupukan Grafiitti. Geological Survey of Finland (GTK) has two Exploration Permit applications south and south-west of Kupukka (Table 4-1, Figure 4-1).

There are no known environmental liabilities on the Kupukka property. There are no royalties, back-in rights, payments or other encumbrances to which the property is subject. All the payments for damage compensations have been made up to date.

There are no Nature Conservation areas in the Exploration Permit area. The Sipola groundwater body classified into groundwater class 2, lies south of the Permit area. It is not in use due to water quality issues.

The property is wholly owned by Kupukan Grafiitti and has no attached agreements or warrants with other parties. No expenditure requirements are attached to the property. The properties have not been legally surveyed, but boundaries are determined and finalized at time of application by the relevant Finnish government agency responsible for mining and exploration (currently the Finnish Safety and Chemical Agency, Tukes). No environmental liabilities are extant apart from normal legal requirements for damage compensation to landholders resulting from any exploration work. No permits are required to perform planned exploration activities within the Exploration Permit area. Private individuals own most of the land and surface rights.

According to the Mining Act in Finland, there is an annual fee payable to landowners. This fee is currently 20€/hectare for years 1 - 4. The annual fee will rise to 30€/hectare (years 5 – 7), 40€/hectare (years 8 - 10) and 50€/hectare (years 11 onwards).

The Competent Person has examined the Claim Certificates but has not reviewed the land ownership and has not independently verified the legal status or ownership of the Kupukka property and is relying on the validity of mineral title claimed by Kupukan Grafiitti Oy.

Table 4-1. Exploration Permits and Reservations of Kupukan Grafiitti Oy as of 31.1.2026

Registry Number	Name	Applied	Granted by Tukes	Expiry	Area (ha)	Description
ML2023:0007-01	Kupukka	9.1.2023	12.6.2024	19.7.2028	1649	Exploration Permit
ML2025:0069	Kupukka_SE	17.12.2025	pending		235	Application for Exploration Permit
VA2025:0055-01	Heteneva	17.11.2025	3.12.2025	16.11.2026	1492	Reservation

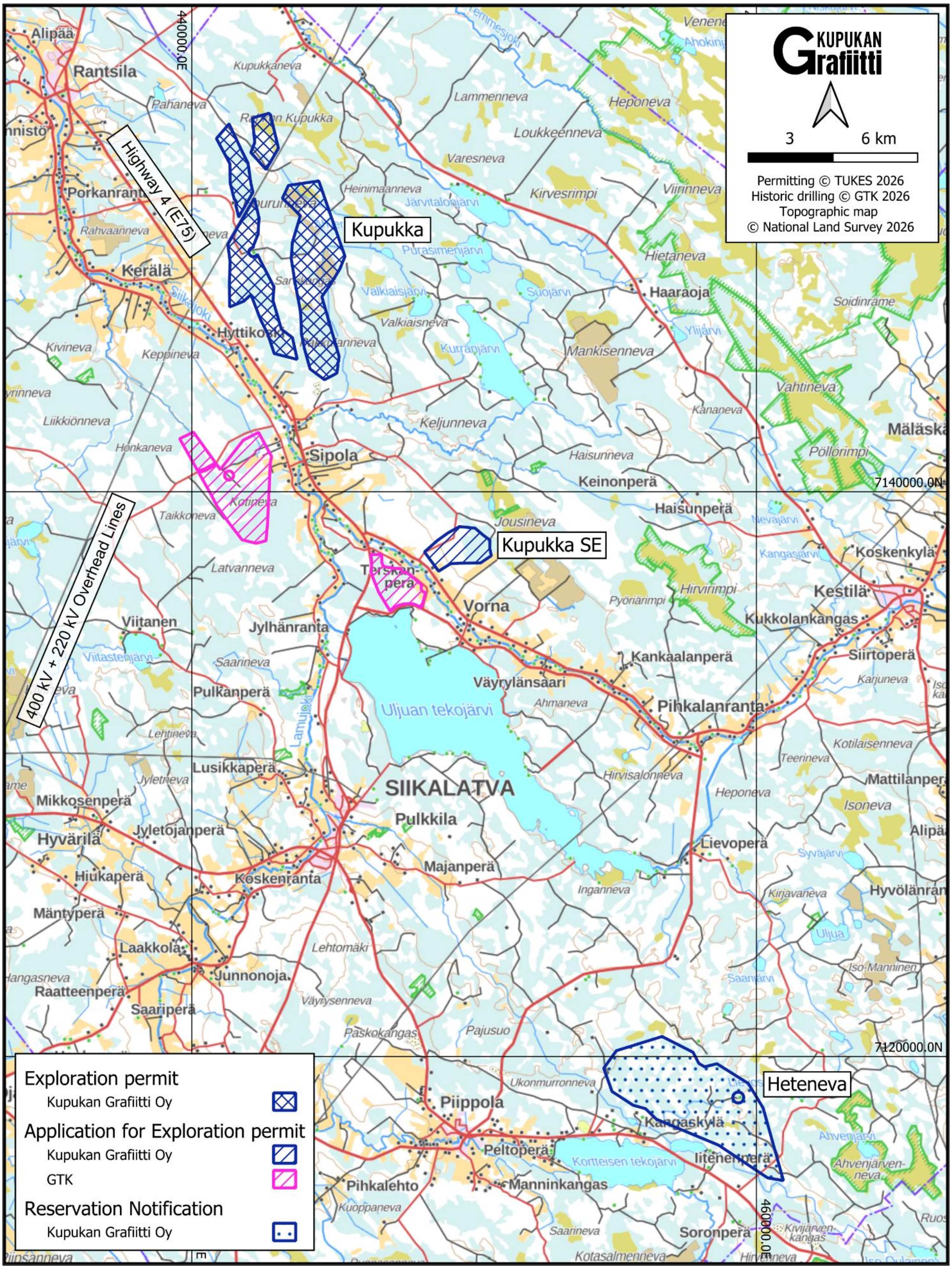


Figure 4-1. Land tenure in Kupukka Property and surroundings as of 28.1.2026.

5 Accessibility, climate, local resources, infrastructure and physiography

The Kupukka property is located in Siikalatva municipality, Northern Ostrobotnia province in Finland. It is near the Highway number 4, the main N-S highway, only 0.5 – 5 km east of it. The nearest villages are Rantsila, some 10 km NNW and Pulkkila, some 20 km south of Kupukka. Regional capital Oulu is 75 km, less than 1 hour drive, north of Kupukka. Oulu has 217 000 inhabitants and wide range of industrial services. Access to the Kupukka area is easy via the several gravel roads and forest roads leading to the Kupukka area from the Highway. Off-road, ATVs can be used during the summertime and snowmobiles during the wintertime.

The service infrastructure is excellent. The main railway of Finland runs 45 km west of Kupukka and the Kupukka area is 55 km by road from the nearest railhead of the main railway, Tuomioja, from where there is a good railroad connection to Oulu and Raahe seaports, open throughout the year. The Oulu airport in Oulunsalo is around 70 km by road, with regular daily flights to Helsinki. In addition, high voltage power lines (400 kV and 220 kV) run through the Kupukka area, and several wind farms are planned near the Kupukka property. Water is readily available from the lakes or small rivers nearby (Figure 4-1). Table 5-1 describes the relative location and importance of these localities.

Table 5-1. Important localities for the Kupukka Property.

Locality	Distance by road	Significance
Oulu	75 km	Seaport, airport, regional capital
Tuomioja	55 km	Nearest railway service, connection to seaports
Raahe	85 km	Seaport
Pulkkila	20 km	Civic centre of the Siikalatva municipality
Rantsila	10 km	The nearest village, engineering works

The weather conditions are characteristic of the northern Fennoscandian climate, with temperate summers and cold winters. During the summer months (June-August), temperatures range usually from 10°C to 25°C, and during the winter months (November-March) from 0 °C to -20°C. The terrain is snow-covered in winter during which time bogs, small rivers and lakes are frozen. The annual rainfall is around 530 mm, distributed evenly throughout the year. The weather conditions do not interfere with open-pit or underground mining anywhere in Finland. Fresh water is usually plentiful around the property, but permission must be obtained to use it.

The Kupukka area sits around 75 m above sea level. The topography is gently undulating to flat, covered mainly by till and peat. Within the Kupukka area and close vicinity there are several historical energy peat production areas. In diamond drilling sites of the Kupukka area and in the surroundings, the soil depth varies between 4 to 20 meters. Outcrops are found only outside of the graphite-rich belts, mainly in the southernmost and northernmost parts of the Kupukka Property.

The Exploration Permit area is uninhabited, partly forest subject to intermittent logging activities and partly historical peat production area. The nearest settlement is south and SW from the Exploration Permit area with the distance to the nearest houses around 1 km from the border of the Permit area (Figure 4-1).

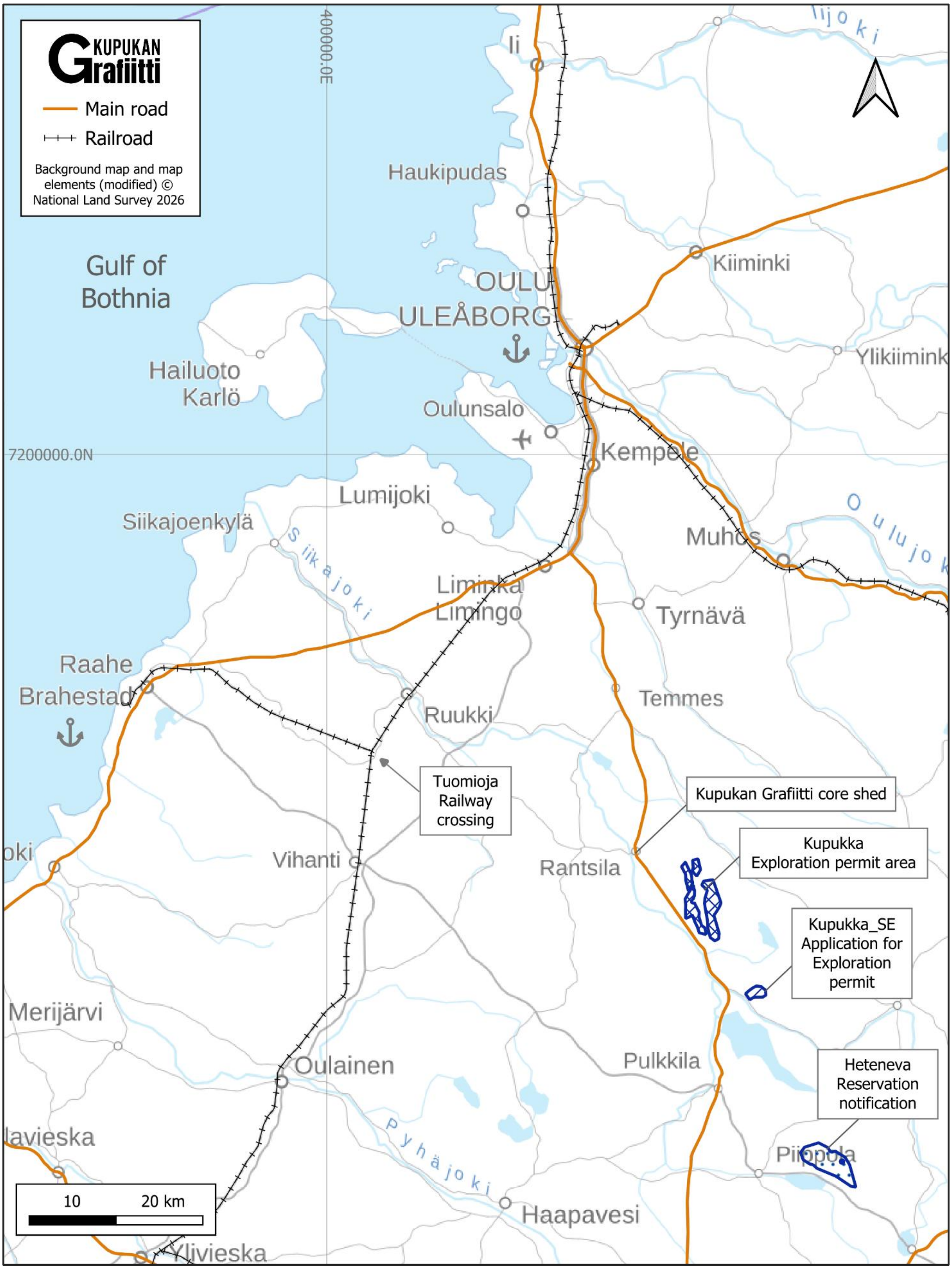


Figure 5-1. Southern Oulu region with the main road and railroad networks. Kupukan Grafiitti Oy land tenure shown.

5.1 Protected areas

Sipola groundwater body is located south from Kupukka exploration permit area. It consists of glacifluvial sediments and is classified into groundwater class 2, which means suitable for water supply. However, the area is not in use due to water quality issues. Class 1 in this classification means areas, which are crucial for water supply.

Roughly 5 km North of the Exploration Permit area lies Loukkuneva – Isoneva that is protected and belongs to Natura 2000 network. Similar, yet bigger Natura 2000 area called Veneneva - Pelso is located approx. 10 km East of the permit area. These protected areas are not in water flow direction from Kupukka. Few small private nature reservations locate NE of Kupukka SE (Figure 5-2).

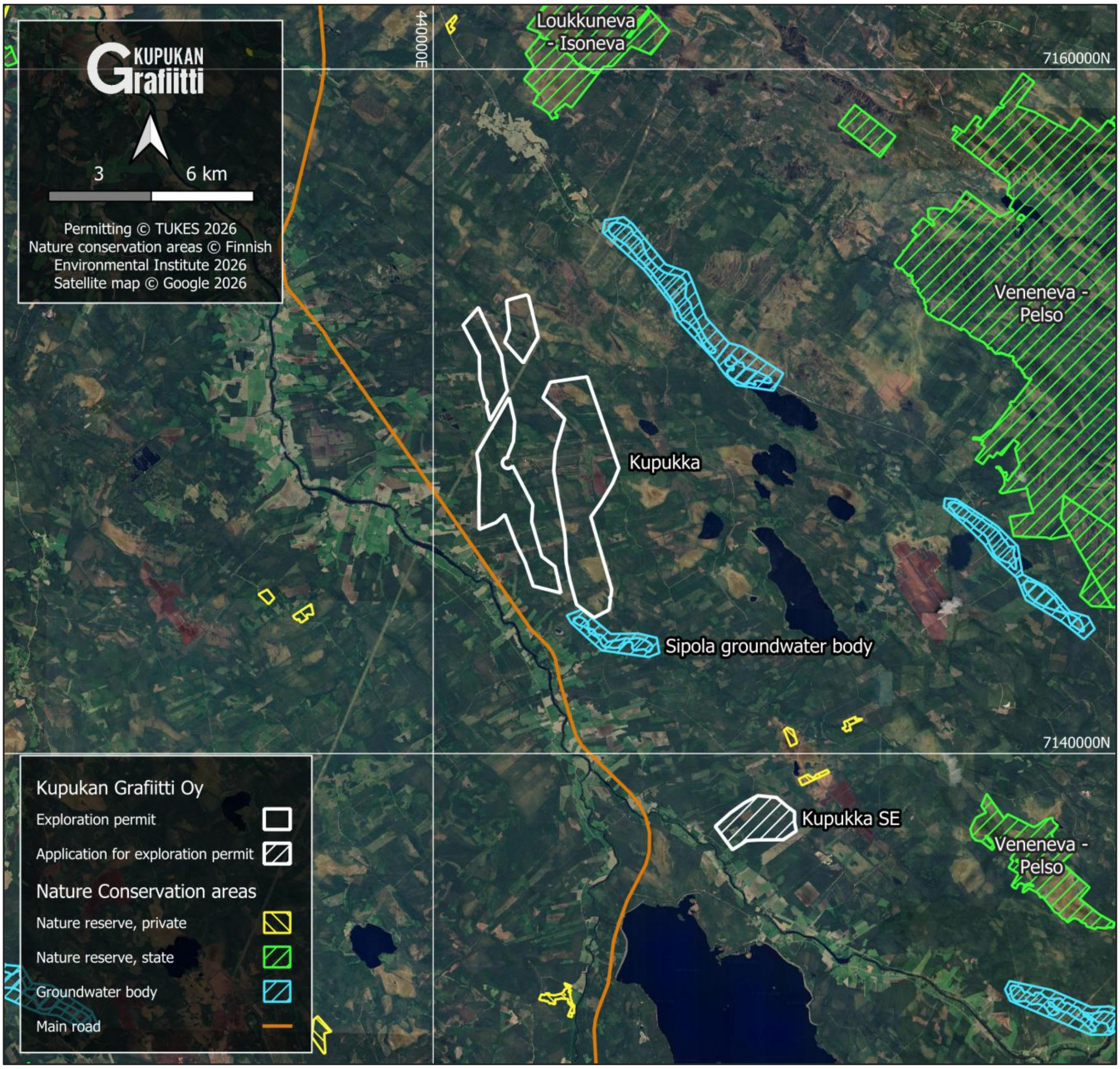


Figure 5-2. Protected areas and groundwater bodies near Kupukka.

6 Geological Setting and Mineralization

6.1 Regional Geology

The Kupukka Property is located in the Fennoscandian Shield within the Palaeoproterozoic Svecofennian domain and close to the boundary of the Archaean Karelian Craton. The Fennoscandian Shield is the largest (> 1 million km^2) exposed area of Precambrian rocks in Europe, and similar to the famous Shield regions of Canada and Australia. The Fennoscandian Shield is exposed in Finland, Sweden, Norway, and northwestern Russia, which, together with the Ukrainian Shield, represent the oldest exposed rocks in Europe. In the west, the Precambrian bedrock is overthrust by the Caledonian orogenic belt and in the south and east, it is overlain by Phanerozoic and Neoproterozoic platform sediments (Figure 6-1).

The following summary of the Finnish Svecofennian bedrock is mainly from Hanski (2015).

Svecofennian supracrustal rocks typically comprise calc-alkaline volcanic rocks of volcanic arc magmatism, ranging in composition from low-K to shoshonitic basalts to rhyolites, and associated accretionary prism sediments, such as turbiditic greywackes and mudrocks (now represented by graphitic gneisses and schists). Besides island arc basalts, MORB-, EMORB-, and WPB-type pillow lavas are present locally. Sedimentary carbonate rocks are mostly confined to the southernmost arc complex. Due to the complicated tectonic history, granitic magmatism has taken place at several stages (Kähkönen 2005). Nironen (2005) gives the following classification of orogenic granitoid rocks:

- Preorogenic (1950–1910 Ma)
- Synorogenic (1890–1860 Ma) divided into two subclasses:
- Synkinematic (1890–1870 Ma)
- Postkinematic (1880–1860 Ma)
- Late-orogenic (1840–1800 Ma)
- Postorogenic (1810–1770 Ma)

In addition, mafic–ultramafic plutonism occurred as multiple pulses. Peltonen (2005) distinguishes three groups of intrusions, of which Group I is found around the Central Finland Granitoid Complex (CFGC). Group I intrusions were emplaced close to the peak of the Svecofennian orogeny at around 1890 Ma and can host Ni-Cu sulphide deposits. The Group II intrusions are large synvolcanic layered gabbro complexes restricted to the arc complex of southern Finland (ASF), and the less-abundant Group III intrusions include Ti-Fe-P-rich gabbros within the CFGC.

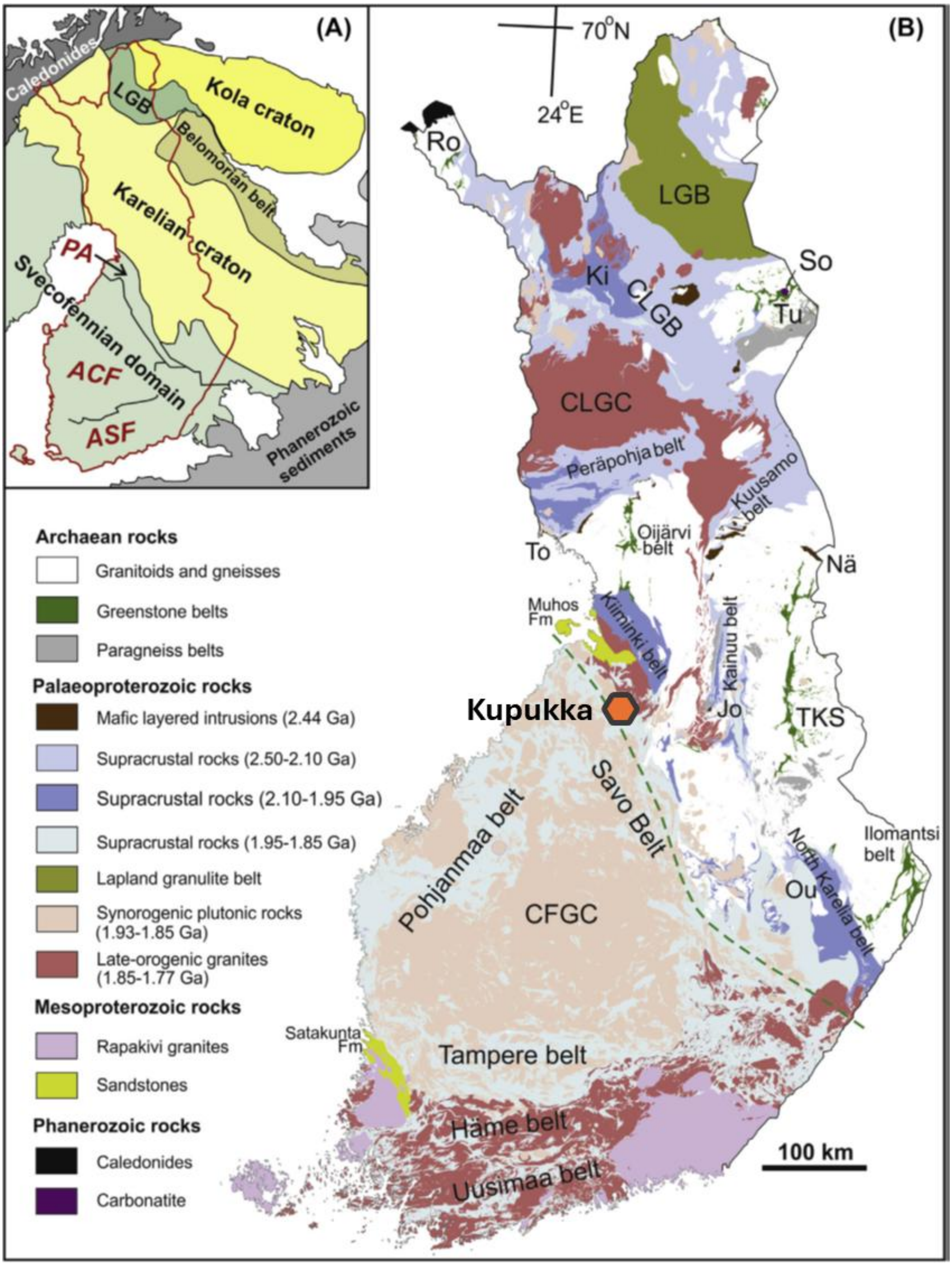


Figure 6-1. Location of the Kupukka Property on the simplified bedrock map of Finland. The green dashed line shows the SW boundary of the Karelian craton. Modified from Hanski (2015, Fig. 2.1).

6.2 Local Geology

The following is compiled mainly from the GTK bedrock map explanation of the Piippola and Rantsila map-sheet areas by Kousa and Luukas (2007).

Mica gneiss (age group 2050-1960 Ma) is one of the major rock types in the Piippola and Rantsila map-sheet areas. Kupukka is located within the Rantsila map-sheet area. Most of the mica gneisses are more or less migmatitic. Quartz-feldspar schist or gneiss and calc-silicate intercalations and concretions are seen in places. Graphite schist layers or horizons are very common, especially in the Rantsila map-sheet area. Migmatization and high grade contact metamorphic zones around pyroxene granitoids have largely destroyed primary sedimentary structures, but a turbiditic origin is still obvious in some outcrops. The main minerals in the mica gneisses are biotite, quartz and plagioclase, while the metamorphic index minerals garnet, cordierite and hypersthene are abundant near the contacts of pyroxene granitoids. The overall rock association, comprising turbiditic mica gneiss and graphite schist with mafic pillow lava intercalations, probably indicates a deep marine depositional environment.

The mica gneisses are surrounded by a wide range of granitoids, which have been subdivided into four separate igneous complexes. Two of these, namely the Rantsila and Lamu igneous complexes, are composed of pyroxene-bearing porphyry granitoids and gabbros. In general, they belong to a prominent 1880 Ma pyroxene granitoid belt trending approximately parallel to the margin of the Archaean craton. The Kurranjärvi complex in the northeastern part of the Rantsila map-sheet is dominated by leucocratic porphyritic granites and pegmatite granites and represents the youngest igneous event (ca. 1820-1780 Ma).

Most of the hornblende gneisses occur in the eastern part of the Rantsila map-sheet as separate, rather small bodies or horizons within the Kurranjärvi Complex. Sometimes the gneisses are highly deformed and variably migmatized with granitoid neosomes. Amphibolites and mafic supracrustal rocks are even more scarce than hornblende gneisses but contain readily recognizable primary volcanic structures such as pillows and pyroclastic breccias.

In Rantsila area mica gneisses are migmatitic and in many places highly deformed as well. Intensive deformation along the major shear zones, namely the NE–SW trending Oulujärvi Shear Zone and the NNW–SSE trending Revonneva Shear Zone, which is part of major NW-SE Raahe–Ladoga Shear Zone, has effectively destroyed primary sedimentary features. Occurrence by garnet and sillimanite indicates at least amphibolite facies metamorphic conditions. Prevailing migmatization may in general indicate upper amphibolite facies metamorphism. The occurrence of garnet, cordierite and hypersthene, especially near the contact zones of pyroxene granitoids also indicates that high temperature granulite facies has been attained in contact aureoles. During the Kupukka Property studies by Suomen Malmitutkimus Oy two drill core samples from GTK drillings, some four kilometers east of the Kupukka Exploration Permit area, were studied by Raman microscopy in GTK laboratory of process mineralogy. Based on the results the metamorphic temperature estimates varied between 682 - 683˚C (±50 ˚C), which indicates upper amphibolite facies conditions.

In Kupukan Grafiitti Oy drillings the most common rock types were mica gneiss, graphite gneiss, cordierite gneiss and amphibolite. In addition, pegmatite veins, hornblende gneiss and quartz-feldspar gneiss were intersected. Amphibolite is thus more common in the Kupukka area than shown in the GTK bedrock map.

Figure 6-2 depicts the bedrock geology and metamorphism in Kupukka Property and surroundings and Figure 6-3 -- Figure 6-7 show typical examples of the rock types.

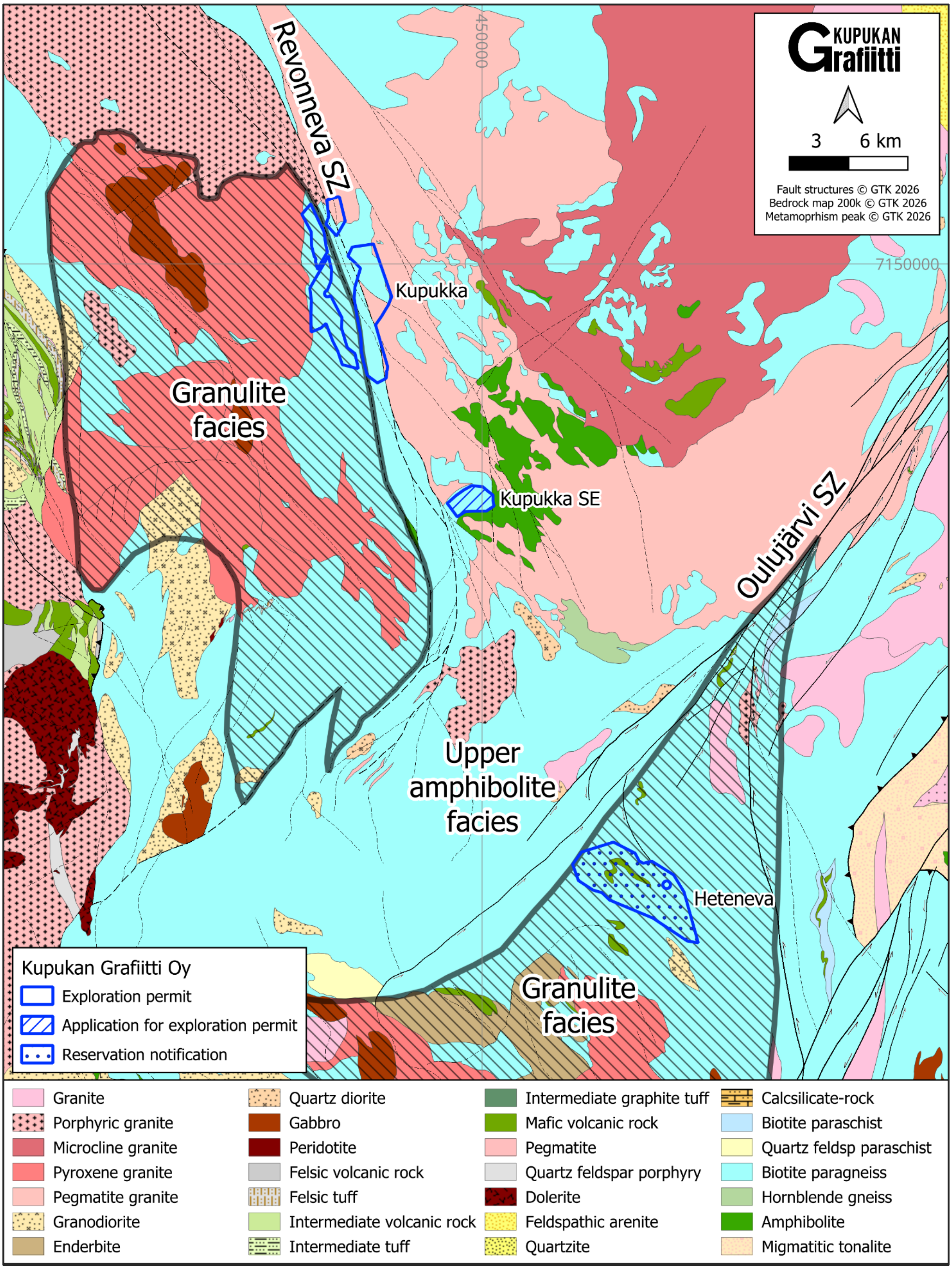


Figure 6-2. Bedrock geology and metamorphic facies around the Kupukka Property according to GTK (Bedrock of Finland - DigiKP).

Figure 6-3. Migmatized mica gneiss with granitic neosome, deformed in the Revonneva shear zone. Rantsila, Sipola easting = 443650, northing = 7143628. From Kousa and Luukas (2007, Fig 8), photo Jukka Kousa.

Figure 6-4. Schollen migmatitic garnet-cordierite-orthopyroxene mica gneiss, with high degree of melting, and recrystallized calc-silicate enclaves. Length of scale 17.5 cm. Rantsila, Höytelinkangas, easting = 430995, northing = 7143708. From Kousa and Luukas (2007, Fig. 7), photo Jouni Luukas.

Figure 6-5. Typical migmatitic mica gneiss in drill core.

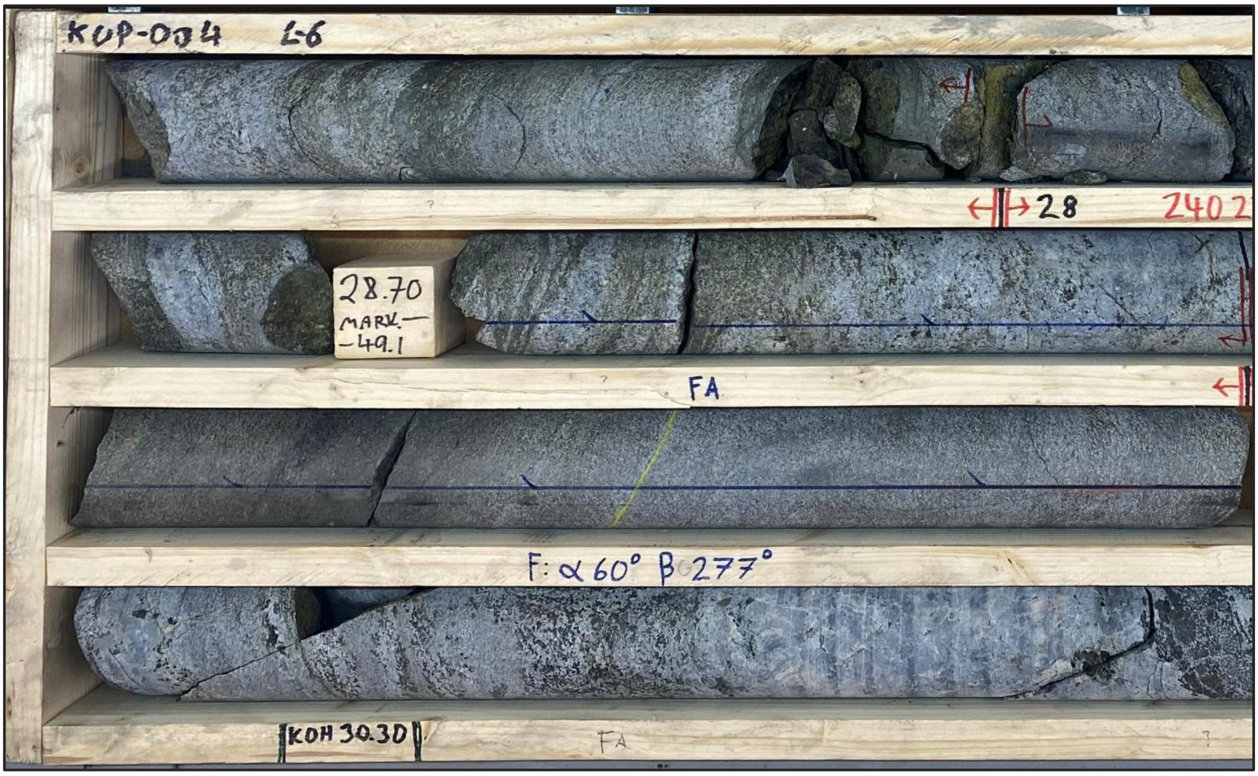


Figure 6-6. Unhomogenic cordierite gneiss in drill core. Black mineral is pinitized cordierite.

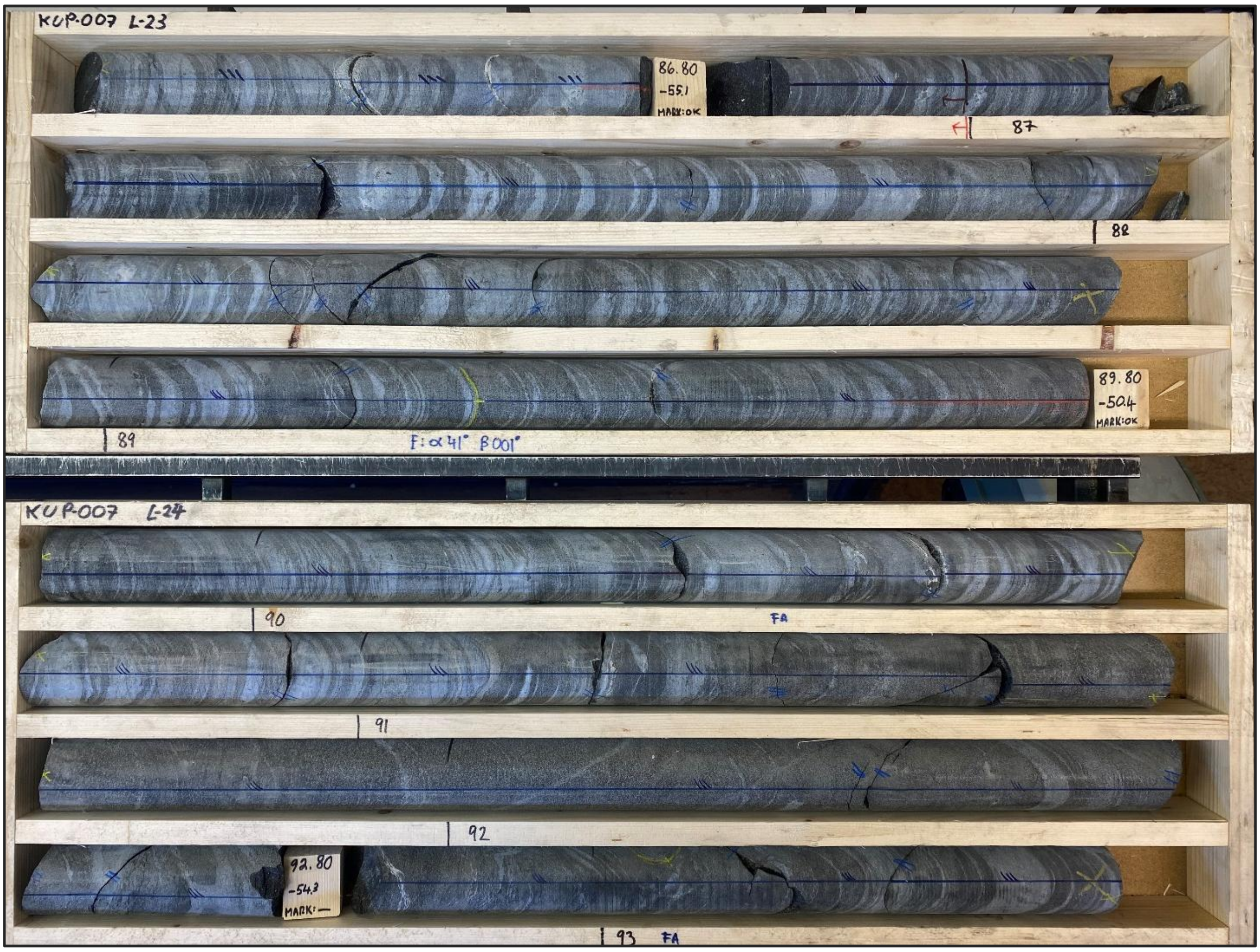


Figure 6-7. Banded and massive (lower box) amphibolite in drill core.

6.3 Deposit Type

Graphite is a naturally occurring allotrope of carbon produced 1) by the metamorphism of organic material originally deposited as sediment or mixed with sediment. During metamorphism hydrogen and oxygen are driven off as water, leaving the carbon behind to form graphite. 2) Graphite can also be hydrothermal in origin. Graphite is an opaque mineral with six-sided form and crystallises in the hexagonal system with rhombohedral symmetry although well-formed crystals of graphite are quite rare in nature, and most graphite occurs in its massive form.

Graphite has a perfect basal cleavage and thus presents as flat flakes (>75 µm) or as a finer-grained, microcrystalline type. The following types of graphite are found in nature:

- Flake graphite: crystalline small flakes of graphite which occurs as isolated, flat, plate-like particles; (small flake: 75 – 150 µm; medium flake: 150 – 180 µm; large flake: 180 – 300 µm; jumbos or extra-large: > 300 µm) (Weber 2023)
- Amorphous graphite: very fine flake graphite, < 75 µm, sometimes also called microcrystalline or cryptocrystalline (Damm 2021)
- Lump graphite (or vein graphite): occurs in fissure veins or fractures and appears as massive platy intergrowths of fibrous or acicular crystalline aggregates, and is probably hydrothermal in origin

The bedrock of the Kupukka area represents mainly turbiditic sediments deposited on to the sea bottom as well as mafic pillow lavas (amphibolites) and possibly intermediate-mafic tuffs (hornblende gneisses). Graphite-rich layers occur often in the contact zone between sediments and mafic volcanics, which may indicate a quiet period in deposition of clastic sediments. Consequently, the Kupukka Graphite Deposit represents organic material originally deposited as sediment or mixed with sediment between 2.05 Ga -1.96 Ga. Also, the geochemistry shows the close association of graphite-rich rocks with amphibolites and hornblende gneisses (Figure 6-8). During regional metamorphism and contact metamorphism around the pyroxene-rich granitoids and gabbros-diorites the organic material was crystallized as flake graphite. Due to high metamorphic temperatures graphite crystallized as coarse flakes. Based on the microscopic studies by Kupukan Grafiitti Oy the length of the graphite flakes at Kupukka is ≤1.5 mm. In the microscopic studies by Antti Soini the maximum length of the graphite flakes was up to 2 mm (Benzinium Oy Report 2013).

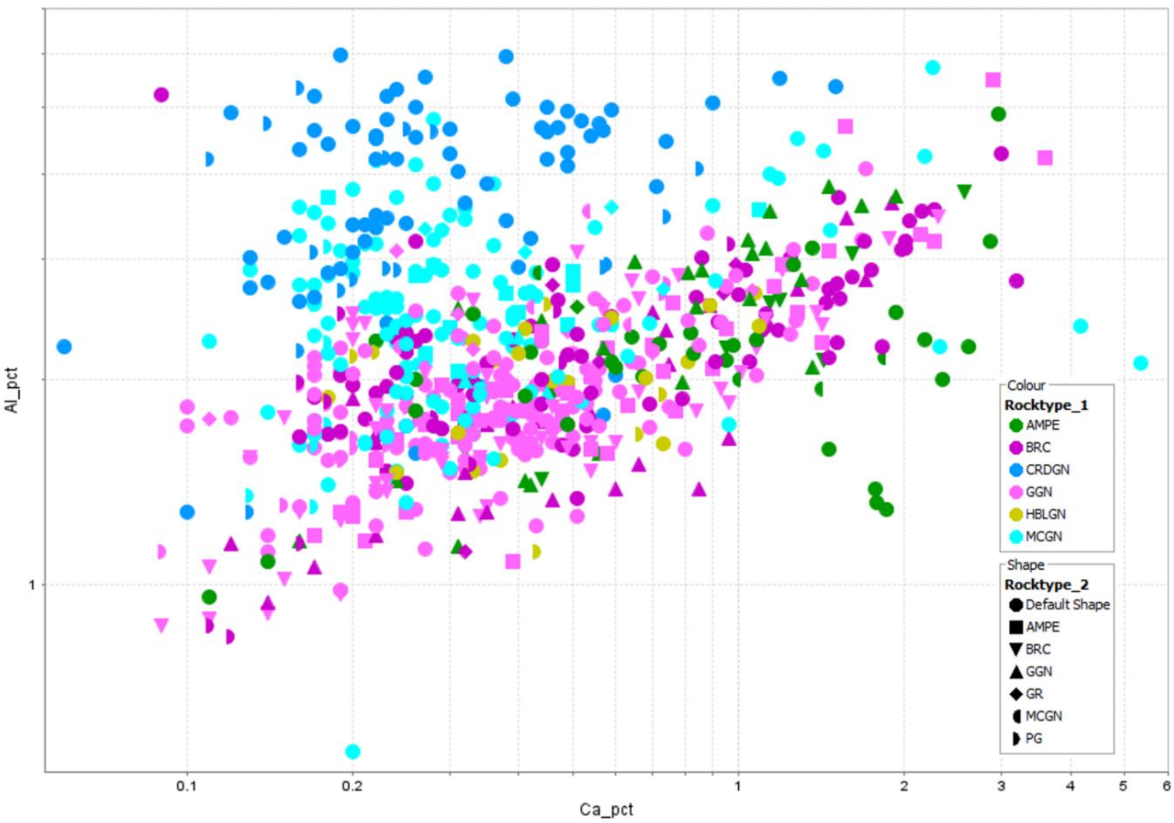


Figure 6-8. Aluminum vs. calcium plot depicting the geochemical similarity of graphite-rich rock types (purple) with rock types of volcanic origin (green).

6.4 Mineralization

6.4.1 Geology

Based on the drillings by Kupukan Grafiitti the graphite mineralization at Kupukka is located within the mica gneiss unit or in the contact zone of amphibolite and mica gneiss. Also, amphibolite can host graphite mineralization. The mineralization is stratiform and represents a carbon-rich layer. Probably because of isoclinal folding during the early structural history narrow barren mica gneiss layers may occur within the mineralization. Also, granitic pegmatite dykes (≤ 8.4 m in drill core) cut in places the mineralization. The thickness (true width) of the main mineralization varies mainly between 30 – 80 m with a cut-off of 3 % Cg (Figure 6-11, see also figs. 6.21 and 6.22). Table 6-1 and Table 6-2 list the graphite-rich intercepts.

Two main graphite ore types have been recognized, 1) high-grade *breccia ore* and 2) lower-grade *disseminated ore*. Figure 6-9 and Figure 6-10 show the graphite grade for different rock types.

The host rock for the *breccia ore* has a breccia-type texture, which is in places distinct but often obscured (Figure 6-12 and Figure 6-13). Compared to the disseminated ore type the host rock for the breccia ore is quite massive and rich in clinoamphibole, which can be the dominating silicate in the rock, thus the rock is close to amphibolite in mineral composition (Figure 6-16). In addition to the clinoamphibole plagioclase occurs as the main silicate mineral. Typical is also the abundance of sphene within the minor minerals.

The host rock for the *disseminated ore* is a graphite gneiss, which actually is a graphite-rich mica gneiss (Figure 6-14 and Figure 6-17). The main silicate minerals are plagioclase, quartz and biotite. Graphite, pyrrhotite and to a lesser amount pyrite are the main opaque minerals.

Pyrrhotite is usually abundant in the graphite ore. Pyrrhotite is magnetic due to which the graphite ore usually has a high magnetic susceptibility and can be traced by magnetic measurements. In places, especially in the upper parts of the mineralization and within shears, pyrrhotite has been altered to pyrite losing its magnetic properties.

Microphotographs of typical examples for the graphite ore can be found in Figure 6-18 and Figure 6-19.

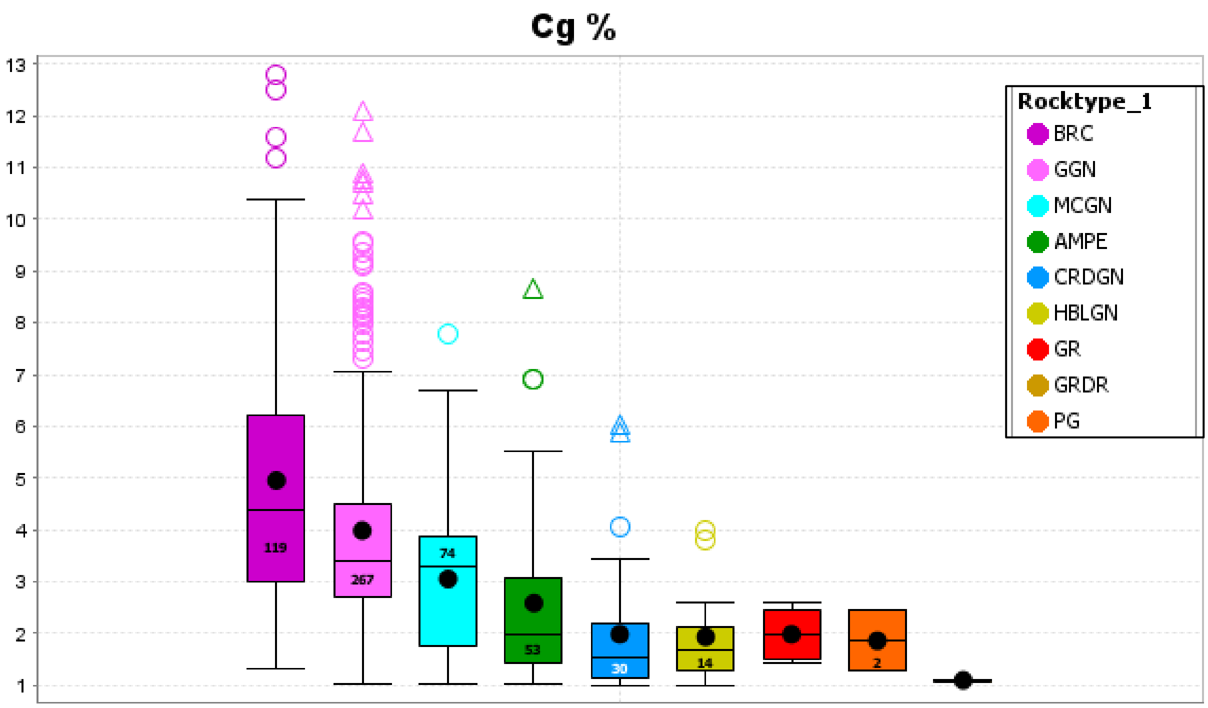


Figure 6-9. Graphitic carbon (Cg %) content in different rock types including samples with > 1 % Cg. The box is the range between the 25th and 75th percentiles. Median with black line, mean with black dot in the box.

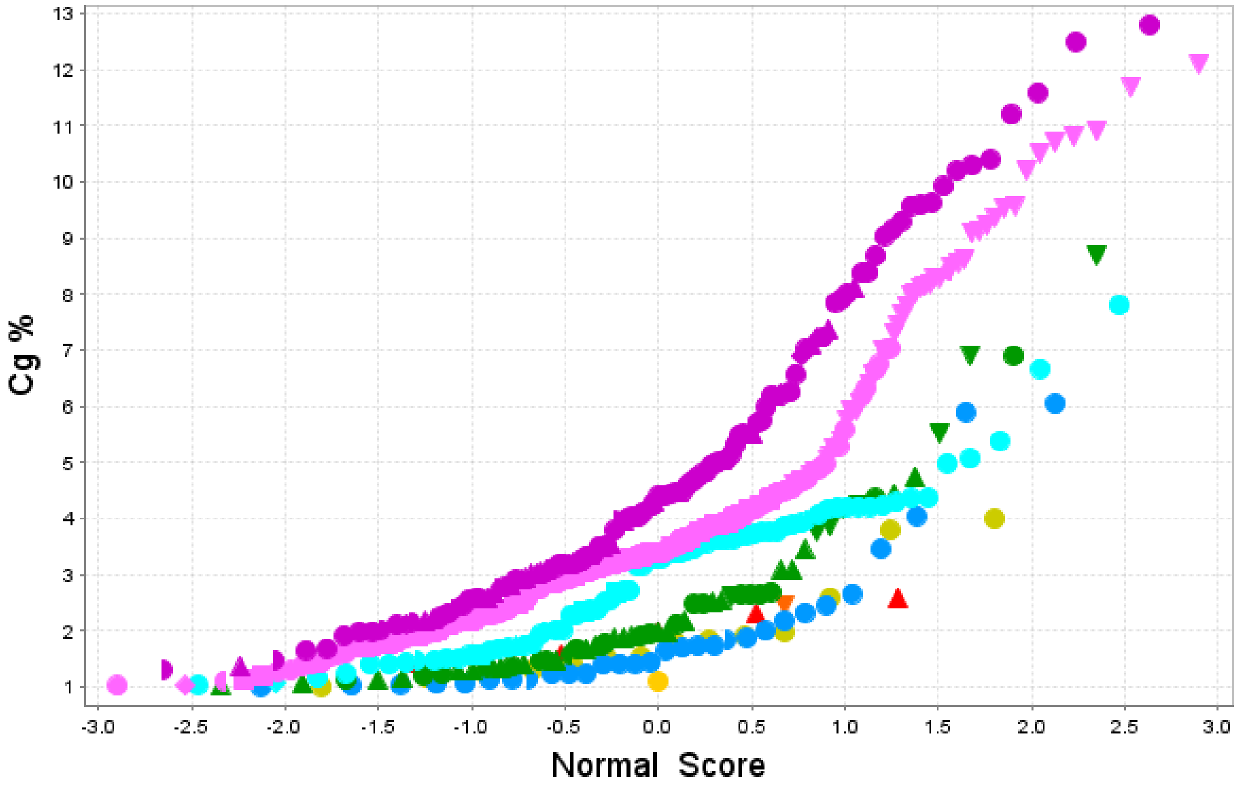


Figure 6-10. Probability plot of graphitic carbon content (Cg %) for different rock types, samples with > 1 % Cg. Symbols as in Figure 6-9.

Table 6-1. Graphite-rich intercepts in 2013 drillings by Benzinium Oy, cut-off 3 % Cg, longest included interval below the cut-off is 3.0 m. True width is estimated to be 65-85 % of the intercept length. Core loss is treated as 0 % Cg.

Hole_ID	From (m)	To (m)	Intercept length (m)	Cg %
RAN-001	63.50	66.00	2.50	3.50
RAN-002	40.00	64.00	24.00	5.25
RAN-002	82.00	96.65	14.65	6.16
RAN-003	70.00	78.30	8.30	3.07
RAN-004	68.10	71.75	3.65	3.85

Table 6-2. Graphite-rich intercepts in 2024 drillings by Kupukan Grafiitti Oy, cut-off 3.0 % Cg, longest included interval below the cut-off is 22.95 m (KUP-003). True width is estimated to be 65-85 % of the intercept length. Core loss is treated as 0 % Cg.

Hole_ID	From (m)	To (m)	Intercept length (m)	Cg %
KUP-001	237.00	332.65	95.65	3.09
including	237.00	260.70	23.70	4.35
KUP-002	82.60	194.45	111.85	4.48
including 1	82.60	100.30	17.70	5.25
including 2	118.20	140.75	22.55	9.16
KUP-003	26.00	110.30	84.30	3.66
including	26.00	46.45	20.45	8.01
KUP-004	39.00	130.00	91.00	3.42
including	83.00	119.00	36.00	3.96
KUP-005	183.00	222.00	39.00	3.80
KUP-006	36.30	100.00	63.70	4.47
including	88.25	100.00	11.75	8.60
KUP-007	70.15	80.80	10.65	3.46
KUP-007	124.70	255.00	130.30	3.35
including	227.05	236.40	9.35	4.11

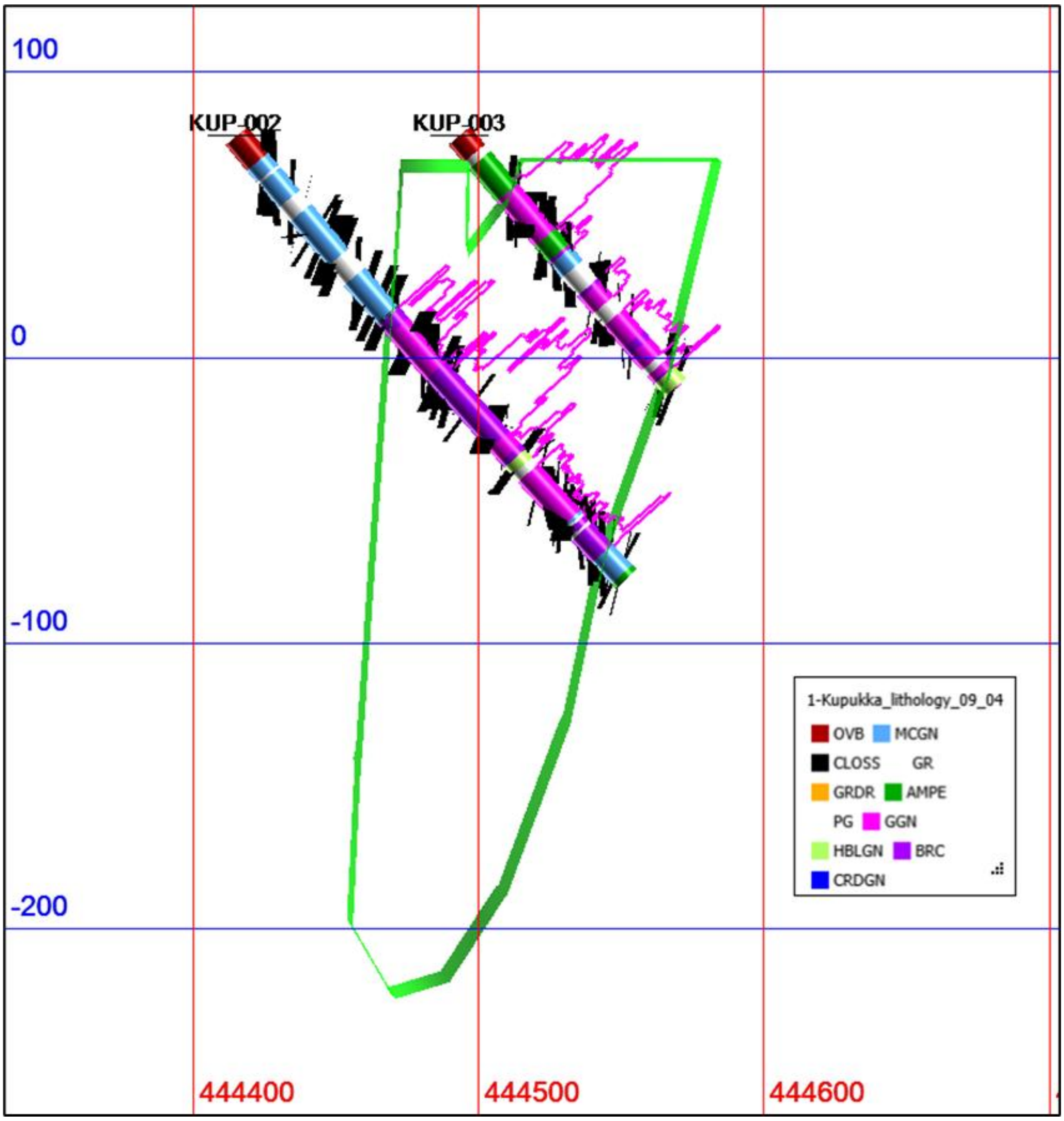


Figure 6-11. Coss section through the graphite mineralization in drilling profile KUP-002-003 with the interpreted outline of the graphite mineralization. View towards north, 15m thick slice. Graphitic carbon content shown as purple bars (maximum 12.8%, KUP-002) and the measured main foliation as black tablets.

Figure 6-12. Breccia ore in KUP-002. Assayed graphite content (%) shown.

Figure 6-13. Distinct breccia texture in drill core. Graphite-rich portion on the left.

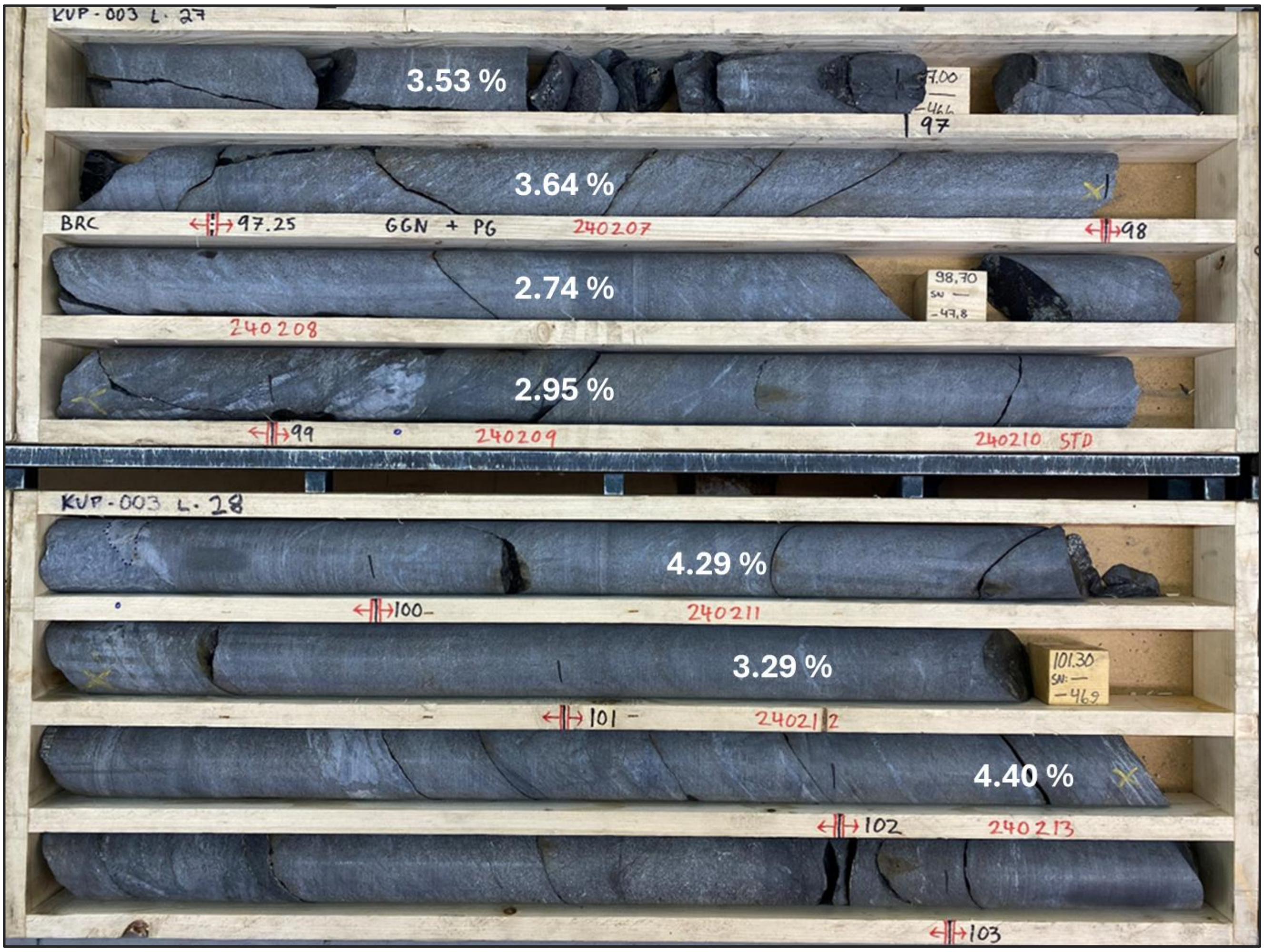


Figure 6-14. Disseminated ore in KUP-003. Assayed graphite content (%) shown.

Figure 6-15. Disseminated ore in drill core. Graphite flakes are best seen on the right.

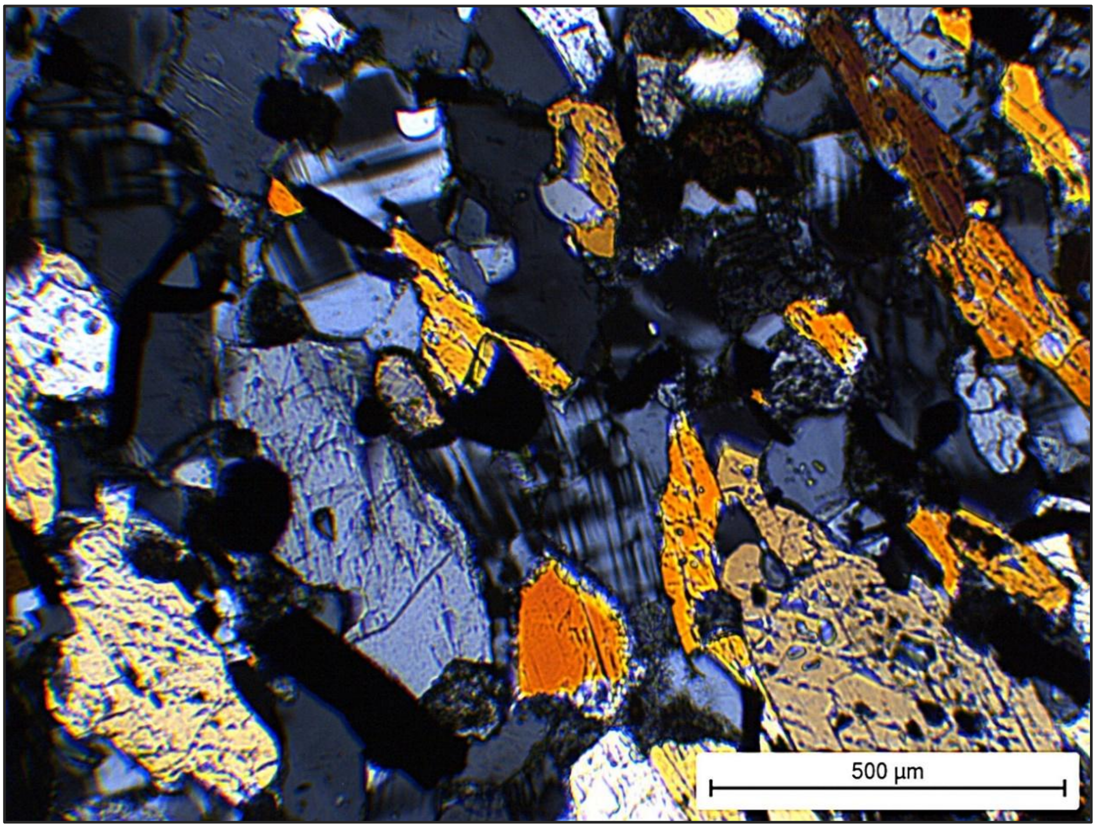


Figure 6-16. Microphotograph of the host rock for the breccia ore. KUP-002_122.05m. Grey = plagioclase, yellow and orange = clinoamphibole, black = graphite + sulphides.

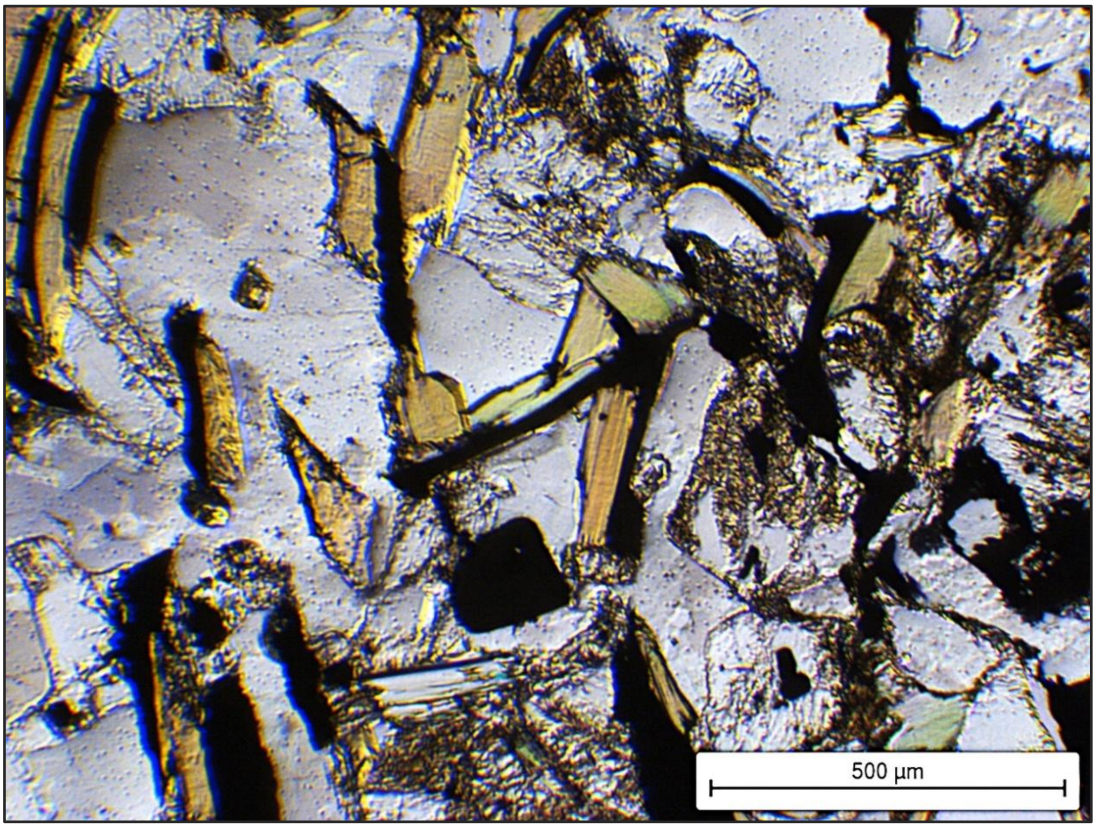


Figure 6-17. Microphotograph of the host rock for the disseminated ore (graphite gneiss). Brown and green = biotite, grey = plagioclase and quartz, black = graphite + some sulphides. KUP-002_122.05m.

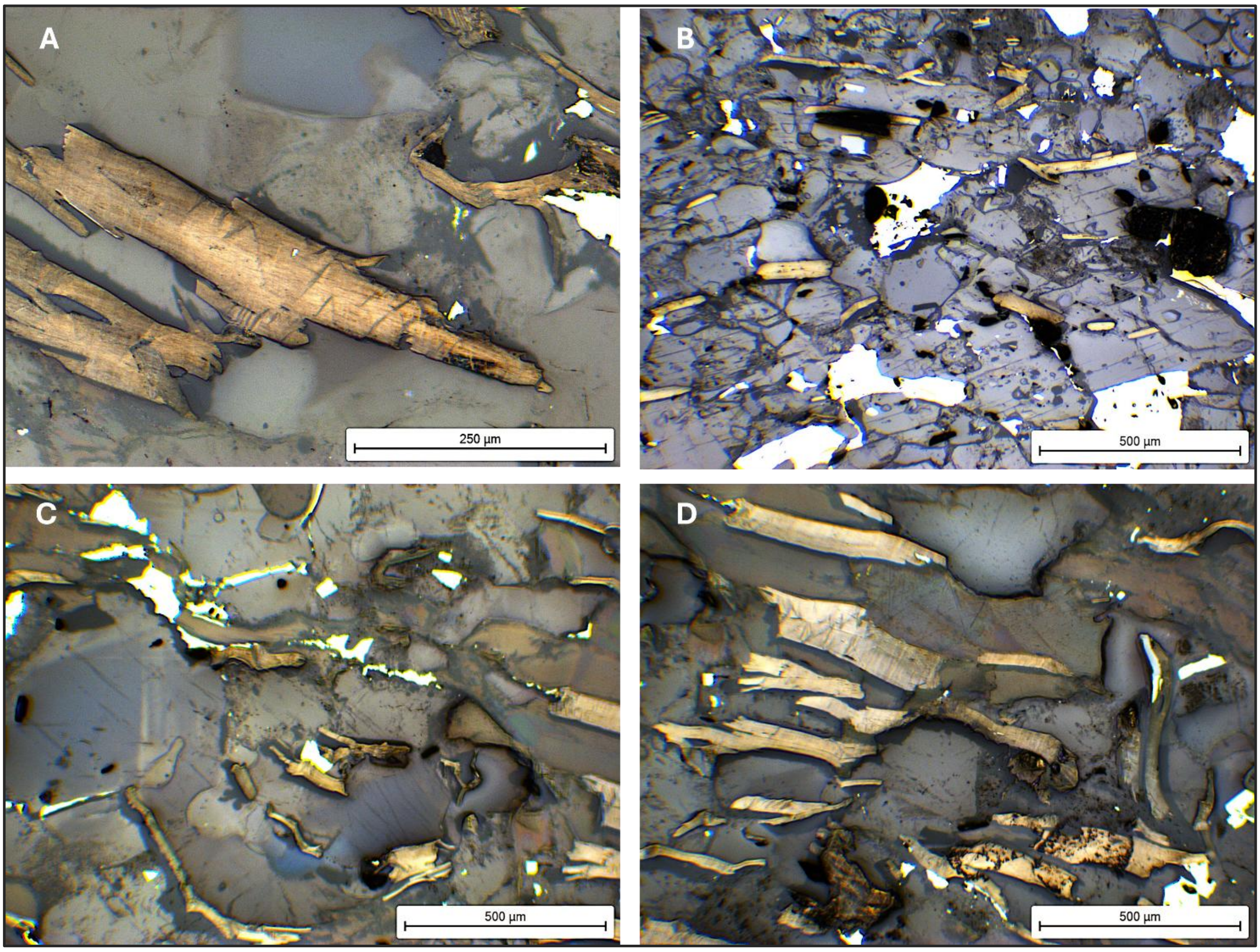


Figure 6-18. Microphotographs of graphite ore, drill core samples from 2024 drillings. Graphite flakes appear in brownish colour. A = KUP-002_84.95m, B = KUP-002_122.05m, C = KUP-002_84.95m, D = KUP-002_84.95m.

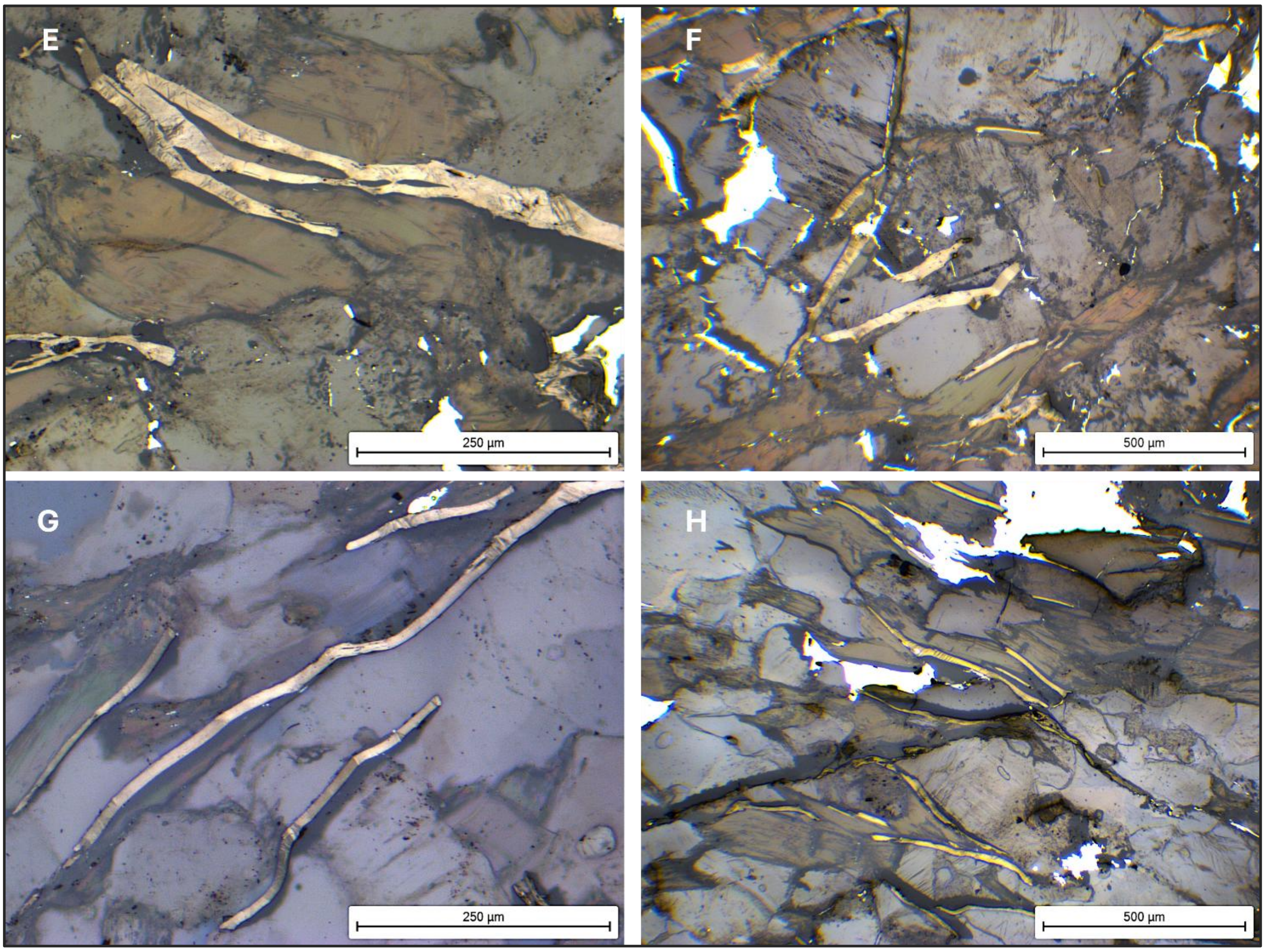


Figure 6-16 Continued. E and F= KUP-002_186.90m, G and H = KUP-002_188.60m.

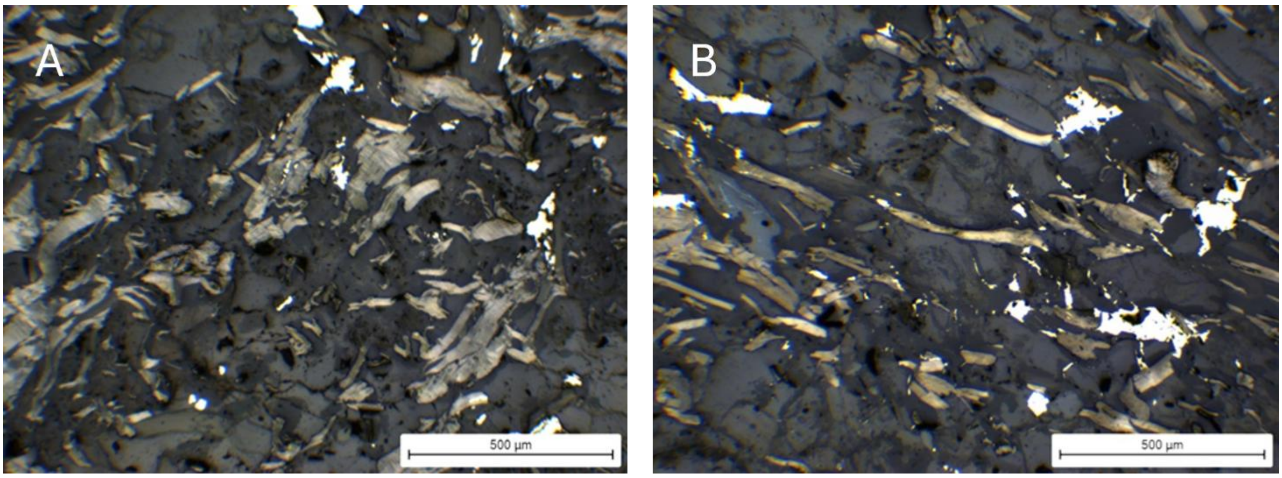


Figure 6-19. Microphotographs of graphite ore, drill core samples from 2013 drillings. A = RAN-002_62.60m, B = RAN-002_92.90m.

6.4.2 Structure

Structural studies at Kupukka have been made on drill cores and outcrops. In addition, magnetic inversions have been utilized to estimate the mode of occurrence of the mineralized bodies.

The graphite mineralization is stratiform and probably stratabound. It represents a carbon-rich layer near or within the contact zone of mica gneiss (turbidite) and amphibolite (mafic volcanic rock). The main schistosity (S_2) is mostly conforming with the layering and mostly subvertical or dipping west. Consequently, the mineralized bodies also are subvertical or dipping west. The stereonets in Figure 6-20 depict the results of the structural measurements from the oriented drill core. Most often the measured dip of the foliation is subvertical or dipping steeply towards west, and in few places dipping steeply towards east or north-east. In drill hole KUP-007 the dip of the foliation is westwards in the upper part and eastwards towards the end of the hole suggesting an antiformal structure (Figure 6-21). Figure 6-22 shows all the measured fold axes from the drill cores. Almost all fold axes plunge southwards with an average of 49 degrees conforming with the outcrop observations by GTK (Luukas and Kousa 2000).

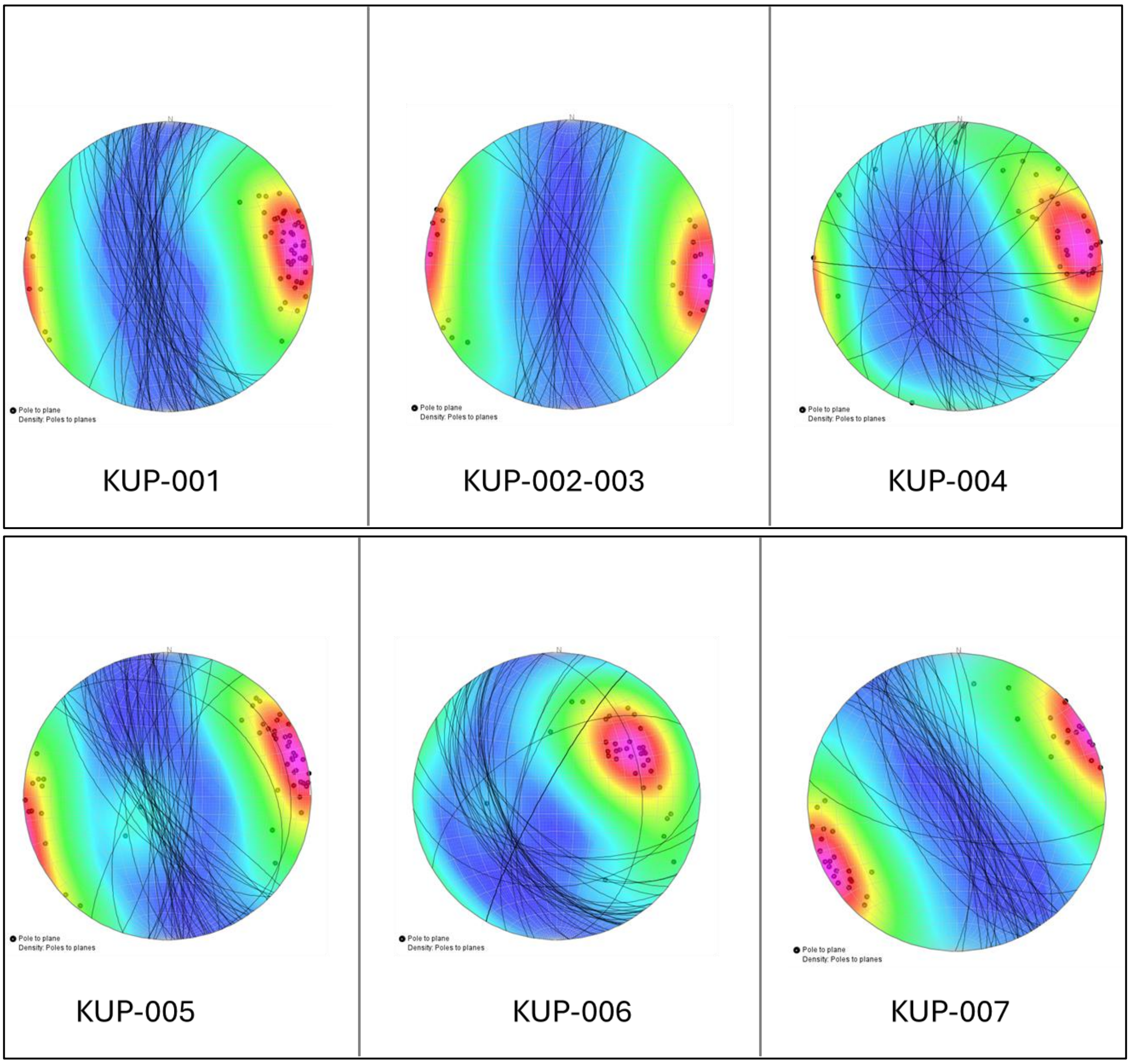


Figure 6-20. Stereonets (Schmidt net) of the measured foliation for each drilling profile. Ori-quality 2 and 3 are included from the measurements.

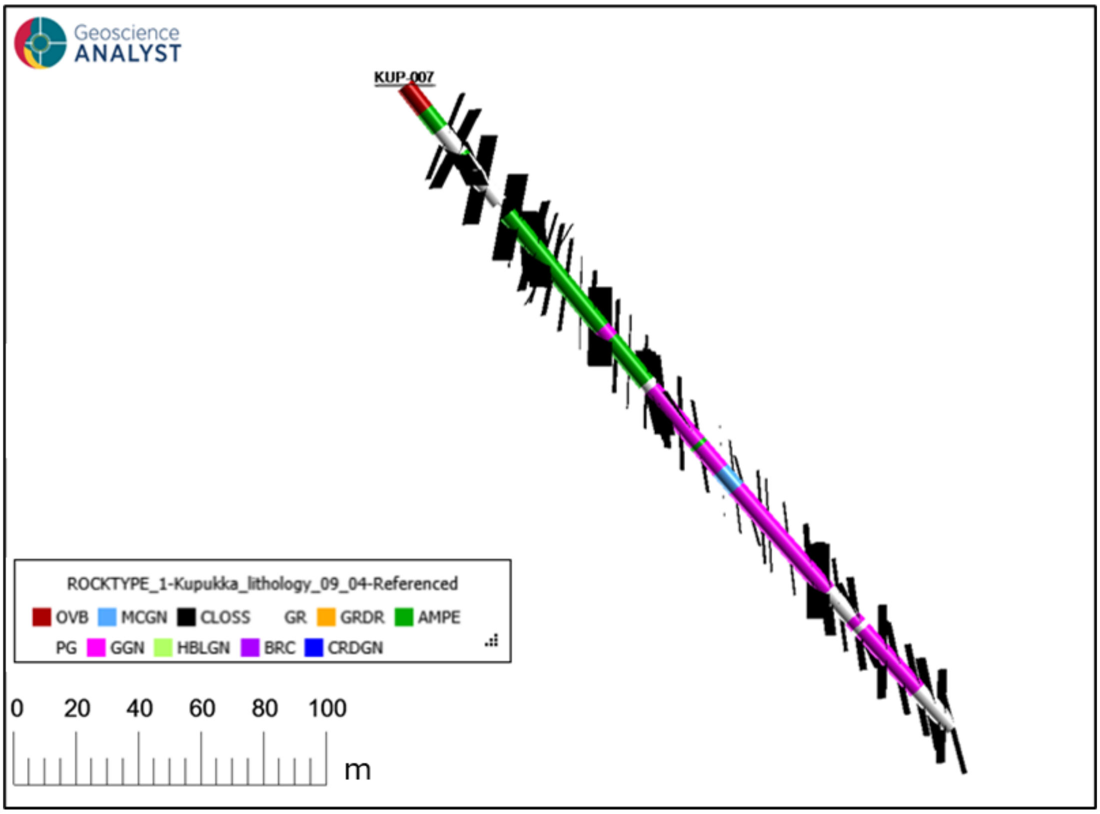


Figure 6-21. Measured foliation (black tablets) in drill hole KUP-007 suggests an antiformal structure. View towards NE.

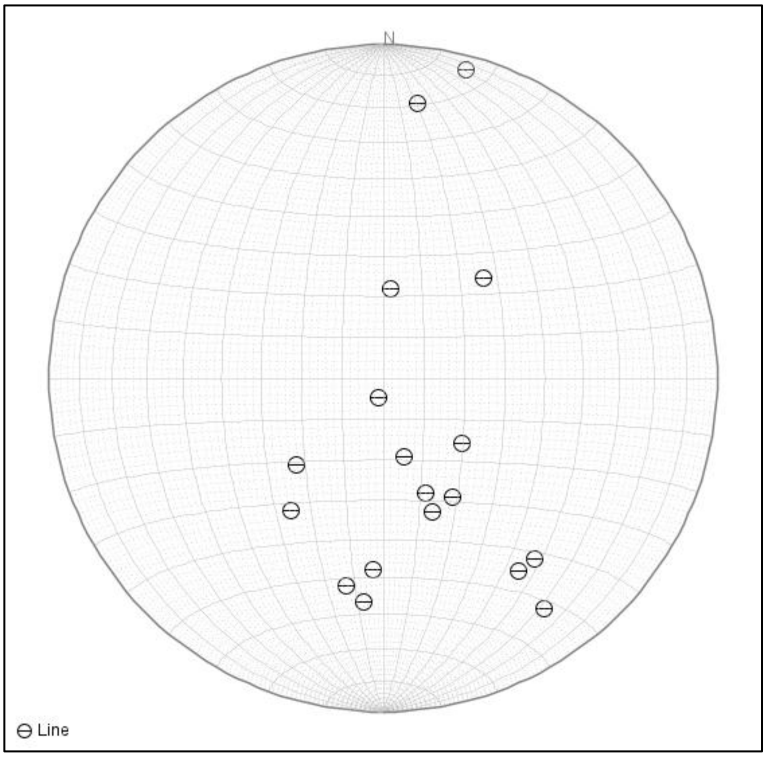


Figure 6-22. Fold axis measurements from oriented drill cores on the stereonet (Schmidt net) depicting the dominating southward plunge of the fold axes.

The dominating fold axis in Kupukka area is F_3 and it is plunging southwards 40-60 degrees (Company's mapping data and Luukas and Kousa 2000). This suggests that in the northern part of the Kupukka area the mica gneiss and graphite-rich layers are no more found due to the axial culmination (Figure 6-2 and Figure 6-22). This structural feature is supported also by the geophysical interpretations by Niemi (2013), where the magnetic formations are interpreted to extend deeper in the southern survey lines than in the northern survey lines. Also, the GTK interpretations of the Drone EM and magnetic surveys in 2025 support this.

Figure 6-23 and Figure 6-24 depict the subvertical to slightly west dipping, NS trending main mineralization at Kupukka.

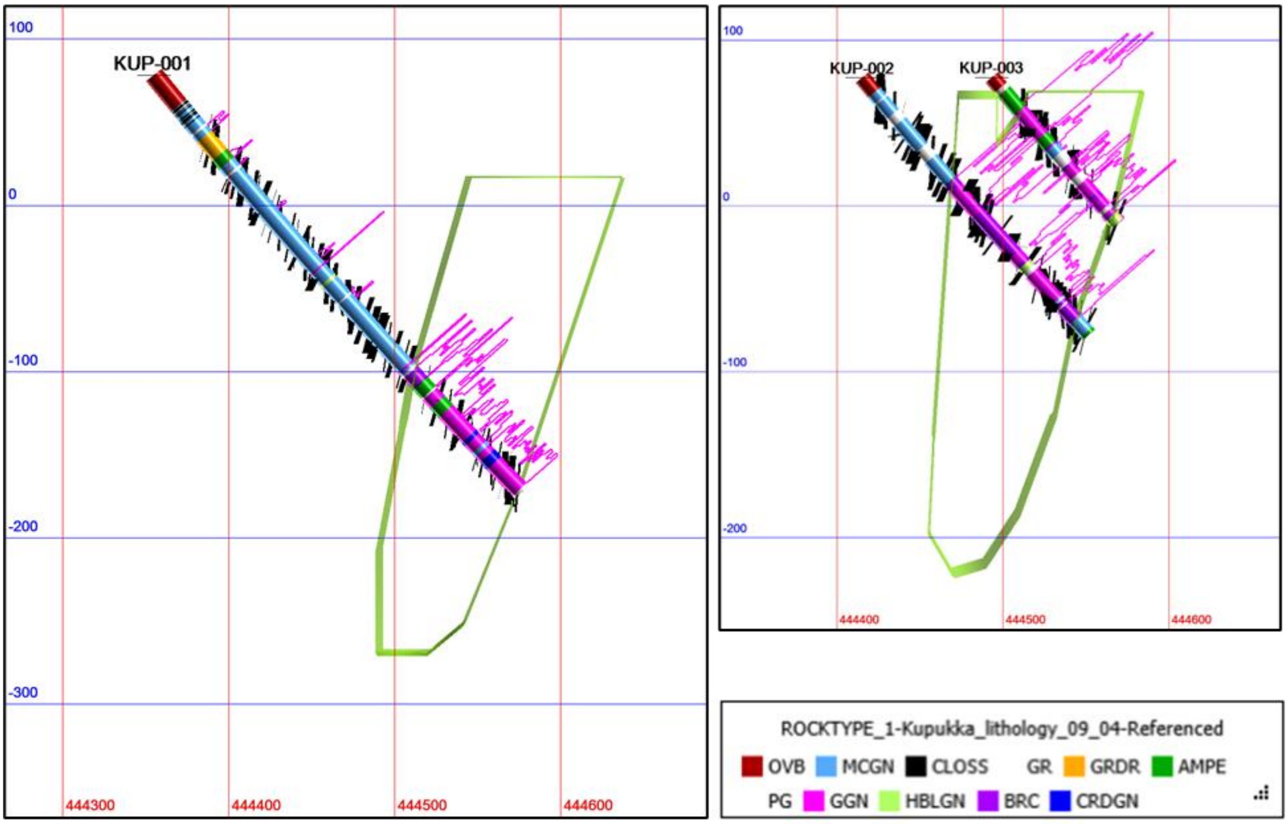


Figure 6-23. Cross sections through the drilling profiles KUP-001 and KUP-002-003 with the interpreted outline of the graphite mineralization. The estimated upper contact of the KUP-001 mineralization is drawn according to interpretation of the magnetic survey. Measured main foliation with black tablets and graphite content with purple bars (maximum 12.8%, KUP-002). View towards north, 15m thick slice.

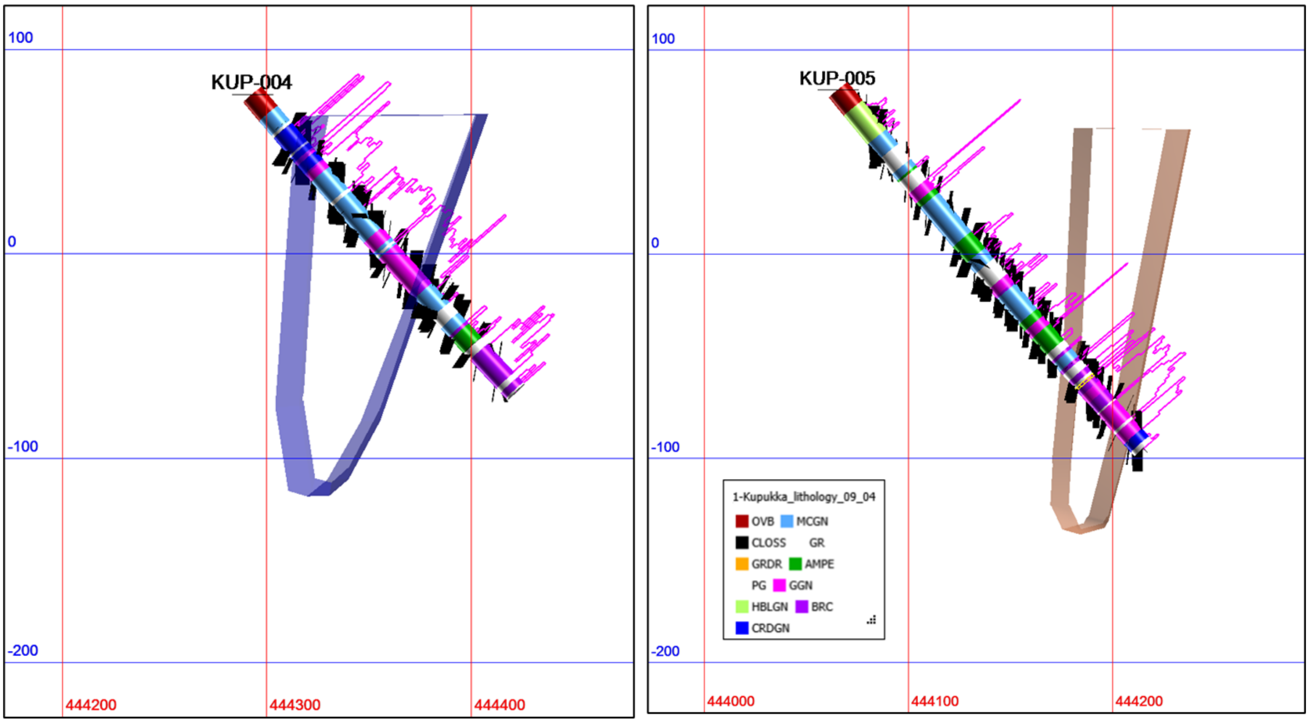


Figure 6-24. Cross sections through the drilling profiles KUP-004 and KUP-005 with the interpreted outline of the graphite mineralization. The estimated upper contact of the KUP-005 mineralization is drawn according to interpretations of the magnetic and EM surveys. Measured foliation with black tablets and graphite content with purple bars (maximum 8.41%, KUP-005). View towards north, 15m thick slice.

North-south directed Revonneva shear zone (Kousa and Luukas 2007) runs through the Kupukka area near the contact zone between granitoids and mica gneiss (Figure 6-25). The breccia-type mineralization may be linked to the shears. The mineral composition of the breccia ore resembles that of amphibolite. The Revonneva shear with its conjugates may have formed in the contact zone between amphibolite and mica gneiss.

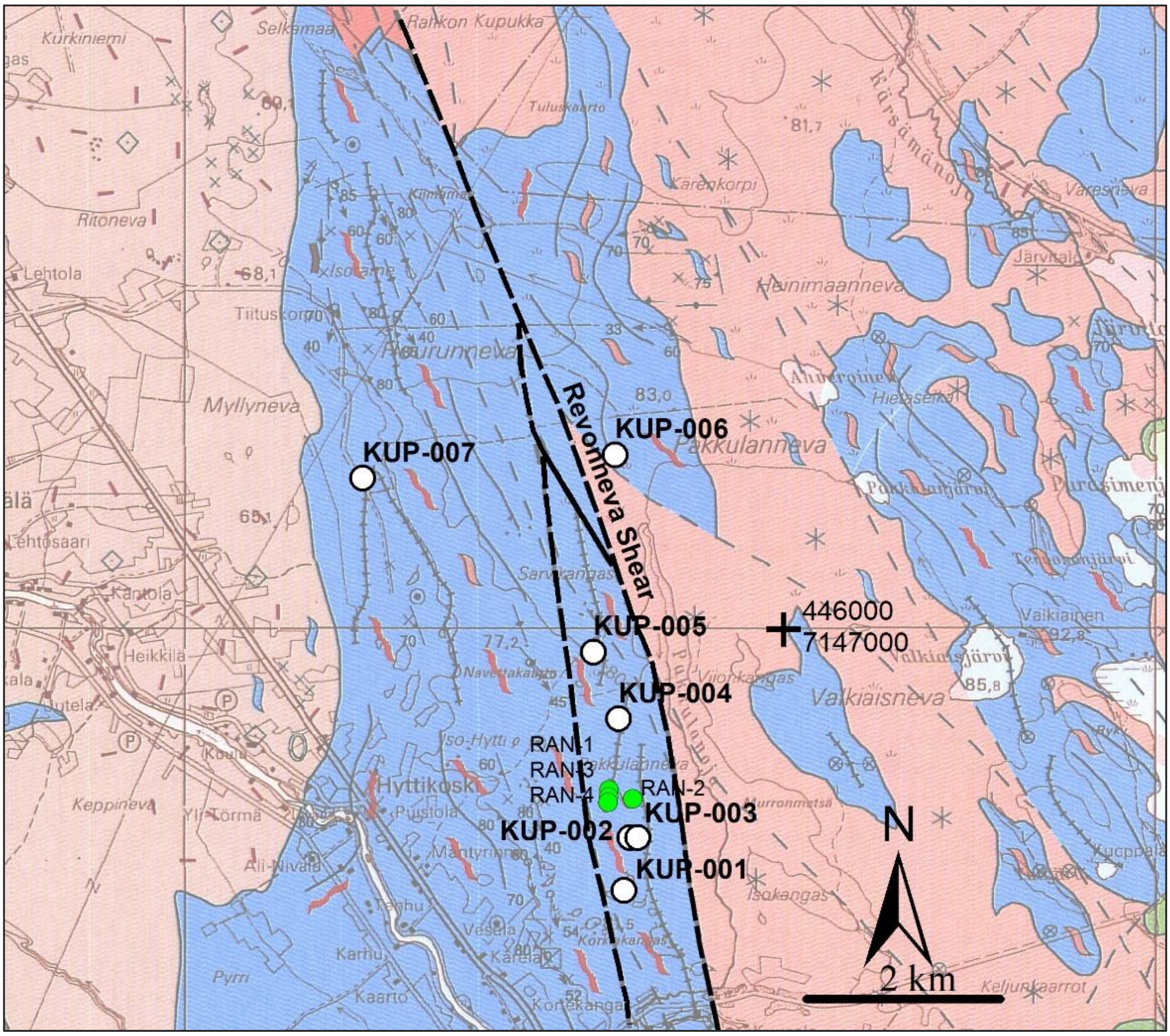


Figure 6-25. Bedrock map of the Kupukka area by GTK (Luukas and Kousa 2000). The Revonneva shear zone runs through the Kupukka area. Blue = mica gneiss, red = granitoids.

6.4.3 Geochemistry

Assay data comprises graphitic carbon and multielement assay package (ALS ME-MS41, Aqua Regia with ICP-MS Finish). Since aqua regia is a partial digest technique the geochemical study of the Kupukka assay data is limited. The silicate minerals are dissolved only partly for assaying while sulphides are readily dissolved.

All the base metal values in mineralization are uneconomic, zinc on average around 600 ppm, nickel 180 ppm, copper 200 ppm and cobalt 17 ppm; lead values are low and often below the detection limit of 10 ppm (Figure 6-26). However, in the sulphide fraction (sf), the base metal values may be of significance with zinc(sf) on average around 0.66 %, nickel(sf) 0.20 %, copper(sf) 0.21 % and cobalt 0.018(sf) % (Figure 6-27).

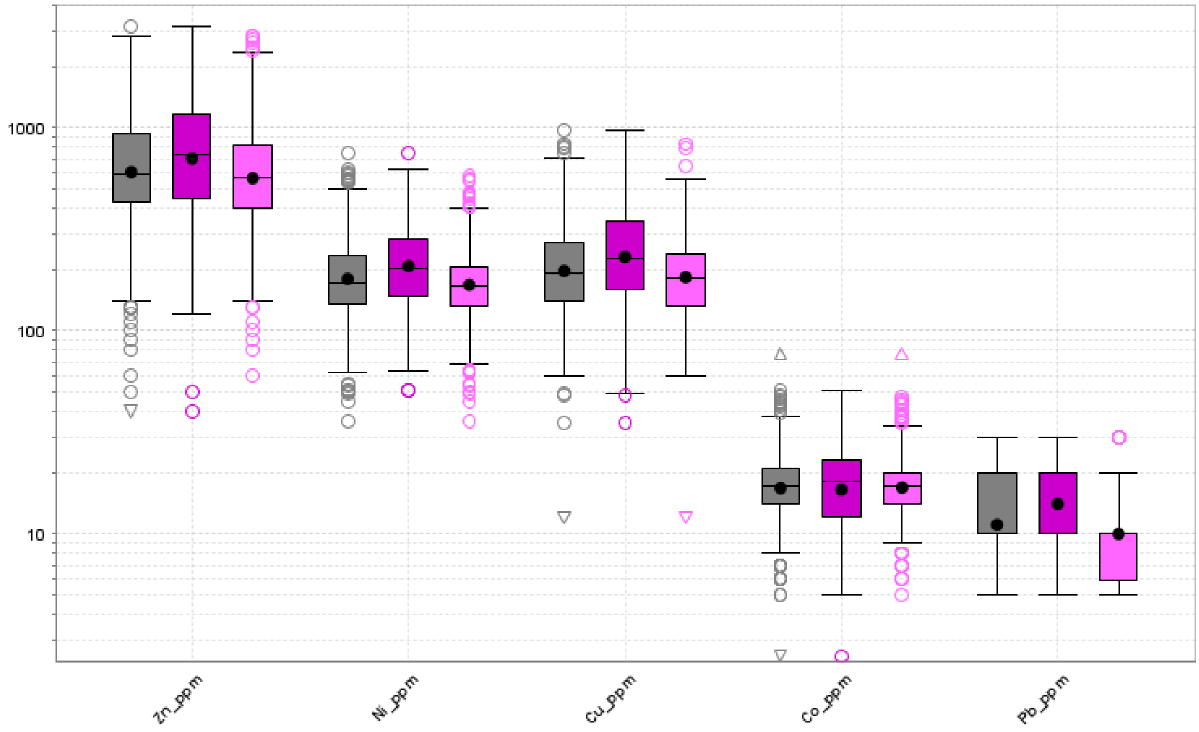


Figure 6-26. Base metal values in the graphite mineralization. Light purple = graphite gneiss, dark purple = breccia ore, grey = summary of mineralization. Median with black line, mean with black dot. The box is the range between the 25th and 75th percentiles.

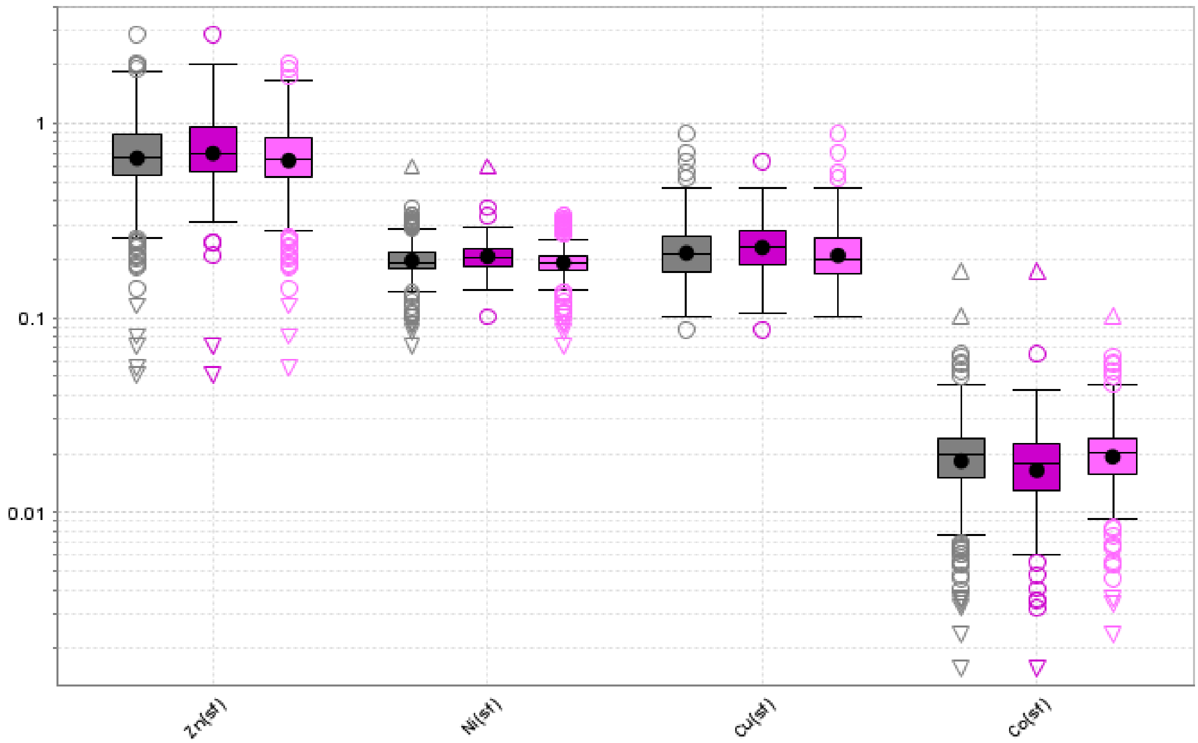


Figure 6-27. Base metal values in the sulphide fraction (sf %, calculated assuming sulphur content of 40 w-% in the sulphide fraction). Symbols like in Figure 6-26.

Some geochemical features can be recognized from the assay data. The geochemical similarity between amphibolites and graphite-rich breccia ore is discussed earlier in chapter 6.3 and depicted in Figure 6-8.

Related to the depositional conditions in sea bottom organic carbon and sulphur deposited together and consequently the positive correlation between graphitic carbon and sulphur is distinct (Figure 6-28). Even more distinct is the positive correlation between graphitic carbon and vanadium (Figure 6-29). This is line with the fact that vanadium is globally enriched in black shales where it primarily deposited within organic matter (Lewis et al. 2010). Around 80 % of the global vanadium resources occur in black shales.

Sulphides are readily dissolved in aqua regia so sulphur/iron ratios of the Kupukka assay data reflect the composition of sulphides, mainly that of pyrrhotite and pyrite. According to visual observations in the drill cores pyrrhotite is the dominating iron sulphide. This is supported by the assay data also (Figure 6-30).

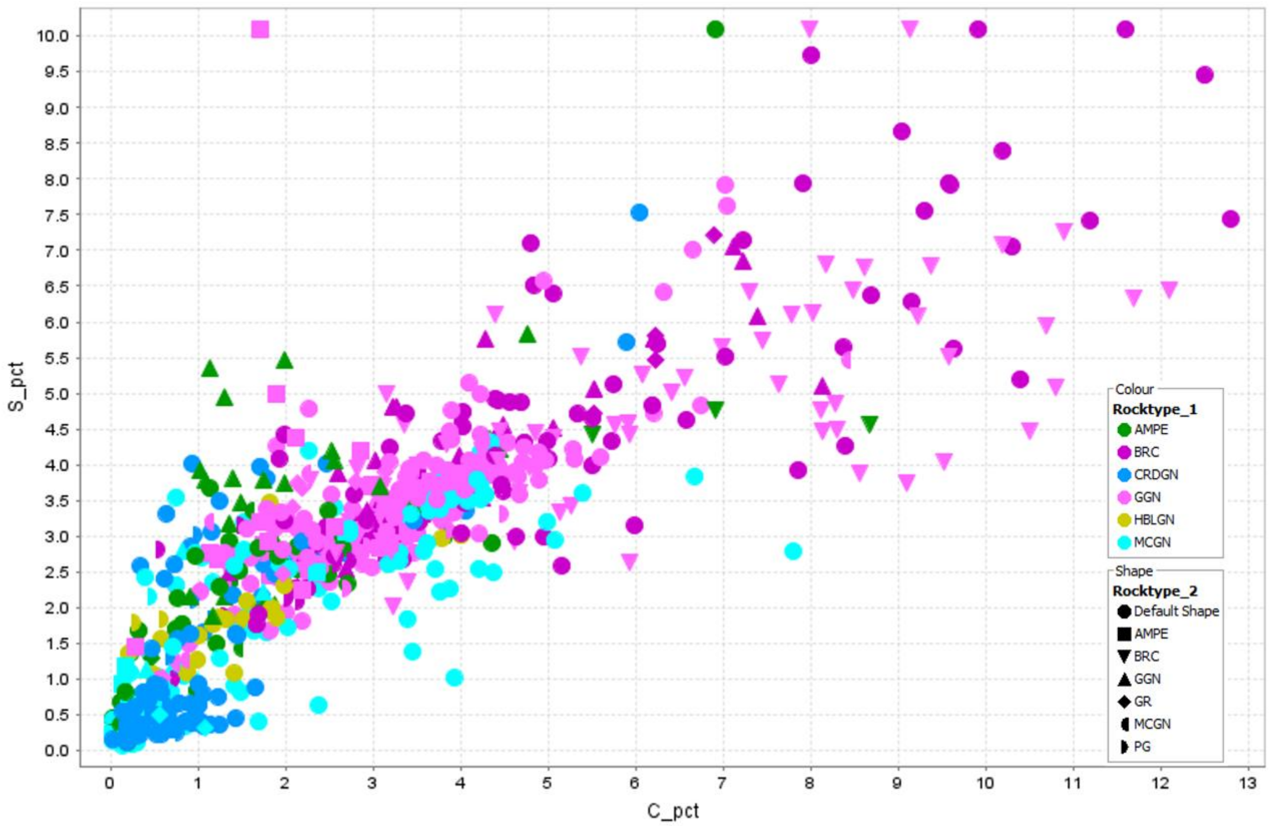


Figure 6-28. Sulphur vs. graphitic carbon plot. The overall correlation factor is 0.84.

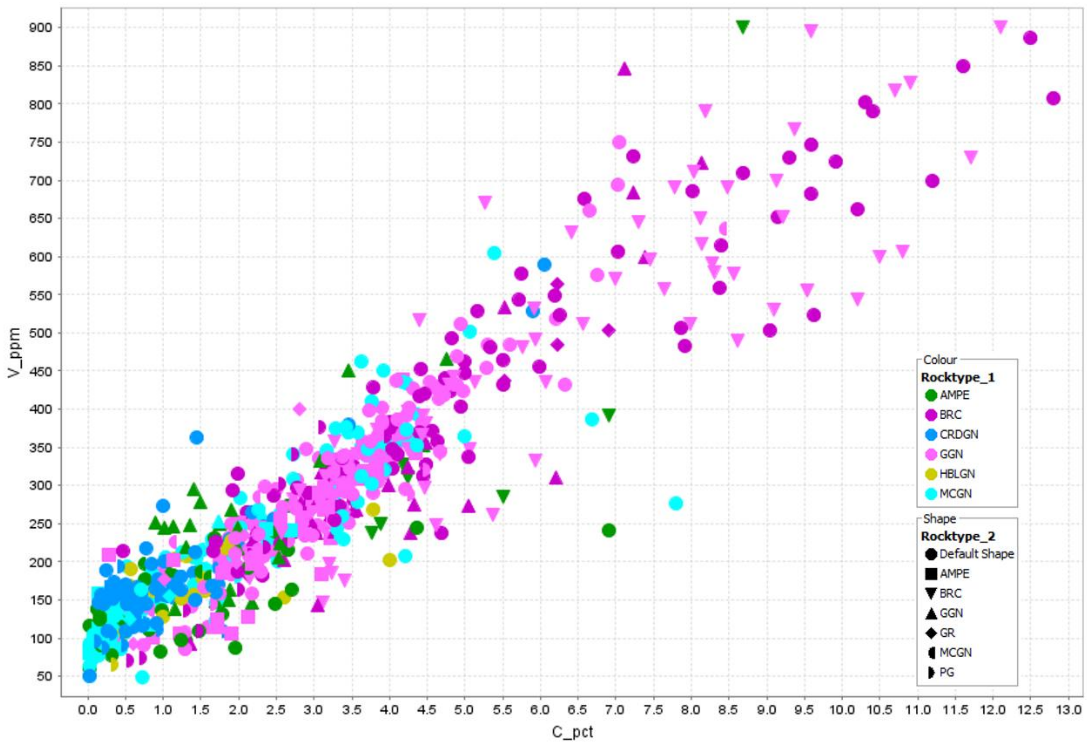


Figure 6-29. Vanadium vs. graphitic carbon plot. The overall correlation factor is 0.93.

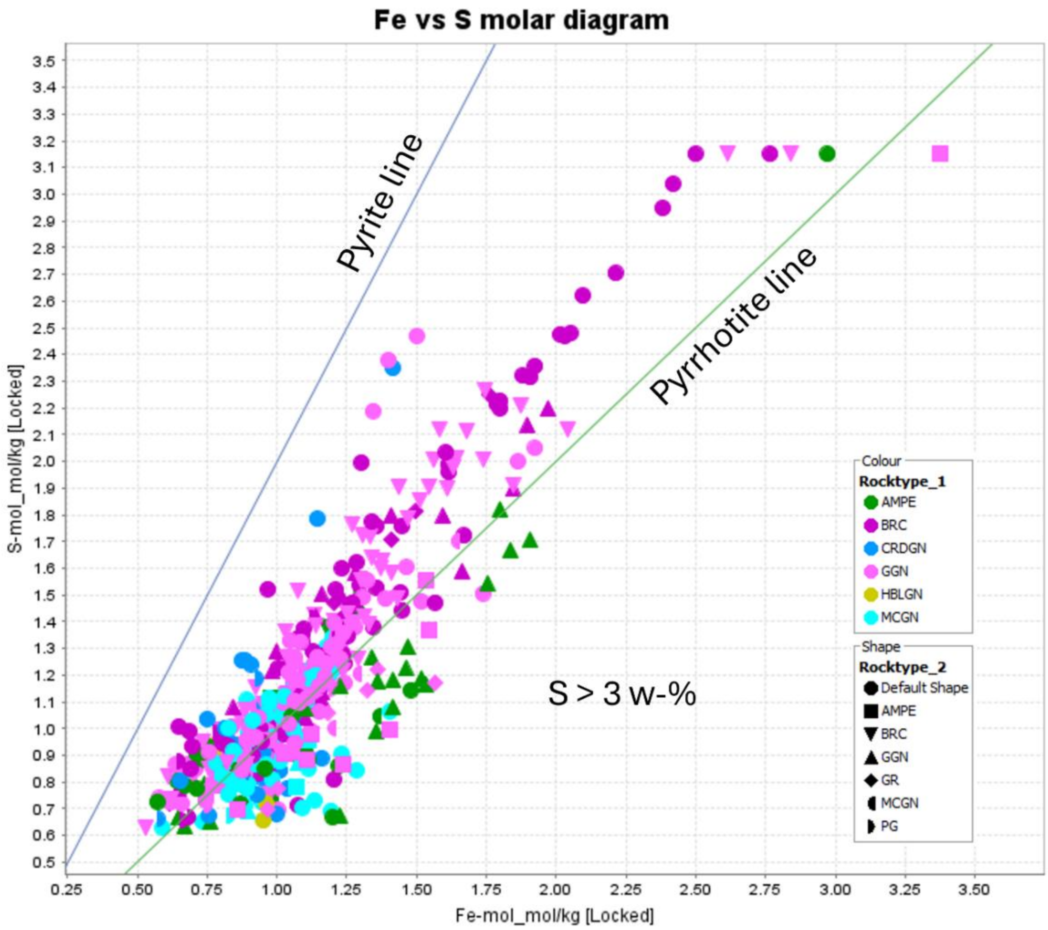


Figure 6-30. Sulphur vs. iron plot. The samples were filtered to S > 3 w-% to show only the sulphide-rich samples. Most of the samples plot on or near the pyrrhotite composition line.

6.4.4 Magnetic susceptibility

Because graphite is associated mainly together with magnetic pyrrhotite the graphite mineralization relates to high magnetic susceptibility. Cross sections in Figure 6-31 show this distinct positive correlation. In places, however there are graphite-rich portions without magnetic pyrrhotite. This is the case e.g. in the beginning of KUP-006, where pyrrhotite has been altered to pyrite.

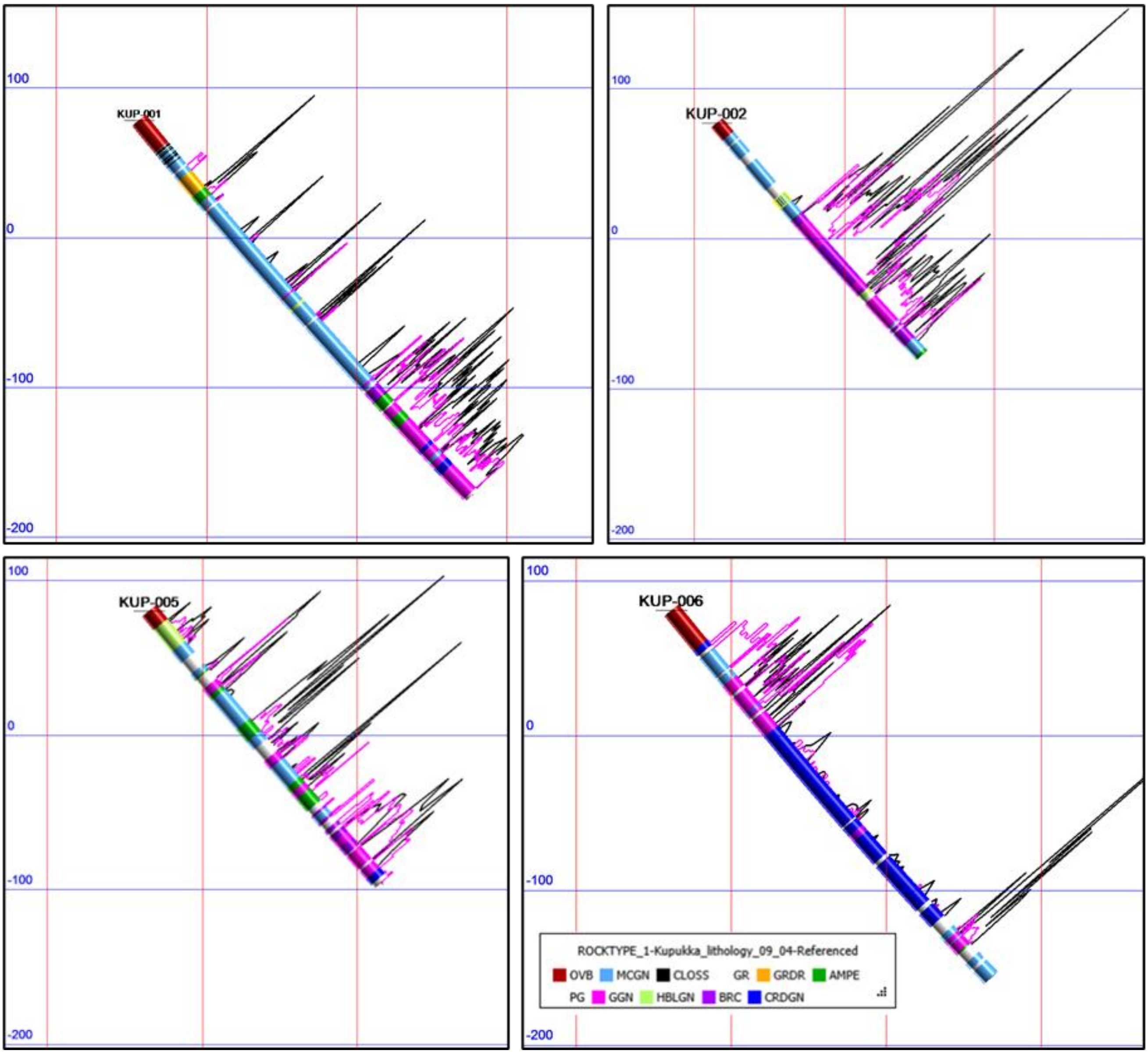


Figure 6-31. Graphitic carbon (purple bars, maximum 12.8 % in KUP-002) and magnetic susceptibility (black line, maximum 111 000 10^{-6} SI in KUP-002) in selected drill cores. Cross sections towards north.

6.4.5 Specific gravity (SG)

As graphite has a low SG of 2.26 g/cm³ and the dominating sulphide, pyrrhotite has a high SG of around 4.6 g/cm³ they compensate each other. However, pyrrhotite, which is abundant in the mineralization, differs much more from the average SG of the barren rock types and consequently there is a distinct positive correlation between the graphite content and specific gravity (Figure 6-32 and Figure 6-33). The average density with a cut-off of 3.0 % Cg for the breccia-type mineralization (71 measurements) is **2.78 g/cm³** and for the graphite gneiss hosted mineralization (87 measurements) **2.76 g/cm³** (Figure 6-34).

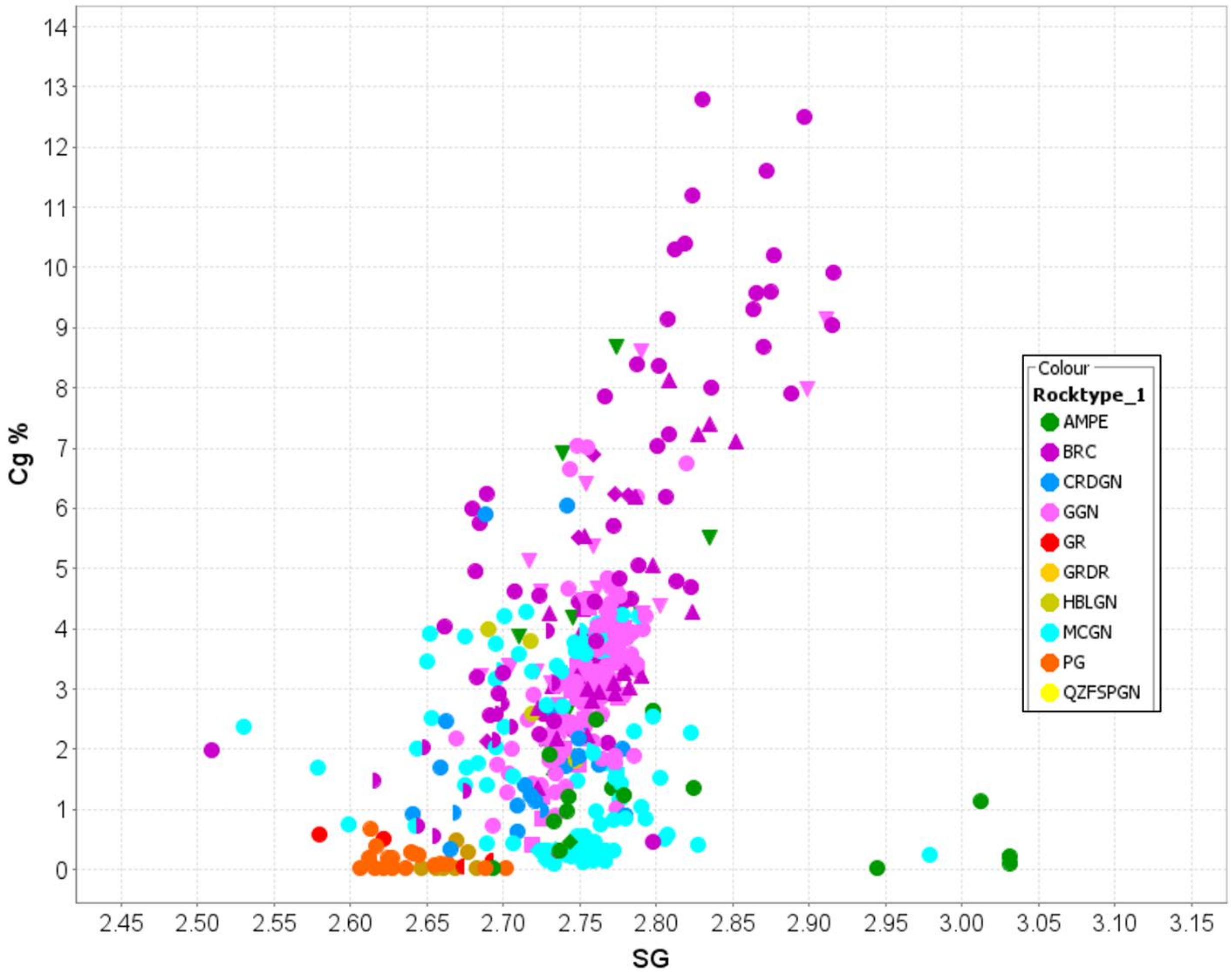


Figure 6-32. Graphitic carbon (Cg) vs. specific gravity (SG) plot.

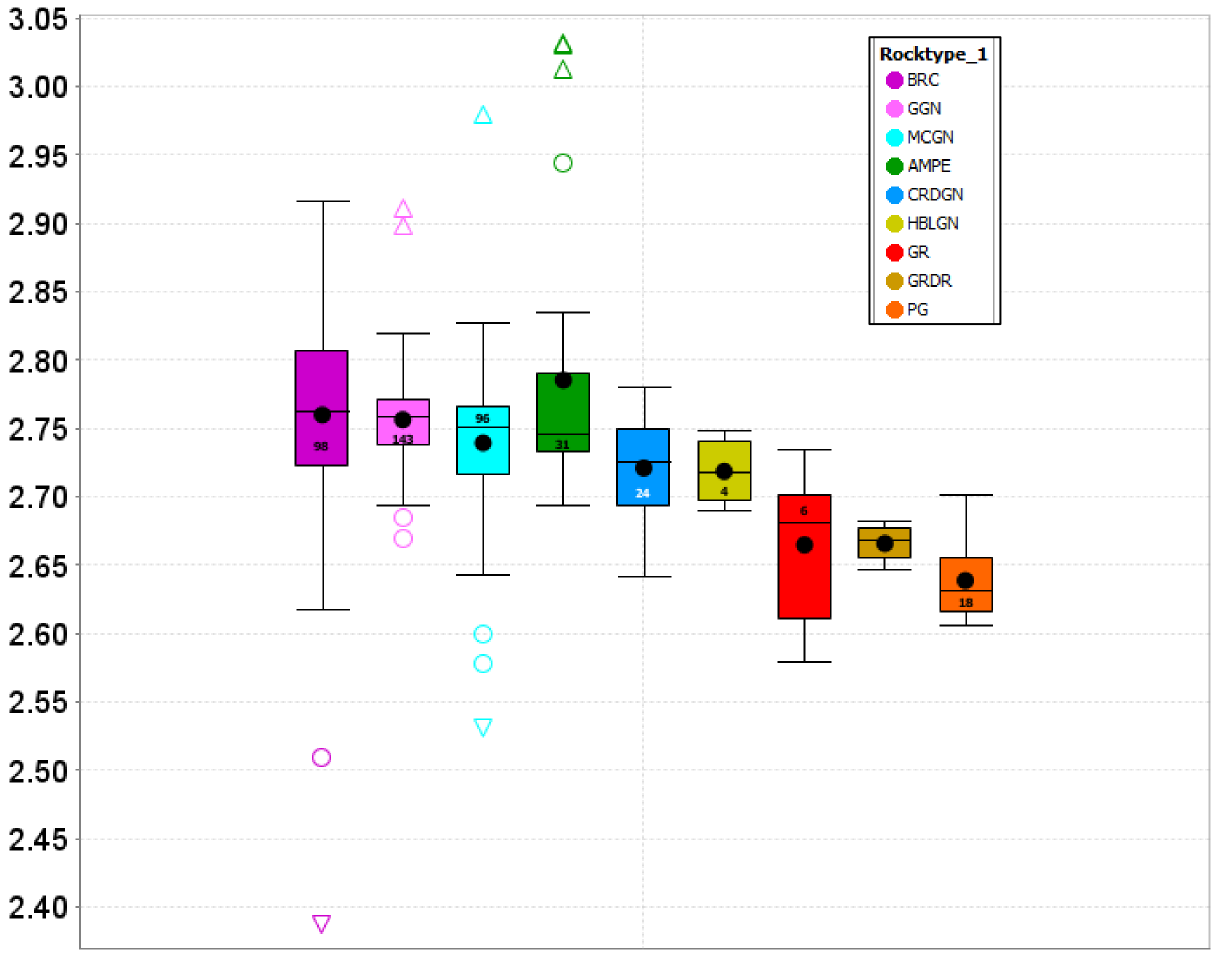


Figure 6-33. Specific gravity (kg/dm³) for all the rock types. The box is the range between the 25th and 75th percentiles. Black dot = mean, black line = median, number of measurements marked.

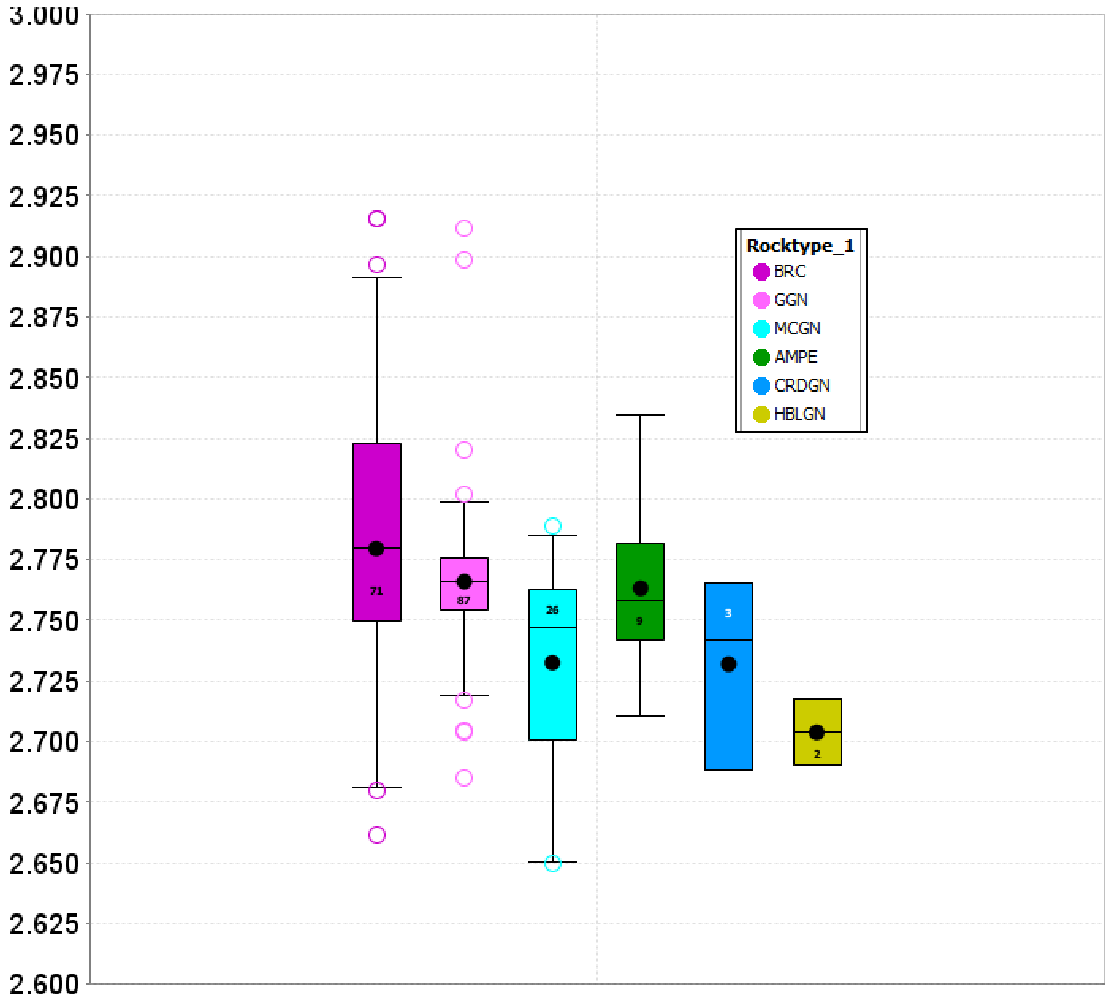


Figure 6-34. Specific gravity (kg/dm^3), cut-off 3 % Cg. The box is the range between the 25th and 75th percentiles. Black dot = mean, black line = median, number of measurements marked.

7 Exploration and Drilling

Historical exploration and exploration by Kupukan Grafiitti are described in the following chapters. In addition, it should be noted that two projects closely connected to the Kupukka area are nearing completion and will be publicly reported soon. The Geological Survey of Finland (GTK) will report in 2026 on its Vihanti–Pyhäsalmi mineral potential project, which also included studies on graphite exploration potential, such as geophysical surveys and diamond drilling, located just south of the Kupukka area (see the tenement map Figure 4-1).

The other project (*Siikalatva graphite as a raw material for the green transition*) is led by the Municipality of Siikalatva in collaboration with the University of Oulu and GTK, and it is planned to be reported in Q2 2026. This project focuses on graphite beneficiation (e.g. battery-grade graphite testing) using drill core samples from GTK drilling, as well as on socio-economic aspects related to a potential graphite utilisation in the Siikalatva area. Both projects will add valuable data for Kupukan Grafiitti and will provide independent information on the graphite potential of the area and perspectives on graphite utilisation.

7.1 Historical Exploration and Drilling

In the Rantsila area Outokumpu Oy has made regional bedrock mapping and base metal exploration during late1950's, during 1960's and during 1980's. Geological Survey of Finland (GTK) made during 1970's and 1980's surficial geochemical studies (percussion drillings with Cobra equipment) and studies on quaternary geology.

During 1980's Outokumpu Oy made exploration fieldwork in Kupukka area and surroundings including boulder tracing, bedrock mapping, geophysical ground surveys and percussion drilling (Cobra equipment). The focus was on base metals, and the study areas were chosen based mainly on airborne geophysics. Accordingly, in many studied locations the magnetic and EM anomalies turned out to be made by pyrrhotite-pyrite and graphite bearing gneiss (Pitkänen 1988).

Geological Survey of Finland (GTK) made shallow diamond drill holes in the vicinity of the Kupukka area during their bedrock mapping project in 1993. *Proper graphite exploration* has been done in the Kupukka area first by Benzinium Oy (Jalonom Oy) during 2013.

7.1.1 GTK studies 1993

During the systematic bedrock mapping project by GTK the Rantsila map sheet was mapped in 1993 (Kousa and Luukas 2007). In addition to outcrop observations GTK drilled 10 shallow, vertical holes to collect the bedrock data (Table 7-1, Figure 7-1). No casing was left in the holes. The drill cores of the GTK drillings in 1993 were logged by GTK personnel at the GTK Kuopio core shed.

One vertical borehole four kilometres east of Kupukka intersected graphite mineralization over 12.90 m (DDH M341293R305, Figure 7-1). During the studies by Suomen Malmitutkimus Oy it was noted that the drill core was cut in half and the other half taken for studies. Discussions with former GTK geologists revealed that probably a flotation test has been done for the graphite ore. However, no report or any documentation for the flotation test has been found.

The occurrence of graphite schist regionally and near Kupukka is mentioned and reported in many reports by GTK. Also, it is noted that amphibolites or mafic volcanic rocks are closely associated with graphite schists (e.g. Kousa and Luukas 2007).

Table 7-1. GTK drilling in 1993 near Kupukka. Data from GTK MDaE map service.

Hole_ID	Easting	Northing	Azimuth degrees	Dip degrees	Length m	Core mm
M341293R301	446989.03	7150005.48	360	90	21.00	32
M341293R302	447868.69	7148586.05	360	90	17.80	32
M341293R303	448558.41	7148266.18	360	90	24.10	32
M341293R304	448738.35	7146436.92	360	90	28.05	32
M341293R305	448528.44	7145887.14	360	90	33.00	32
M341293R306	448758.35	7143887.94	360	90	13.10	32
M341293R307	447618.82	7143498.09	360	90	8.85	32
M341293R308	442051.07	7142108.62	360	90	21.90	32
M341293R309	441361.36	7140949.08	360	90	23.00	32
M341293R310	440471.71	7140799.14	360	90	20.60	32

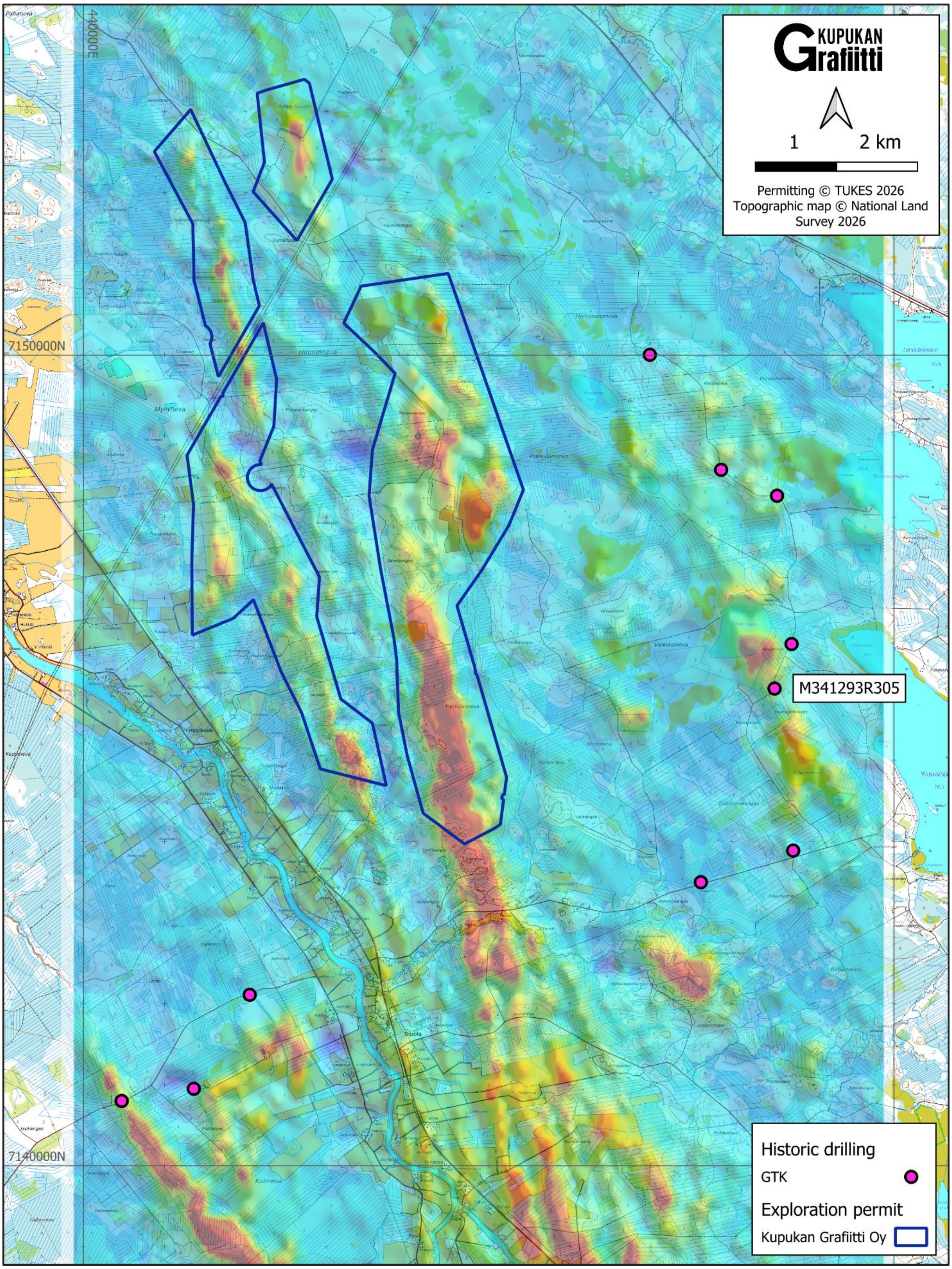


Figure 7-1. Location of the GTK 1993 drill holes on the airborne EM in phase map (red = maximum). Geophysical map is processed from airborne survey data by GTK.

7.1.2 Benzinium Oy (Jalonom Oy) Exploration 2013

7.1.2.1 Geophysical ground survey lines

In January 2013, the Geological Survey of Finland carried out magnetic and electromagnetic geophysical measurements in Kupukka area for Jalonom Oy. Magnetic measurements were made with a Gem Systems GSM-19W Overhauser magnetometer, using a Scintrex Envimag proton magnetometer as a ground station. Electromagnetic measurements were made with an Apex MaxMin device. Three profiles were made in the area, with a total length of 3500 meters (Figure 7-2). The point interval of the electromagnetic measurement was 20 meters. Magnetic measurements were made with automatic recording with a recording interval of 0.5 seconds. The ground station reading was recorded every 30 seconds (Niemi 2013).

The magnetic and electromagnetic data was interpreted and 2D and 3D models were made by GTK. The interpreted structures and solids were subvertical or dipping westwards (Figure 7-3).

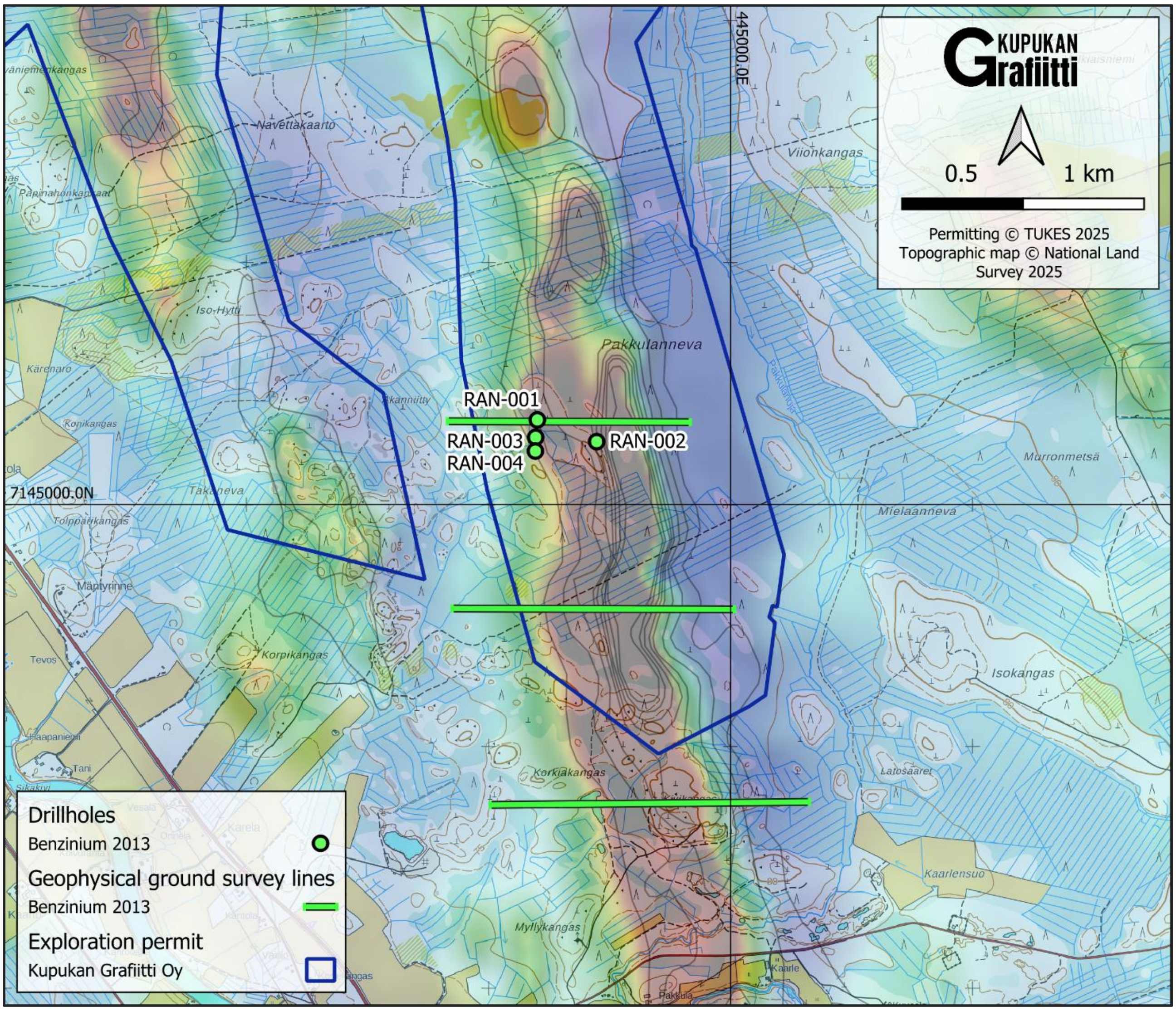


Figure 7-2. Location of the 2013 geophysical ground survey lines (green) on the combined airborne magnetic (coloured, red = maximum) and EM in phase map (contours). Geophysical map is processed from airborne survey data by GTK.

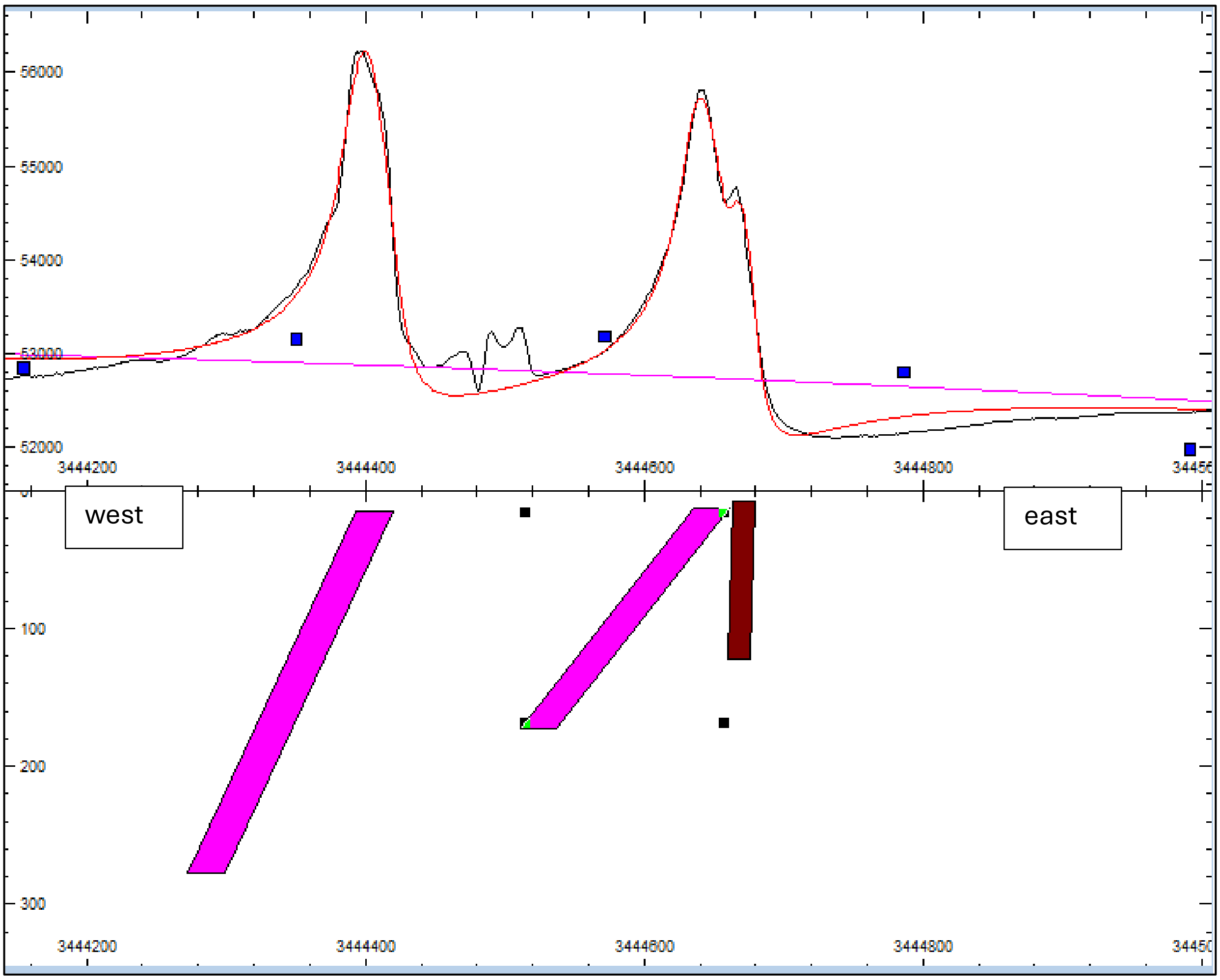


Figure 7-3. Interpreted magnetic profile of the northernmost survey line by GTK in 2013 (see Figure 7-2). Modified from Niemi (2013, Fig. 6). Easting in Finnish national KKJ3 coordinate system.

7.1.2.2 Diamond drilling

During August 2013 four shallow diamond drill holes were made, RAN-001—RAN-004 (Table 7-2, Figure 7-2). The drilling contractor was Nivalan Timanttikairaus Oy (NTK Oy). Geologist Antti Soini took care on the drillings on behalf of Benzinium Oy. He also made a short report of the drilling campaign with a thin section study (Benzinium Report 2013).

Table 7-2. Drill hole collar data of the Benzinium Oy drillings in 2013. Elevation has been taken from the digital elevation data by National Land Survey (MML).

Hole_ID	Location	Easting	Northing	Elevation	Azimuth degrees	Dip degrees	Length m	Core mm	Casing m
RAN-001	Pakkulanneva	444202	7145349	78.0	90	-45	98.4	40	6.1
RAN-002	Pakkulanneva	444447	7145259	78.6	90	-45	111.1	40	20.1
RAN-003	Pakkulanneva	444195	7145277	78.1	90	-45	78.3	40	6.0
RAN-004	Pakkulanneva	444194	7145220	78.1	90	-45	77.2	40	7.0

The casing has been found in field for each drill hole, and the holes were open during the Mise ála Masse measurements by GRM-services in August 2025. Unfortunately, the downhole dip data has not been found until now. Measured with clinometer and compass from the casings the starting dip and azimuth match with the drilling plan for each of the four drill holes.

The drill cores were logged and photographed by geologist Antti Soini (Figure 7-4). He also collected thin section samples from each drill hole. Nine polished thin sections were prepared in Oulu University where he also studied them. Thin sections were chosen to cover all the rock types and graphite content was estimated in each thin section (Benzinium Oy Report 2013).

Figure 7-4. Drill core from 2013 drillings with graphite gneiss in the upper part and mica gneiss in the lower part. Drill hole RAN-002, photo Antti Soini.

7.1.3 Suomen Malmitutkimus Oy Exploration 2021–2023

Suomen Malmitutkimus Oy started the Kupukka exploration early 2021 and made the application for reservation in January 2021.

7.1.3.1 Relogging and assaying of old drill cores

Suomen Malmitutkimus Oy (Malmitutkimus) relogged in January 2021 at the GTK Loppi drill core archives the drill cores from holes M341293R301-310 of the GTK 1993 drillings near Kupukka (Table 7-12, Figure 4-1). Graphite-bearing samples, in total 13, were collected from holes M52/3412/93/R302 and -R305 and sent to ALS laboratories Outokumpu, Finland for sample preparation and further assaying in ALS laboratories Ireland. Graphitic carbon was assayed by ALS method C-IR18 and other elements by ALS method ME-ICP41. Malmitutkimus did not include any reference samples for assaying. The standard assays by the QA/QC procedure of ALS laboratory were acceptable.

Important graphite-rich intercept exists in the GTK drill hole R305 (Figure 7-5), which was also the starting point for the Benzinium Oy exploration in 2013: from 20.10 m over 12.90 m @ 6.9 % Cg.

Figure 7-5. Graphite gneiss (dark) and granite (light) in the GTK R305 drill core. Assay intervals of Suomen Malmitutkimus Oy assaying marked.

7.1.3.2 Bedrock revision

Overall bedrock revision in the Kupukka area and in close vicinity was made by Malmitutkimus (Hannu Makkonen) during the summertime of 2021-2023. The outcrop observations are located mainly in the NW part of the Kupukka area. The observations were compared to the outcrop observation data by GTK, which were bought from GTK in 2021.

7.1.3.3 Boulder tracing

Local amateur prospectors (Figure 7-6) made boulder tracing in the Kupukka environment during 2022-2023 guided by Malmitutkimus and graphite-rich boulders were assayed by Malmitutkimus. Samples were brought to ALS laboratories Outokumpu for sample preparation and further assaying in

ALS laboratories Ireland. Graphitic carbon was assayed by ALS method C-IR18 and other elements by ALS method ME-ICP41. The prospectors sent most of the boulder samples also to GTK for study and assaying. Boulder tracing and co-operation between the prospectors was continued with Kupukan Grafiitti Oy and summary of all the boulder data, 2022-2025, is presented in chapter 7.2.1.

Figure 7-6. Local prospectors in Kupukka, from left to right Teuvo Punkeri, Alpo Toivanen and Sami Pistemaa.

7.1.3.4 Thin section studies 2022-2023

From the graphite-rich boulder samples four polished thin sections were prepared at the GTK Kuopio laboratory and studied by Malmitutkimus during 2022-2023 (Table 7-3). The length of the graphite flakes was ≤ 1.3 mm. In sample Uljua 1F the flake size is much smaller than in other samples, within quartz veins ≤ 0.3 mm but in general very fine.

Table 7-3. Thin sections for the boulder samples.

Boulder sample	Thin section No.	Easting	Northing	Rock type
Kivimäki 2	220202	450200	7129518	Biotite-amphibole gneiss
Uljua 7	2200592	453583	7129533	Graphite gneiss
Uljua 1F	230141	451296	7132087	Graphite gneiss
Keljunneva 1	230265	449047	7143247	Cordierite gneiss

7.1.3.5 Petrophysics 2021

Three graphite-rich drill core samples were measured for petrophysical properties at GTK laboratory Espoo during early 2021. The samples were from GTK 1993 drill cores, 3412R302_14.00m, 3412R305_21.00m and 3412R305_31.00. The measured parameters were *density, magnetic susceptibility* (AC-bridge), *magnetic remanence* (fluxgate*), inductive resistivity* (AC-bridge*), galvanic resistivity* (MAFRIP frequence domain and SCIP time domain equipment) for a) parallel to foliation and b) vertical to foliation as well as *IP-parameters* (MAFRIP and SCIP) for a) parallel to foliation and b) vertical to foliation.

Results were sent by GTK as an Excel file to Suomen Malmitutkimus Oy. The samples showed good conductivity, low magnetic susceptibility (pyrrhotite is altered to pyrite) and moderate magnetic remanence.

7.1.3.6 Beneficiation tests 2021

Bench scale test work was conducted on a composite drill core sample in length of 12.90 m, at the GTK Mintec laboratories, Outokumpu, during May-November 2021 (sample 3412_R305_20.10-33.00m, weight 8 kg). The aim of the work was to get preliminary information about the potential of graphite beneficiation. The main variables studied in the flotation tests were grind size, flotation chemicals and their dosages, pulp pH, and flotation time. Unnecessarily fine grinding was tried to be avoided to recover graphite as large flakes as possible. The effect of flowsheet variation was also tested, especially in cleaner flotation (detailed description in Taskinen 2021). Figure 7-7 depicts the flotation units.

Graphite flotation concentrate was purified further by a chemical process based on alkali roasting and acid leaching. The process is presented schematically in Figure 7-8. First, the graphite concentrate was mixed with 25% NaOH solution in a liquid-solid ratio 2:1 (w/w) and then roasted in a laboratory furnace for 2 hours at 250 °C. The roasted mixture was washed with 60 °C water to remove the soluble roasting products and the extra alkali. After filtration and further rinsing on a vacuum filter, the washed material was treated with 11.7% H_2SO_4 solution for 2 hours at room temperature (ca. 25 °C) in a liquid-solid ratio 5:1 (w/w). The leach residue was filtered and rinsed with water on a vacuum filter, and heat dried at 90 °C (more detailed data in Taskinen 2021).

The mineralogy of the feed sample and chemically purified flotation concentrate was investigated. FEI Quanta 650 Field Emission Scanning Electron Microscope (FE-SEM) equipped with Mineral Liberation Analyzer (MLA) software was used to determine the modal mineral compositions of the samples, liberation and association of graphite, and the modes of occurrence of graphite (more detailed data in Taskinen 2021).

Figure 7-7. Outotec GTK flotation machine (upper left), 4 L flotation cell with automatic froth scrapers (upper right) and a 1.5 L flotation cell with manual froth scraping (down). From Taskinen (2021).

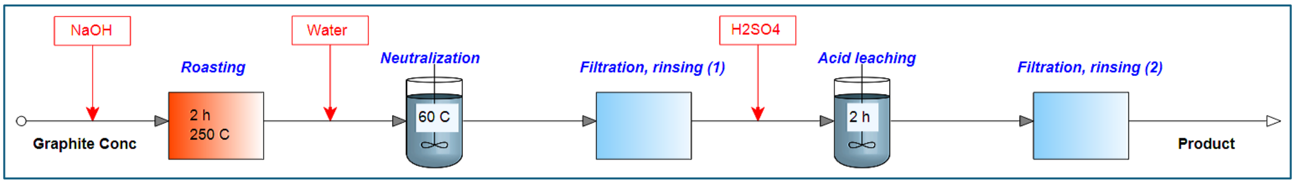


Figure 7-8. Flowsheet of chemical purification tests on graphite concentrate. From Taskinen (2021).

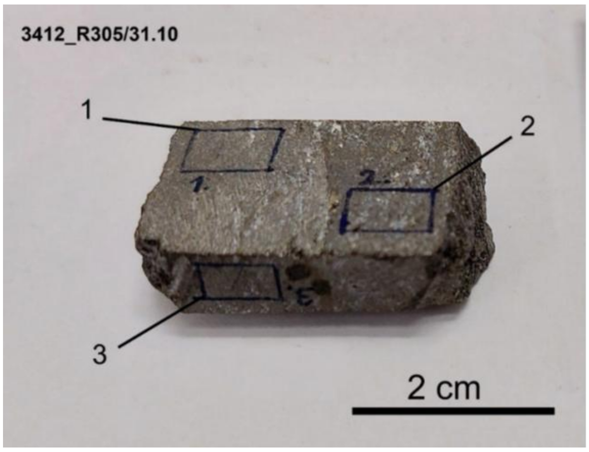
The results are shortly discussed in chapter 10 together with the results of beneficiation tests on drill core material from Kupukan Grafiitti Oy drillings.

7.1.3.7 Raman microscopy 2022

Two drill core samples, 3412_R305_26.35m and 3412_R305_31.10m, and the chemically purified graphite concentrate sample from 2021 test work, were measured with Raman microscope in GTK Laboratory of Process Mineralogy, Outokumpu, during August 2022. The samples were studied for graphitization degree, which is proportional to graphite crystallinity. Also, metamorphic temperature estimates (±50 °C) were calculated from the data.

For the Raman measurements of the rock samples, three square-shaped measurement areas with side lengths between 0.5 to 2.0 cm were drawn on saw-cut surfaces of each rock sample. To reduce the effects of graphite orientation on the Raman results, at least two of the three areas were drawn on perpendicular sample surfaces. In each measurement area, 3-6 graphite bearing sites were selected, and the graphite flakes in those sites were measured with 5–15-point measurements to obtain 162-176 graphite spectra per sample (Figure 7-9). For the graphite-concentrates, a few grams of the sample powders were spread on glass plates after which 5-10 graphite flakes were randomly selected and measured with 5-10 point-measurements to obtain 150-159 graphite spectra per sample (Torppa 2022).

The results are shortly discussed in chapter 10 together with the results of later beneficiation tests on drill core material from Kupukan Grafiitti Oy drillings.



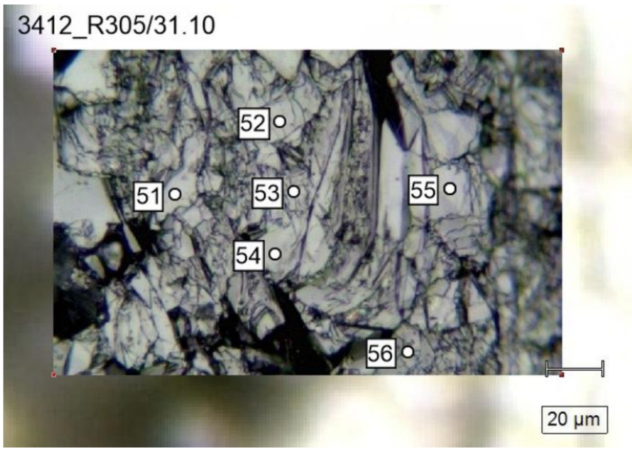


Figure 7-9. Left: Raman measurement areas (1-3) marked in the sample 3412_R305_31.10m, right: Microscope image showing Raman measurement points in graphite. From Torppa (2022).

7.1.3.8 Geophysical ground survey lines 2022

To locate more exactly and interpretate the GTK airborne EM anomalies GTK was contracted to do EM survey lines in selected places at Kupukka January 2022. The survey was conducted in March 2022 and in total five survey lines were made, in four target areas (Figure 7-11). The survey was made by Slingram-type Promis equipment (FrEM) using 100 m cable between transmitter and receiver and 10-20 m distance between the measurements. Frequences 440, 880, 3520, 7040 and 14080 Hz were used (Jokinen 2022).

The following is taken from the abstract of the report by Jokinen (2022). In the report the results of all four targets are explained in detail.

All four measured targets have strong indications of one or more conductive structures. Theoretical 3D models were calculated to locate the upper surface of the structures and estimate other properties. The locations of three conductive structures were determined at the site of the Valkiaisjärvi research site, but the dipping directions were not resolved with certainty. The Multakorpi research site has a unified conductive structure nearly 100 m wide (Figure 7-100). The sides of the structure are vertical. Two clearly separated conductive structures were identified at the Sarvikangas research site. Both thin structures dip to the east. A uniform conductive structure was observed at the Isoräme research site. The dip direction is west. Based on results, all identified conductive structures have good conductivity and even better than in Valkiaisjärvi, where the GTK drill hole 3412_R305 intersected graphite mineralization over 12.90m @ 6.9 % Cg.

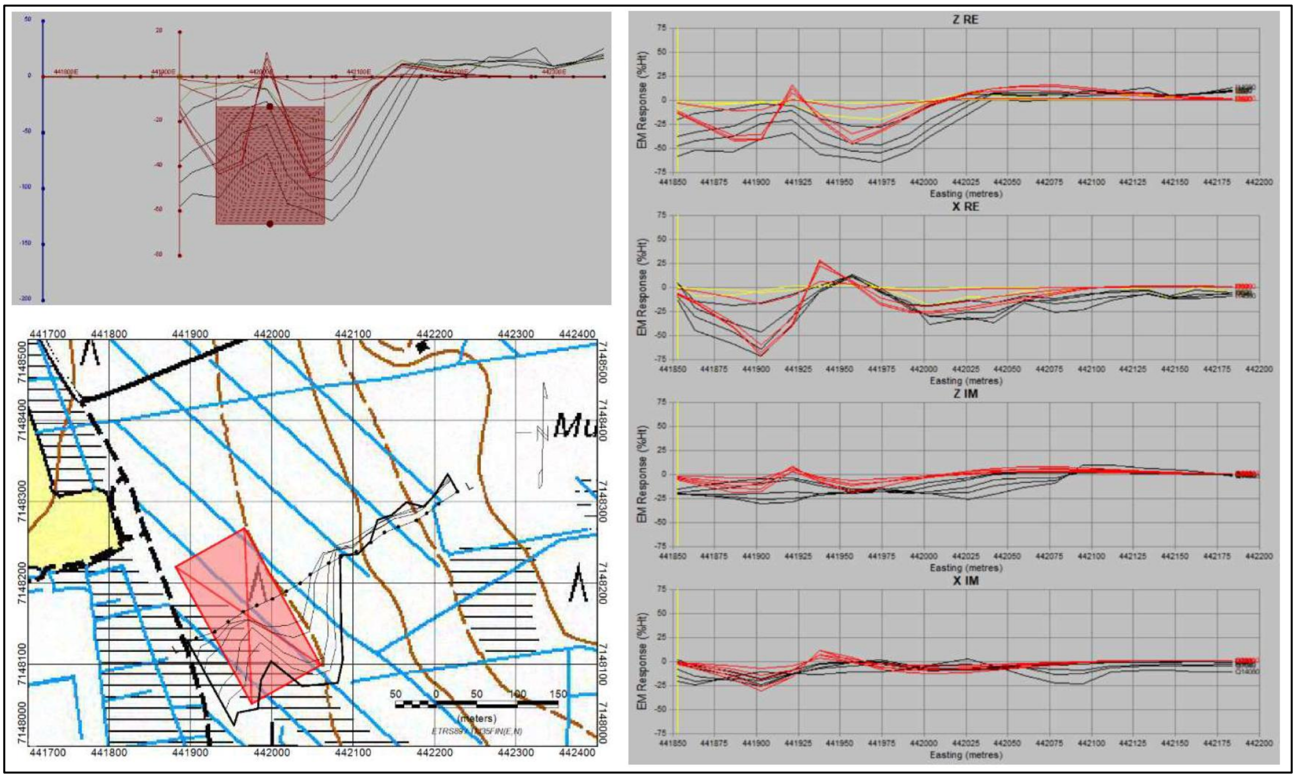


Figure 7-10. Multakorpi target area as an example of FrEM survey and interpretation. Images on left show the interpreted model as a cross section and projected onto the ground surface. On the right measured (black) and calculated (red) in-phase (RE) and out of phase (IM) components in vertical (Z) and horizontal (X) directions. From Jokinen (2022).

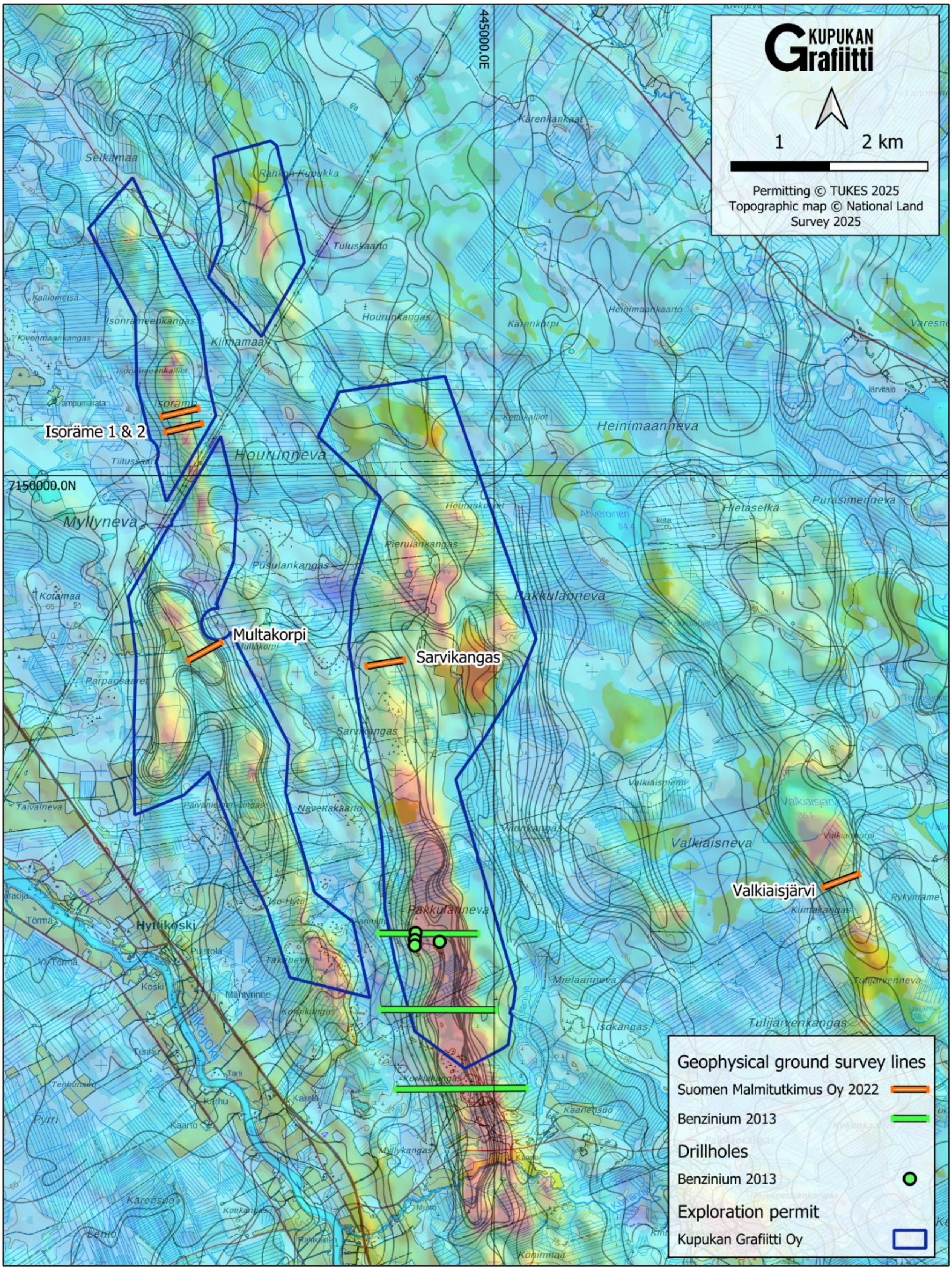


Figure 7-11. Location of the 2022 EM ground survey lines (orange) on the combined airborne EM in phase (red = maximum) and magnetic map (contours). Geophysical map is processed from airborne survey data by GTK.

7.2 Kupukan Grafiitti Oy Exploration 2023-2025 and Drilling

7.2.1 Layman boulder samples

Cooperation with local prospectors (Figure 7-6) has continued until present days. The latest, analysed boulders are from 2024. So far, 55 hand samples have been chosen to be analysed at ALS laboratories. All the analysed samples are presented in figure 7.7 with their graphite content. Analytical methods are described earlier in chapter 7.1.3.3.

Table 7-4. Graphite grades (Cg %) of discovered boulders.

Sample_ID	Easting	Northing	Cg %	Sample_ID	Easting	Northing	Cg %
Kupukka1	443849	7144420	5.19	Kiikku 1f	447985	7135781	3.08
Kupukka2	448943	7147144	6.83	Kiikku 2	447383	7136273	10.10
Kurranjärvi3a	453220	7144780	5.84	Kiikku 3	447772	7136052	9.05
Kurranjärvi3b	453220	7144780	10.60	Kiikku 4	447486	7136139	3.51
Jylmynkangas1	446802	7141451	1.05	Uljua P1	447909	7135904	3.72
Uljua1_21	446084	7132703	0.49	Kiikku 5	447811	7136109	5.91
Kivimäki2	450200	7129518	4.68	Kiikku 6	447945	7136306	7.30
Uljua1a	451279	7132073	5.77	Kiikku 7	447895	7136145	16.15
Uljua1b	451279	7132073	13.50	Kivikangas 1a	444864	7143655	6.99
Uljua2	454177	7130391	2.65	Kivikangas 1b	444864	7143655	3.21
Uljua3	455030	7127840	5.90	Kivikangas 2a	444620	7143587	7.27
Uljua4	450702	7138662	0.87	Kivikangas 2b	444620	7143587	6.88
Uljua5	448541	7134523	3.26	Pusulankangas 1	460745	7140658	1.91
Uljua6	448379	7134535	4.47	Mäläskänkangas 1	443743	7149155	0.03
Uljua7	453583	7129533	2.48	Uljua_pato1	451262	7132079	11.25
Uljua8	456180	7129128	2.68	Uljua_pato2	451262	7132079	11.10
Uljua9	456180	7129128	1.93	Sami6NR	454344	7131529	2.86
Keljunneva1	449047	7143247	8.26	Jylmy1	448931	7137645	6.07
Uljua7b	453583	7129533	2.67	Haaraoja1	455273	7149703	6.00
Uljua1c	451296	7132087	3.15	Haaraoja2	455273	7149703	6.64
Uljua1d	451296	7132087	13.50	Haaraoja3	455460	7149771	5.99
Uljua1e	451296	7132087	1.11	Matovaara1	457801	7143631	3.50
Uljua1f	451296	7132087	17.70	Matovaara2	457810	7143630	4.15
Kiikku 1a	447987	7135788	7.60	Sami1	452372	7131971	1.22
Kiikku 1b	447987	7135788	2.53	Kestinkangas1	454355	7131475	1.20
Kiikku 1c	447905	7135844	2.19	Parpansaaret1	440869	7148090	4.52
Kiikku 1d	447777	7136060	1.97	Parpansaaret2	441090	7148161	2.01
Kiikku 1e	447905	7135844	1.62				

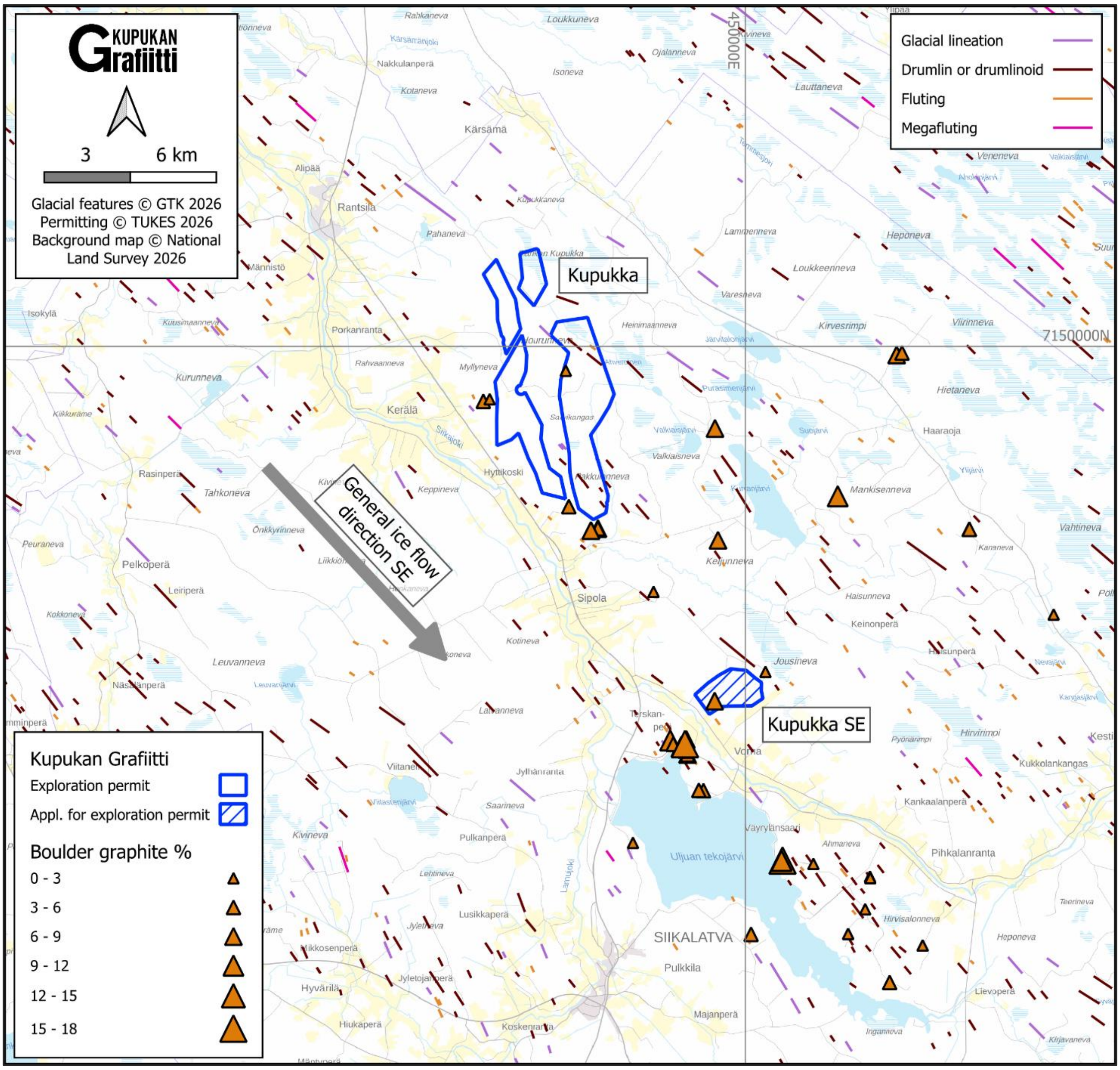


Figure 7-12. Boulders analysed by Kupukan Grafiitti and Suomen Malmitutkimus. Glacial movement directions marked (GTK data).

7.2.2 Geophysical ground survey lines 2024

Additional geophysical ground survey lines were measured in March 2024 by GTK. In total seven survey lines were completed (Figure 7-20).

Magnetic measurements were made with a continuously recording GEM System GSM-19 Overhouser magnetometer. In addition, a continuously recording ground station (Scintrex ENVI proton magnetometer) was installed in the survey area. The results of the profile measurements were corrected for the temporal variation of the Earth's magnetic field using ground station data. The measurement was successful, and no sudden changes in the Earth's magnetic field were observed during the measurements.

The electromagnetic measurement was carried out with the IRIS Instruments Promis device. Three measurement frequencies were used in the measurement: 880, 3520 and 14080 Hz. The measurement environment is very resistive and the conductors under investigation are accordingly very conductive. The upper surfaces of the conductor structures are fairly close to the ground, as they are clearly visible in the airborne measurement data. Based on the good electrical conductivity contrast and proximity to the surface, the coil spacing was chosen to be 50 meters. The measurements were carried out over three days (Jokinen 2024).

Interpretations of the survey results were made by ModelVision and Maxwell softwares. For magnetic data remanent magnetism was not taken into account in interpretations. During later studies it was noted that remanence is an important component in magnetic data and should be considered. For each survey line transverse model plates extending 100-200 m beyond the line were interpreted separately for magnetic and EM data. Model plates were received as dxf files to include in other 3D data by Kupukan Grafiitti. Figure 7-13 shows an example of interpretations.

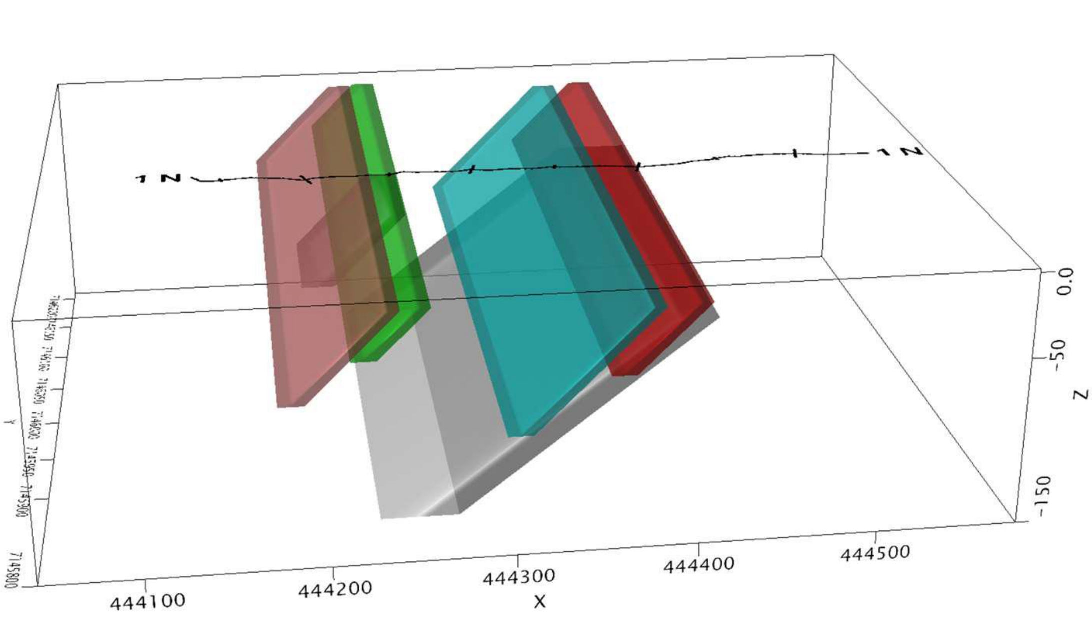


Figure 7-13. Magnetic interpretation of line 1 in gray and EM interpretations in other colors (Y=7146000, for location see Figure 7-20. From Jokinen (2024).

7.2.3 Petrophysics 2025

Seventeen oriented drill core samples, 12 graphite-mineralized and 5 non-mineralized, were studied at GTK geophysical laboratory, Espoo, in September 2025. The measured parameters were specific gravity, magnetic susceptibility, remanent magnetization with declination and inclination, inductive resistivity, galvanic apparent resistivity both with MAFRIP (frequency domain, with wet and dry electrodes) and SCIP tester (time domain) devices.

The average specific gravity for the 12 mineralized samples was 2.785 kg/dm^3, which is well in line with the measurements of Kupukan Grafiitti Oy personnel, 2.78 for breccia ore and 2.76 for disseminated ore. The average magnetic susceptibility for the mineralized samples is relatively high, in average

18613 (10^{-6} SI). Measured resistivities for the mineralized samples are very low, inductive resistivity in average 0.0008 Ωm and galvanic resistivity below the detection limit.

Remanent magnetization in mineralized samples is remarkable; the Q values range from 16 to 360. The direction of the of the remanent magnetization varies a lot. Possible explanation for this is that if it formed during peak of the metamorphism, later folding has modified the original direction. Remanent magnetism has been taken into account in magnetic interpretations by GTK in late 2025 (of the drone mag data).

7.2.4 Drone magnetic and EM survey 2025

Radai Oy carried out an airborne magnetic and EM survey in Kupukka during October 1 – 5, 2025. The survey consisted of two separate areas - Kupukka South and Kupukka North (Figure 7-14) The UAV flight operations were carried out by Dronnair Oy. In the following short descriptions are collected from the reports by Radai Oy, in which the detailed data can be found (Pirttijärvi 2025, Pirttijärvi and Karinen 2025).

Kupukan Grafiitti Oy takes part in the EIT Raw Materials funded and GTK coordinated DroneSOM.speed project by offering pilot site (Figure 13-2) for the new EM technology developed by Radai Oy and also Company's geological and geophysical data for interpretation and modelling of the survey data. In connection of the Radai's magnetic survey Radai Oy made EM survey in the central part of the Kupukka graphite deposit, as a test area for the DroneSOM.speed project (Figure 7-14).

The magnetic survey in Kupukka consisted of survey flights made with the Coot VTOL (vertical take-off and landing) drones equipped with Radai's multipurpose RMP dataloggers. The magnetic field is measured with a digital 3-component fluxgate magnetometer that is located in the tail boom of the drone. In addition to the three orthogonal components of the magnetic field, the datalogger records temperature and barometric pressure, which is used to determine barometric flight altitude. The GNSS (GPS+Glonass) time (UT) and position (latitude, longitude and altitude) are also recorded. An inertial measurement unit (IMU) provides the orientation (roll, pitch and yaw) of the drone. During flight, the horizontal accuracy of the GNSS positioning is below ±0.5 m and vertical accuracy is less than ±1 m.

The surface area of the Kupukka South survey site is about 4 km^2. The flight line spacing is 50 m and flight lines are NW-SE aligned (-60 deg. from east on map coordinates). According to the flight plan, the total line length is 83 km + 9.5 km (tie-lines) = 92.5 km.

Likewise, the surface area of the Kupukka North survey site is about 29 km^2. The flight line spacing is 50 m and flight lines are EW aligned (10 deg. from east on map coordinates). According to the flight plan, the total line length is 585 km + 61 km (tie-lines) = 646 km. In both surveys, the nominal flight altitude was set at 37.5 m above ground level defined by DEM.

The magnetic data processing was made using the RadaiPros (v. 2.6) software created by Dr. Markku Pirttijärvi. Kupukan Grafiitti received several processed magnetic maps as geoimage and grid files.

The EM survey was made on the most prospective area within the Kupukka North survey site (Figure 7-14). The survey area was 4.7 km^2, flight line spacing 75 m and total length of 65 line-km. The survey was made on October 3–5, 2025 using unoccupied aerial vehicles (UAVs) on behalf of Kupukan Grafiitti Oy as a part of DroneSOM.speed project. The UAV flight operations were carried out by Dronnair Oy. The objective of the survey was the geological mapping of the conductors in the area on one hand, and testing the survey systems and the methods developed in DroneSOM.speed project on the other hand.

The EM survey was made using the semi-airborne version of Radai's Louhi EM system. Louhi is a frequency-domain EM system that has been specifically designed for drone-based operations. It can be operated in semi-airborne fashion, where the transmitter is a loop of insulated metal wire on the ground surface and the lightweight 3-component receiver is being towed by a drone. The survey area at Kupukka and the location of the 4 different loops are shown in Figure 7-15.

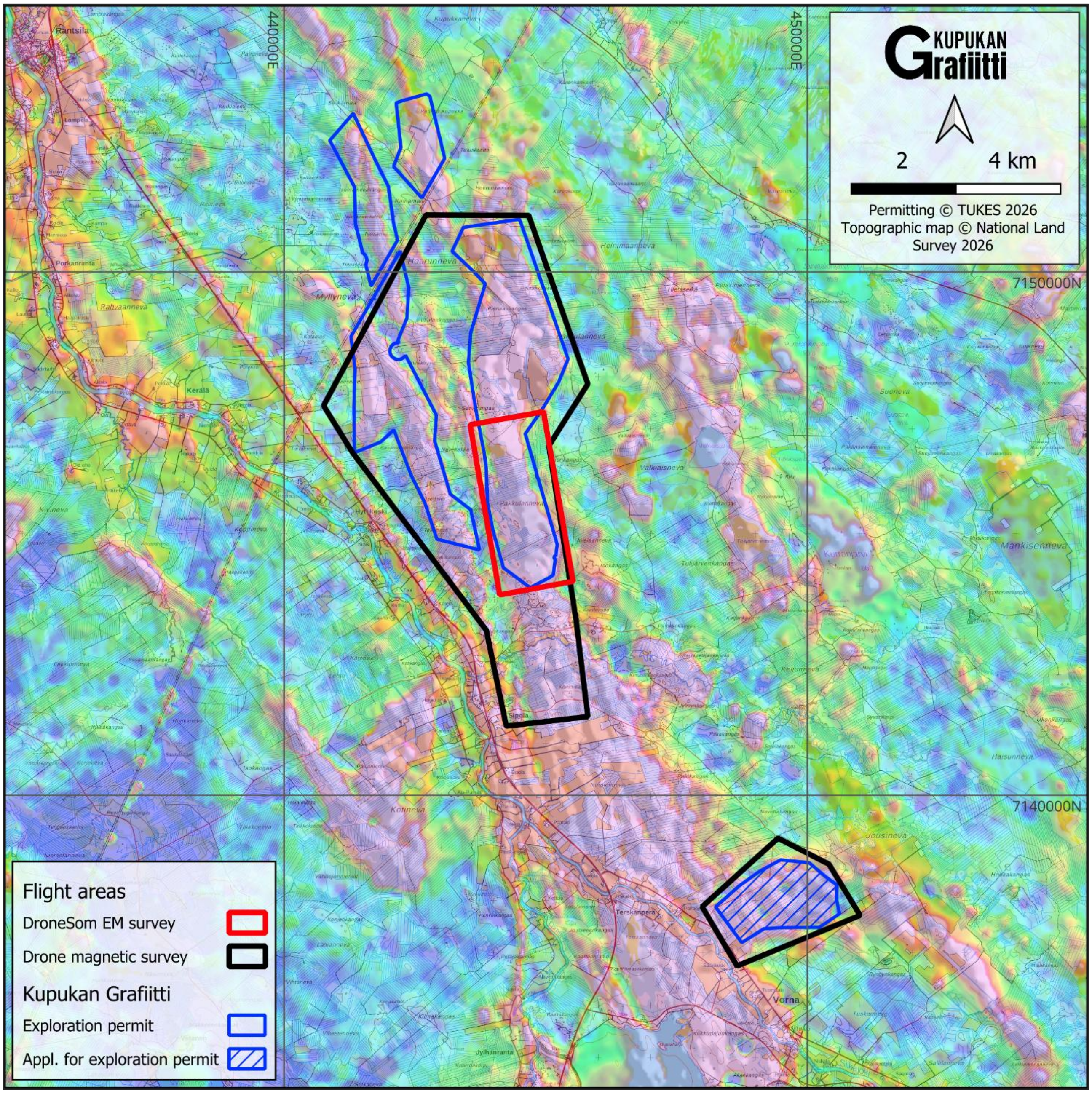


Figure 7-14. Drone magnetic survey areas marked by black border and drone EM survey area by red on the GTK airborne EM in-phase anomaly map (purple = maximum).

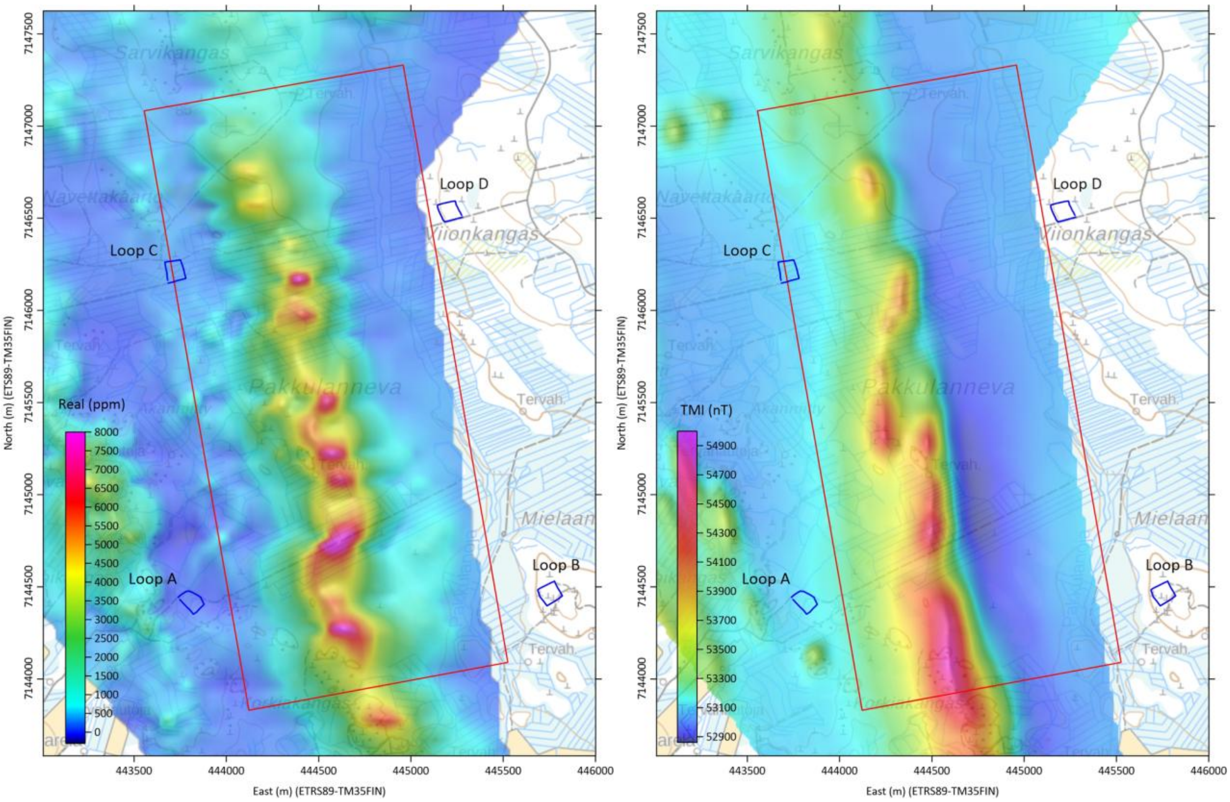


Figure 7-15. Kupukka EM survey area (red polygon) and transmitter loops A-D on top of the in-phase (real) component of GTK low-altitude AEM data (left) and Radai's drone-magnetic data (right). Topographic map © National Land Survey of Finland, 2025. From Pirttijärvi (2025, Fig. 3.2).

The magnetic interpretations and inversions were made by Sami Niemi, GTK. Kupukan Grafiitti received 3D inversion data to include in geological 3D data. Because Kupukka mineralization has a strong remanent magnetization the inversion was carried out using the Magnetic Vector Inversion tool of the Oasis Montaj software. The survey data used was the total magnetic flux density provided by Radai, which had been determined for a flight altitude of 40 meters. The data continued upwards to 600-meter height, was used as a regional field and had been subtracted from the data. The depth of the inversion model was set to 300 meters, and the lidar data of the National Land Survey of Finland was used as the surface height model. The inversion model was limited by the geological model based on drillings and the contacts visually interpreted from the magnetic data, so that the strongest changes in magnetization were focused on the contacts indicated by these models. Inversion models are presented in Chapter 14.

The EM survey data was interpreted by the DroneSOM.speed project persons (GTK and Beak Consultants GmbH). Kupukan Grafiitti received several 3D models and SOM data produced from the EM survey data. Figure 7-16 shows the resistivity model, which outlines the Kupukka conductor in 3D.

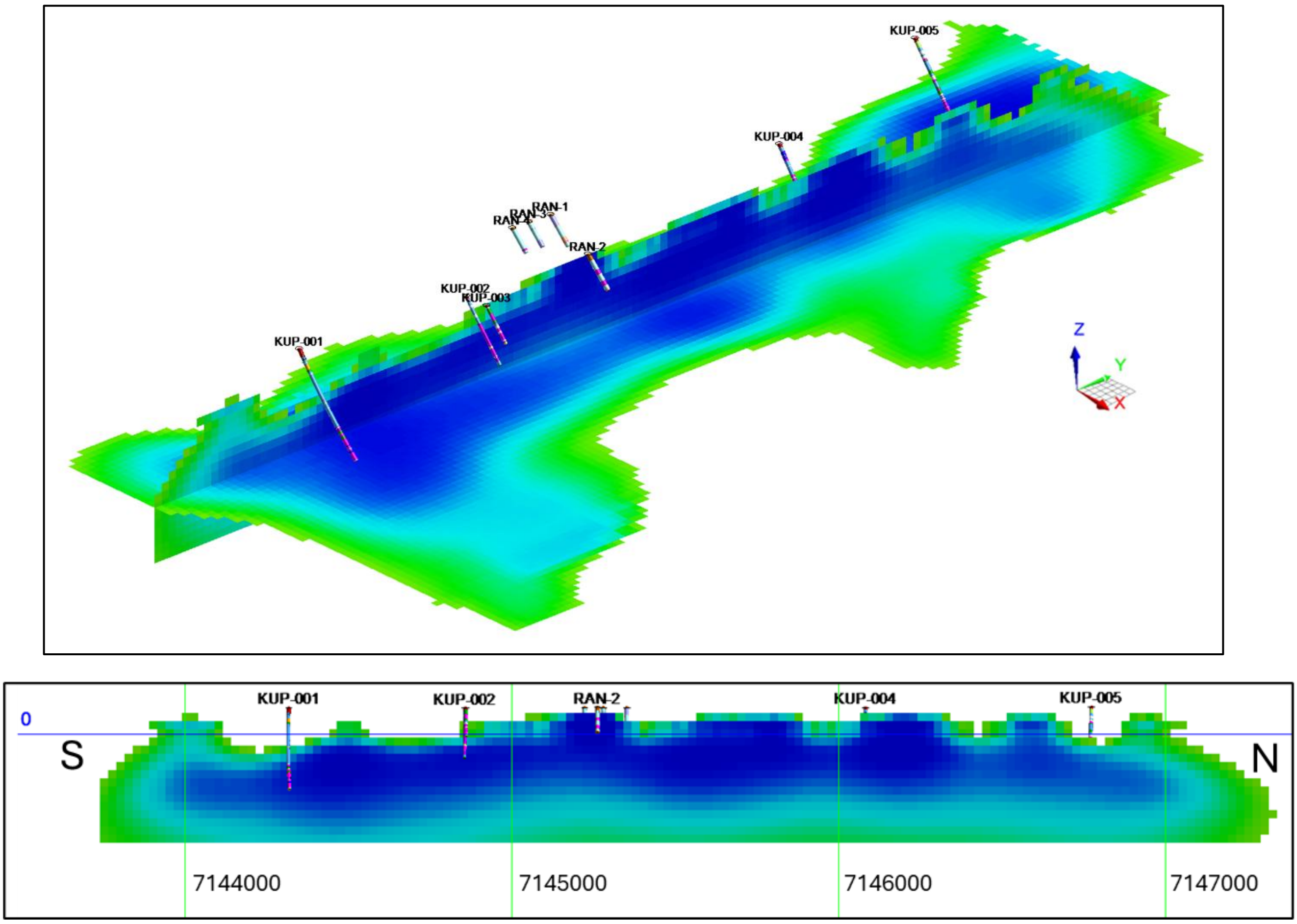


Figure 7-16. Resistivity model produced from the EM survey data. Upper image oblique view towards NW, lower image vertical north-south section towards west. Blue colour marks low resistivity.

7.2.5 Mise ála Masse survey 2025

The following text has been compiled from the report by Kivinen (2025).

GRM-services Oy conducted Mise ála Masse survey during 14.8.2025 – 25.8.2025. Initial plan was to survey six holes KUP-001-2-3-4-5 and RAN-2 as well as four ground lines. However, due to the data seen on first measurements changes were done during the campaign and finally only two ground lines and seven holes were surveyed. The surveyed holes were KUP-004, KUP-002, KUP-003, RAN-1, RAN-2, RAN-3, RAN-4 (Figure 7-17).

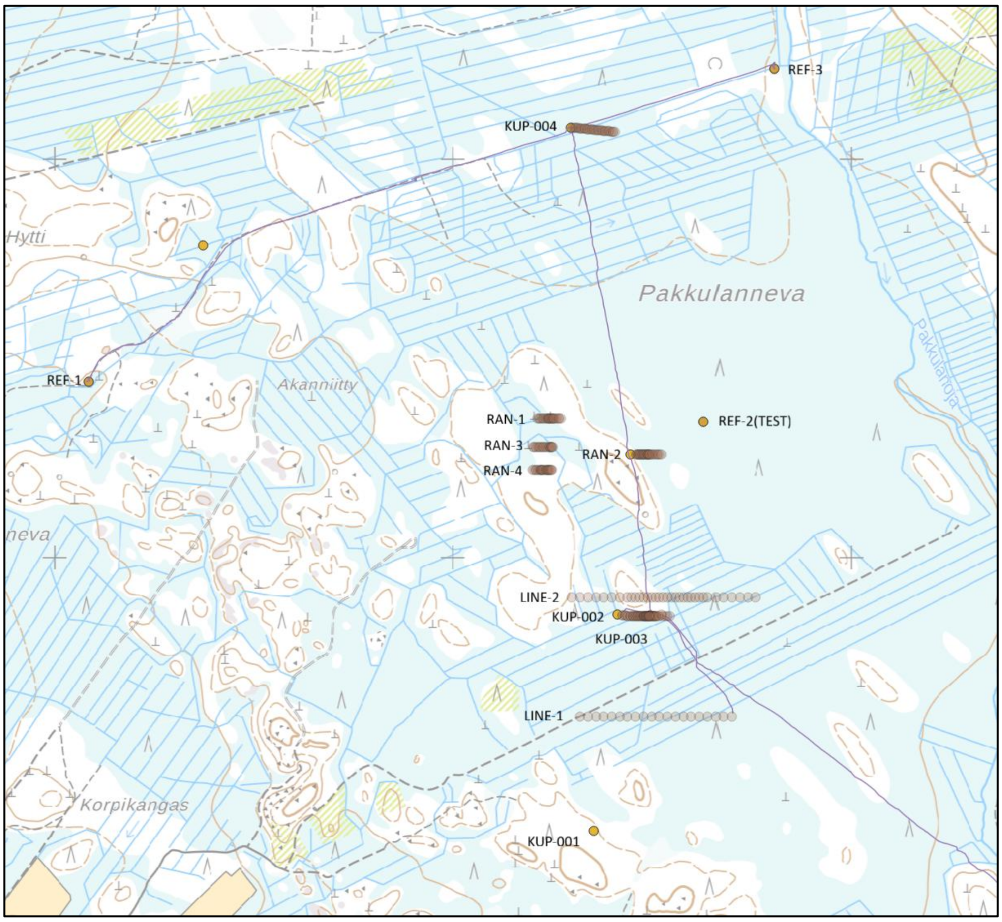


Figure 7-17. Surveyed drill holes and ground lines. REF-1-3 are remote electrode positions tested and used. The remote current electrode was 2.2 km southeast of the survey area, not shown on the map. Modified from Kivinen (2025).

Work was done with Induced Polarization & Resistivity equipment. IP Receiver manufactured by GDD instrumentation was used to measure the charged potential and also SP (spontaneous potential). The transmitter used was GDD TxII 5 kW transmitter and it was operated at 50 % duty cycle with a 0.25 Hz base frequency.

Survey began with transmitter electrode (C1) positioned in KUP-003 at 50m depth. Hole KUP-002 was surveyed, which proved a clear connection. KUP-003 attempted to survey with the C1 in the hole, during survey cables had to be moved and during moves the hole collapsed and could not be surveyed. C1 was moved to KUP-002 intersection, and KUP-002 survey was repeated with C1 in KUP-002 at 133m depth. Survey proved that KUP-002 110 – 140m zone is in equipotential with KUP-003 at 50m, because the result was near identical regardless of C1 located in KUP-002 or KUP-003.

Data from other holes did not show any similarities to KUP002 data, indicating that no current flow exists between the holes. RAN-holes show similar SP (spontaneous potential) behavior, while KUP-holes have very different behavior.

Ground survey Line 1 was surveyed after holes and it was expected to show clear continuation, however the response not as clear as expected, some slight increase was identified, but nothing as expected. Line 2 was added to verify the response over know formation. Line showed a clear peak over the electrode location (electrode in KUP-002 at 133m).

In conclusion, the survey confirmed a clear connection between KUP-003 (50m) – KUP-002 (104 – 140m). No other connections were found. The possible explanations include:

- graphite zone is faulted preventing the current flow.
- the unit is too large and conductive for the method spreading the current to such a large area that the potential difference becomes negligible.
  Another concern related to this possibility was that the remote current electrode was too close (2.2km), in principle this is possible and likely, but most likely this would not affect the nearest RAN-holes nor the conducted ground lines. It is recommended to consider and eliminate this possibility should more surveys be conducted in similar environments.

7.2.6 2024 Drillings

Kupukan Grafiitti drilled 7 holes (KUP-001 – KUP-007) in autumn 2024 starting at 26th of October. The last hole was completed at 25th of November 2024. Total length of the drilling program was 1669.85 down-hole meters (Table 7-5, Figure 7-20). Diamond drilling was carried out by the Finnish, Rovaniemi based drilling company Comadev Oy (Figure 7-18) using HQ equipment that produces 63.5 mm diameter core. Samples were oriented using Axis Champ Ori tool by Comadev crew.

Prior to drilling, collars were placed and marked using hand-held GPS (phone). Hand-bearing compass was used to set orientation pegs for drill rig alignment. Once drilled, all holes were measured for their azimuth and dip deviation for their entire length using Reflex Sprint-IQ by Comadev crew.

After drilling campaign was complete, all 7 drill hole collars were measured by Mitta Oy using Trimble GNSS (DGPS). Holes KUP-001, KUP-006 and KUP-007 were double checked for their starting azimuth and dip by inserting Kupukan Grafiitti modified HQ-sized drill rod into hole and measuring its azimuth and dip (Figure 7-18). These were in line, lowest azimuth difference being 0.07 degrees and highest 1.13 degrees. It needs to be noted that the modified rod was first test version, and errors may be caused by modified rod not aligning right in the casing. This measurement was carried out by Mitta Oy as well.

Coordinate system used by Kupukan Grafiitti is ETRS89 / TM35FIN(E,N) and vertical datum N2000.

Kupukan Grafiitti personnel supervised the drilling by taking part in shift changes usually twice a day and visiting drill rig at least once a day. Kupukka area is covered with 5G mobile networks of all major telecom operators, so real-time communication was possible throughout the campaign.

Labelling on core boxes (=core trays) include hole number and box number on 3 sides. First box of each hole contains all collar data of the drill hole (Figure 7-19). Last box of each hole has ending date and EOH (End of Hole) mark. Drillers used wooden blocks to separate core runs and write remarks.

Casing of all drillholes was cut 20 – 30 cm above surface and all drillholes were sealed using expanding rubber-steel plugs. Plugs can be opened if needed. On top of casing, aluminium hat was placed and fastened using screw. Each collar point is marked with 1.8m high, partially painted wooden pole made of pressure-treated timber (Figure 7-18). Pole is equipped with reflectors so that drill holes are easy to find also in the dark.

Table 7-5. Drillhole collar data from 2024 Kupukan Grafiitti diamond drilling campaign.

Hole_ID	Location	Easting	Northing	Elevation	Azimuth degrees	Dip degrees	Length m	Core mm	Casing m
KUP-001	Pakkulanneva	444354.578	7144315.157	78.004	92.81	-51.77	334.50	63.5	16.5
KUP-002	Pakkulanneva	444414.783	7144854.517	77.159	91.24	-50.90	206.55	63.5	13.5
KUP-003	Pakkulanneva	444492.869	7144856.139	77.295	88.76	-50.30	116.15	63.5	9.0
KUP-004	Pakkulanneva	444292.682	7146080.377	77.589	94.61	-50.12	194.90	63.5	13.5
KUP-005	Sarvikangas	444065.341	7146771.186	80.193	92.15	-51.09	233.45	63.5	12.0
KUP-006	Pierulankangas	444261.220	7148794.742	80.612	92.19	-51.02	314.50	63.5	28.5
KUP-007	Multakorpi	441665.669	7148558.217	64.884	67.25	-51.81	269.80	63.5	10.5

Figure 7-18. Comadev drill rig and ATV at work (left). Mitta Oy surveyor Harri Kujala measuring collar of hole KUP-007 (right). The hole has modified drill rod inserted.

Figure 7-19. First box (=core tray) contains hole number, box number, azimuth, dip, easting, northing, elevation, coordinate system, starting date and overburden thickness.

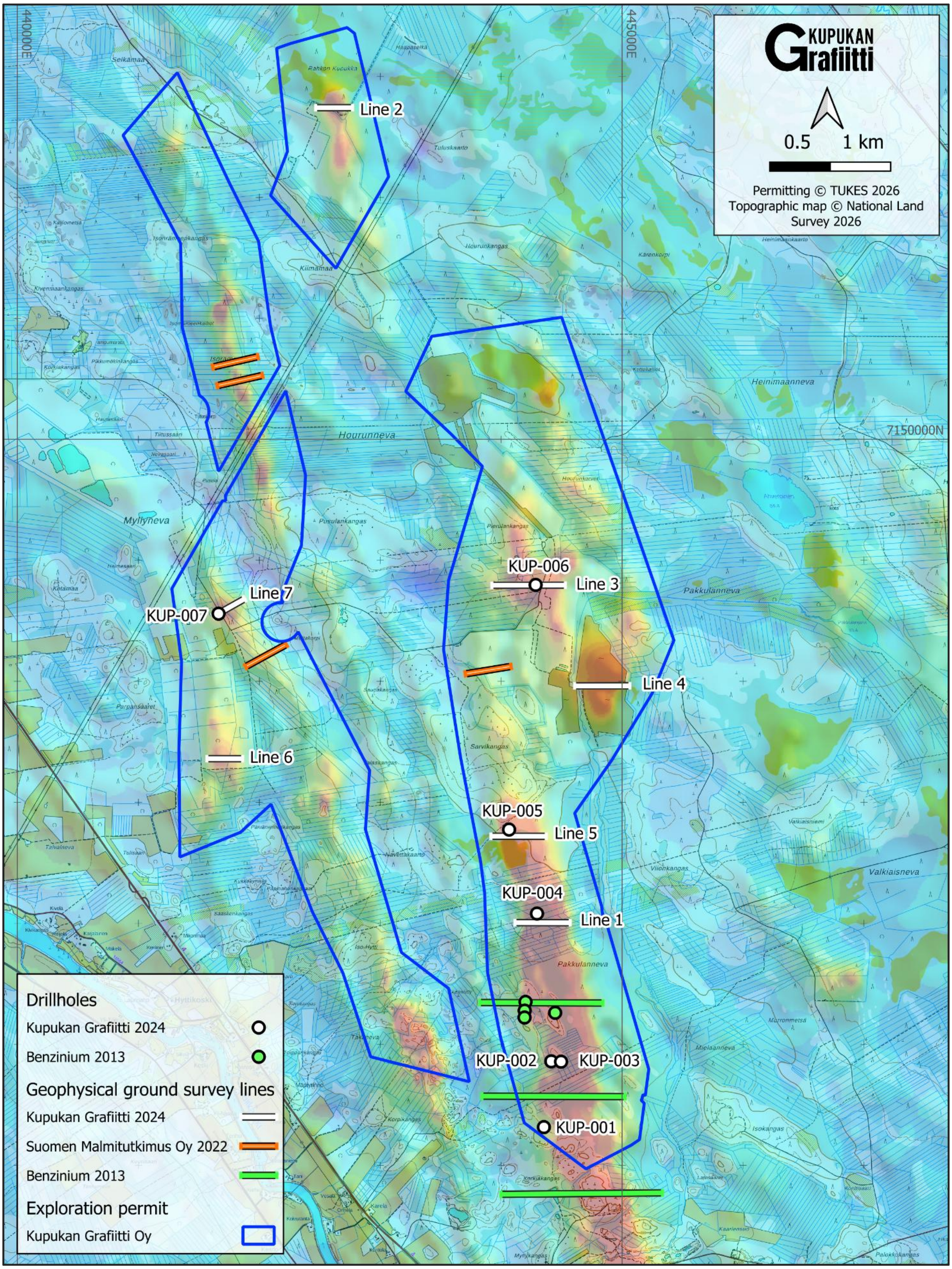


Figure 7-20. Location of drill hole collars KUP-001 – KUP-007 and geophysical ground survey lines on the airborne EM in phase map (red = maximum). Geophysical map is processed from airborne survey data by GTK.

8 Sample Preparation, Analyses and Security

8.1 Logging and sampling protocol

8.1.1 Geological Survey of Finland (GTK) 1993

The drill cores of the GTK drillings in 1993 were logged by GTK personnel at GTK Kuopio logging facility. The drill cores were stored first in GTK Kuopio logging hall and later transported to GTK Loppi drill core archives. No document on the logging protocol or sampling has been found.

8.1.2 Benzinium Oy 2013

Benzinium Oy logged the RAN-001 – RAN-004 drill cores for lithology and mineralization, photographed the drill core boxes and took samples for thin sections. The report by Benzinium Oy does not include other data on the logging protocol (Benzinium Oy Report 2013).

8.1.3 Kupukan Grafiitti Oy 2023

Kupukan Grafiitti Oy purchased in October 2023, the drill cores of holes RAN-001 – RAN-004, which had been stored by a private person since 2013. The drill cores were transported from Espoo to Outokumpu for relogging by Hannu Makkonren. The Outokumpu logging place, with the necessary equipment and safety, located in center of Outokumpu city. Logging was made by Hannu Makkonen in October 2023 and included core losses, lithology, alpha angle between the core and the main schistosity, notes on graphite mineralization and RQD in one-meter intervals (Figure 8-1). After all logging was completed for the batch of core laid on table, pictures were taken dry. The data was collected in Excel templates and compiled in MS Access file.

Figure 8-1. Hannu Makkonen logging the 2013 drill cores at the Outokumpu core shed.

Graphite-mineralized core was selected for sampling. The mineralized portions of the drill cores were sampled regularly and continuously. Before and after the mineralized portion a visually barren portion of core was sampled. The sample length was typically 1 meter in visually higher-grade portions and 2 meters in lower-grade portions (Mean = 1.23m). The minimum sample length was 0.4m (two samples of compact graphite with 0.1m sample length), and the maximum was 3.0m. Sampling across lithological contacts was avoided.

The samples were clearly marked with felt-tip pen to indicate the beginning and ending of the samples. The sample boundaries were marked both on the core as well as on the core boxes. Sample numbers were marked on the core boxes. The core boxes were taken by Okun Autolähetti Company to ALS laboratories Outokumpu for sawing and further sample preparation.

It should be noted that due to poor storage there were missing pieces of drill core in each of the RAN-holes. The total length of the missing core in the holes was as follows: RAN-001 2.83m, RAN-002 3.45m, RAN-003 0.70m, RAN-004 1.65m, all together 8.63m. The missing core was logged as core loss.

8.1.4 Kupukan Grafiitti Oy 2024-2025

8.1.4.1 Drill core transport and storage

At the rig, drill core samples were inserted into wooden core boxes (core trays) manufactured by Nordic Drilling Box, which are the industry standard in the Nordic countries. Core boxes were transported from the drill rig strapped into ATV to driller's maintenance/storage area. From there, core boxes were transported every day to Kupukan Grafiitti core shed in Rantsila village at the back of a pick-up truck by Kupukan Grafiitti personnel. The cargo bed was closed and not open to elements. The cargo was always securely fastened. Two times the transport to shed was done by the drillers using their van.

Drill core was stored in the locked core shed in room temperature.

8.1.4.2 Logging procedure

Core boxes were lifted to logging table with two personnel. Tables were big enough to fit 12 core boxes at once. Once on the table, core was reassembled on a metal core rack, measured for its length and **orientation line drawn to bottom** of the core (Figure 8-2). Blue or green marker was used to draw the line. Orientation quality is represented in numbers of downward-pointing half-arrows. One mark when the line is based on one ori mark, two for two and three half-arrows if the orientation line goes through three or more ori marks (Figure 8-3). Variance of 10 degrees was allowed in the ori mark precision. Overall, the orientation mark quality was very good, there were very few clearly incorrect ori marks. Measuring the length of the core was also done for assembled core when assembly was possible. The missing core was logged as core loss. Logging was performed on laptop computer into MS Excel templates and compiled in MS Access file.

Figure 8-2. Juho Romakkaniemi drawing orientation line.

Core logging was mostly done by Juho Romakkaniemi in supervision of Juha-Matti Kekki and Hannu Makkonen. Logging order: KUP-002, KUP-003, KUP-004, KUP-001, KUP-005, KUP-006 and KUP-007. Core logging procedures were constantly improved due to increased understanding of the deposit and its geological features.

Figure 8-3. Blue, reliable orientation line that goes through 3 ori marks.

8.1.4.3 *Lithological logging*

Lithological logging included the following: Lithological intervals (Rock type 1 being the main and rock type 2 secondary lithology), texture, average grainsize and relative grade of migmatization. Following was also estimated: graphite content, graphite grain size, total sulphide content and pyrrhotite/pyrite degree.

8.1.4.4 *Structural measurements*

Core was divided into structural domains based on their appearance, such as massive, foliated or sheared. Also, foliation direction change was a reason to start a new structural domain. At least one foliation measurement was done within each structural domain depending on orientation line availability. Alpha angle was measured with a protractor angle ruler. Beta angle was measured using Kenometer tool (Figure 8-4). Gamma angle, where measurable, was measured with protractor.

Figure 8-4. Juha-Matti Kekki measuring beta angle using Kenometer tool.

Self-made “rocket launcher” was used to measure linear features, mainly fold axes. Launcher was set up to correct dip using deviation survey data. Wooden sticks were attached to core by Blu Tack to represent the fold axis. Dip direction was then measured using self-made 360-degree scale drawn on transparent plexiglass and dip by compass clinometer.

8.1.4.5 Magnetic susceptibility measurements

Magnetic susceptibility was measured by Kupukan Grafiitti using Terraplus KT-20 device and its "measure" function with 10 kHz. Measuring was done from ½ core on holes KUP-002, KUP-003 and KUP-004. Holes KUP-001, KUP-005, KUP-006 and KUP-007 were measured from whole core. In total 1180 measurements were done. Values were manually entered into MS Excel template.

8.1.4.6 Density measurements

Kupukan Grafiitti measured the density of all sampled drill core + some extra. Total of 949 assayed samples were measured using Archimedes principle where the dry sample weight is divided by difference between dry sample weight and sample weight when submerged in water. Timo Yletyinen and Juha-Matti Kekki did the work (Figure 8-5). All assayed samples were measured after receiving the core back from ALS Sodankylä. Measurement was done to half core using full sample length.

Two Kern professional scales with 0.1 g accuracy were used in the measuring process. One scale had 10 kg limit and the other 12 kg limit. Two standard samples were used, Stainless Steel and Aluminium. Every 20th measurement was done using either of the standard samples. Stainless steel standard density range was 7.8753 – 8.0553 kg/dm^3 and Al standard density range 2.6786 – 2.7386 kg/dm^3. Every standard measurement done was within this range. In most measurements the water temperature was room temperature and was not considered.

Figure 8-5. Timo Yletyinen measuring stainless steel standard sample during density measurements.

To control the density measurements, total of 38 samples was also measured by ALS Sodankylä using OA-GRA08 method. Results were well in line and are presented in Table 8-1and Figure 8-6.

Table 8-1. Comparison of ALS OA-GRA08 bulk density (kg/dm³) measurements with Kupukan Grafiitti measurements.

Sample	ALS OA-GRA08	Kupukan Grafiitti	Sample	ALS OA-GRA08	Kupukan Grafiitti	Sample	ALS OA-GRA08	Kupukan Grafiitti
240003	2.59	2.60	240017	2.69	2.69	240056	2.88	2.87
240004	2.73	2.76	240018	2.79	2.79	240057	2.82	2.81
240005	2.69	2.69	240019	2.91	2.91	240058	2.82	2.83
240006	2.75	2.75	240021	2.80	2.80	240059	2.91	2.90
240007	2.77	2.77	240022	2.76	2.76	240061	2.87	2.88
240008	2.78	2.78	240023	2.72	2.72	240062	2.80	2.80
240009	2.75	2.75	240024	2.76	2.76	240063	2.87	2.87
240011	2.71	2.72	240049	2.82	2.81	240064	2.82	2.82
240012	2.72	2.72	240051	2.86	2.86	240065	2.94	2.92
240013	2.76	2.76	240052	2.79	2.79	240066	2.82	2.82
240014	2.74	2.74	240053	2.83	2.82	240067	2.80	2.77
240015	2.90	2.90	240054	2.92	2.92	240068	2.72	2.72
240016	2.73	2.73	240055	2.87	2.87			

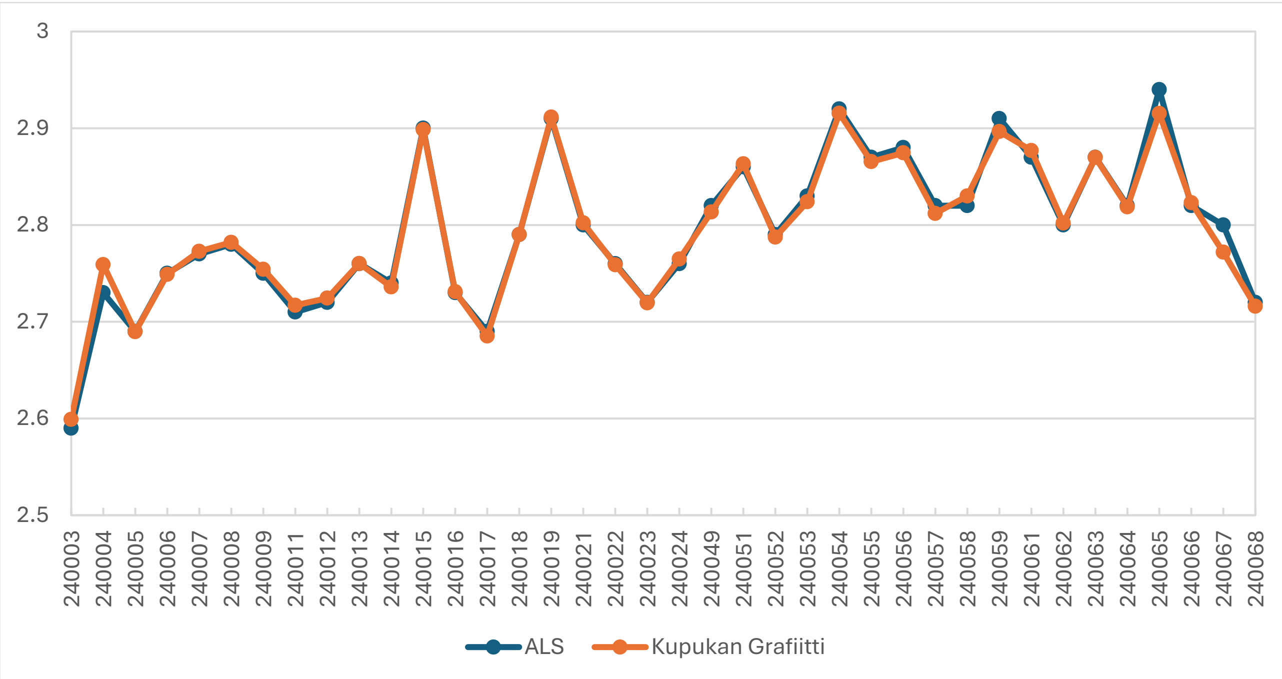


Figure 8-6. Density (kg/dm³) measurement comparison.

8.1.4.7 Geotechnical measurements

Drillholes with only RQD measured

On holes KUP-002, KUP-003 and KUP-004 only RQD was logged using mainly one-meter intervals. Data was logged onto MS Excel forms. Average RQD value for these three holes was 77. No other geotechnical logging was done to these three holes. Observed core loss was recorded into lithology logging table as separate rock type. KUP-002 had total core loss of 0.5 meters, KUP-003 0.5 m and KUP-004 0.45 m.

Drillholes with more extensive geotechnical study

As the core logging proceeded, more geotechnical data from good-quality oriented core was collected. The aim was to collect data based on Barton's Q' and to expand it with IRS hammer tests, fracture count and weathering + alteration. This was done so that experienced mining engineers have good data available for their interpretation in the future. All data described in the following chapters was logged into MS Excel templates. Drillholes KUP-001, KUP-005, KUP-006 and KUP-007 had the following measurements done:

Division into geotechnical domains

Domains were chosen based on changes in geotechnical parameters, such as variance in number of joint sets, degree of weathering or such. Maximum length of the interval was 5.2 meters, but vast majority of the domains are 3 meters, which is the length of one drill run, or less. Each interval was assigned a type, such as Jointed Rock, Foliated Rock or Broken Core.

Weathering and Alteration

Weathering and alteration were both classified into five categories from fresh to completely weathered or completely altered. Rocks in Kupukka are generally fresh and unaltered in geotechnical perspective. Slight or moderate weathering can be present near surface as well as some alteration.

Core recovery and RQD

Core recovery was calculated within each geotechnical domain. Core losses were recorded as a rocktype in lithological logging template and as its own geotechnical domain in geotechnical core logging template. The largest core loss was at the beginning of hole KUP-001, a total of 6.45 meters in 6 different intervals. KUP-005 had core loss of 0.4 m and KUP-006 0.55 m. KUP-007 had no core loss. Only 3 separate core losses with total length of 0.5 m were logged inside sampled rock intervals. Therefore, core loss has practically no impact on graphite grade analysis.

RQD was measured within each geotechnical domain for its total length. Length-weighted average of the RQD of all geotechnical domains of these 4 holes is 83. When excluding the broken zone at the beginning of hole KUP-001, the weighted average is 87.

Fracture count

Measuring the alpha and beta angle was tested for every single joint, but this practise was discontinued due to being too time-consuming at this stage of the project. Instead, within each geotechnical domain, the number of joints was calculated. Based on their alpha angle, they were divided into three groups: 0-30, 30-60 and 60-90 degrees. These were marked on rock with 1, 2 or 3 lines based on the orientation using china marker. Mechanical, non-natural breaks were marked with a cross and not counted. Measuring tool used was protractor angle ruler. When the domain consisted of rubble or broken core, additional random joints were added to "Random" bracket on logger's discretion to clearly separate broken areas.

Microfractures

Small, consistent veinlets in the rock were classified as microfracturing (Figure 8-7). In hole KUP-001 and first half of KUP-005 the number of microfractures was marked as a relative number, the highest number relating to intervals of many microfractures. It was then changed to more precise numerical approach, such as "intense" when the number of healed fractures with hard filling was 5-10 within 10 cm core piece. This data was collected because it plays a role in Intact Rock Strength hammer tests.

Figure 8-7. Some microfracturing in amphibolite (light veinlets). Hole KUP-007.

Joint Set Number (J_n)

Joint Set Number was assigned to each geotechnical domain based on Barton et al. (1974). Number was generally between 1 and 15, where 1 is massive rock with few or no joints and 15 is four or more joint sets.

Joint Roughness (J_r)

Joint Roughness was assigned to each geotechnical domain based on Barton et al. (1974). Joint roughness was divided into 7 different categories. Number 4, the roughest number, was assigned to interval with just discontinuous joints. Number 0.5 was assigned to slickensided, polished joints. In Kupukka, it is common to have different joint roughness in different joints within each domain. Therefore, the Joint Roughness number that was logged, was a combination of observed joint roughness types with emphasis on the weaker ones.

Joint Alteration (J_a)

Joint Alteration was assigned to each geotechnical domain based on Barton et al. (1974) but slightly modified. It is divided into 10 categories ranging from 0.75 where joints are tightly healed with hard infill to 16 with >5mm of crushed rock or clays. Practically the lowest value in Kupukka was 4. The Joint Alteration number that was logged, was a combination of observed joint roughness types with emphasis on the weaker ones within a geotechnical domain.

Intact Rock Strength

Intact Rock Strength (IRS) was measured by hitting core sample with hammer. One representative sample within each geotechnical domain was tested. Length of the sample was approximately 12 cm, which is roughly double the core diameter. Sample was held in other hand and firmly hit with hammer (Figure 8-8). Results were logged into MS Excel template according to ISRM (1978) code that has 7 different ratings from R0 to R6. In R0 (Extremely Weak), rock can be indented by thumbnail. The highest is R6 (Extremely Strong) where specimen can only be chipped with multiple hammer blows. Kupukka rocks have average rating of almost R5, so they are very strong (have high IRS) in general.

Figure 8-8. Juha-Matti Kekki doing the hammer test to drill core sample.

Q-System

With parameters listed above, value for Q' was calculated using following formula: Q' = RQD/Jn × Jr/Ja. High Q' value refers to more competent rock mass. Q' has been calculated for drillholes KUP-001, KUP-005, KUP-006 and KUP-007. Interval length-weighted average of Q' values for these four holes was 18.7 when all zero values from core losses and completely broken intervals were converted to 0.01 and all values above 200 were top-cut to 200.

8.1.4.8 *Sampling for assays*

Sampling was done based on visual appearance of graphite in the drill core. Rule of thumb was that if graphite is present in more than just a trace, sampling will be done. Graphite-void rock was included in the sampled section before and after. Sample boundaries were marked on rock and on core boxes using red marker (Figure 8-3). Red was not used anywhere else except in driller's ori mark. Sample number was marked on the box. Sample length was between 0.35 m to 2.45 m with 1.17 m in average. Visually poorer grades were sampled with longer sample lengths. Sample boundaries were also placed in lithologic contacts; sample never crosses them.

8.1.4.9 *Photos*

After all logging procedures were completed for the batch of core laid on table, pictures were taken both dry and wet.

8.1.4.10 *Shipment to laboratory*

Sample-containing drill core boxes were packed on custom size pallets designed for core boxes, secured with metal bands and shipped to ALS Sodankylä. Transport was ordered from DHL Freight, and their contractor Posti Oy (Figure 8-9) handled the transport by truck from Rantsila core shed to ALS Sodankylä. After sample preparation and analysis, the remaining drill core, leftover crushed material and pulps were shipped back to Rantsila core shed by ALS Sodankylä. Transport was done by UKK Transport by truck.

Figure 8-9. Forklift loading the drill core pellet onto truck.

8.1.5 Laboratory and assay methods

The 2013 drill core samples were assayed in ALS laboratories using method C-IR18 for graphitic carbon (Cg) and method ME-ICP 41a for other elements. Method C-IR18 includes HCl (50%) leach of carbonates, roasting to remove organic carbon and assaying by induction furnace/IR. The lower detection limit is 0.02 %. Method ME-ICP 41a includes Aqua Regia leach and ICP-AES assay. Sample preparation was made in ALS laboratory Outokumpu. Table 8-2 summarizes sample preparation and analytical procedures for the 2013 drill core samples.

The 2024 drill core samples Graphitic carbon (Cg) were assayed in Actlabs, Ontario with the method 4F-C-Graphitic (infrared), which has lower detection limit of 0.05 %. The other elements were assayed in ALS laboratories Ireland with the method ME-ICP 41a. The pulps for the assays were prepared at ALS laboratory Sodankylä with the same ALS sample preparation procedure as described in Table 8-2.

Table 8-2. Sample preparation and analytical procedures for the 2013 drill core samples. From ALS laboratory brochure. Sample preparation code PREP-31Y.

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-QC	Pulverizing QC Test
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-22Y	Split Sample - Boyd Rotary Splitter
PUL-31	Pulverize up to 250g 85% <75 um
LOG-24	Pulp Login - Rcd w/o Barcode
LOG-SAW01	Log Sample derived from Core Saw Process
CRU-QC	Crushing QC Test

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41a	High Grade Aqua Regia ICP-AES	ICP-AES
C-IR18	Graphitic carbon by IR Spectroscopy	LECO

8.1.6 Quality Assurance and Quality Control

The quality and accuracy of the assay data being received from the laboratories is routinely monitored using blanks, standards and duplicates being inserted and assayed in the assay runs. The use of Certified Reference Materials (CRMs) as standards controls the accuracy and precision of the analyses.

8.1.6.1 QA/QC for 2013 drillings

Kupukan Grafiitti Oy inserted a CRM sample with a known graphite concentration around every 10th sample. The actual standard used varies but reflects the expected distribution of graphite values in the samples. The standards used were obtained from OREAS, Ore Research & Exploration Pty Ltd., North Victoria, Australia. The values of the standards, OREAS 722 and OREAS 724, are provided in Table 8-3 with an acceptable range of values (defined as three times the standard deviation provided with the standard certificate).

In total 146 drill core samples were assayed, and 17 standards. The number of standards equates to 12% of all the drill core assays. Samples from barren drill core, like pegmatite and hornblende gneiss, served as blanks, and resulted assay values below the detection limit. The results from the analyses of the CRM standards are shown in Figure 8-10.

As seen from both the OREAS 722 and OREAS 724 assay results, most of the assays are outside the acceptable range, below the 3SD. For the OREAS 722 the average difference to the certified value is -16.3% and for the OREAS 724 -9.6%. In the laboratory's own QA/QC procedure, with different CRM standards than inserted by Kupukan Grafiitti, the standard assays were within acceptable range. The laboratory was contacted, and all the samples were reassayed. However, similar difference in the standard assay values resulted. Consequently, it is possible that the graphitic carbon assay results for the 2013 drill cores are around 10 -15% lower than the true value. Later, for the 2024 drilling campaign the graphitic carbon was assayed in Actlabs.

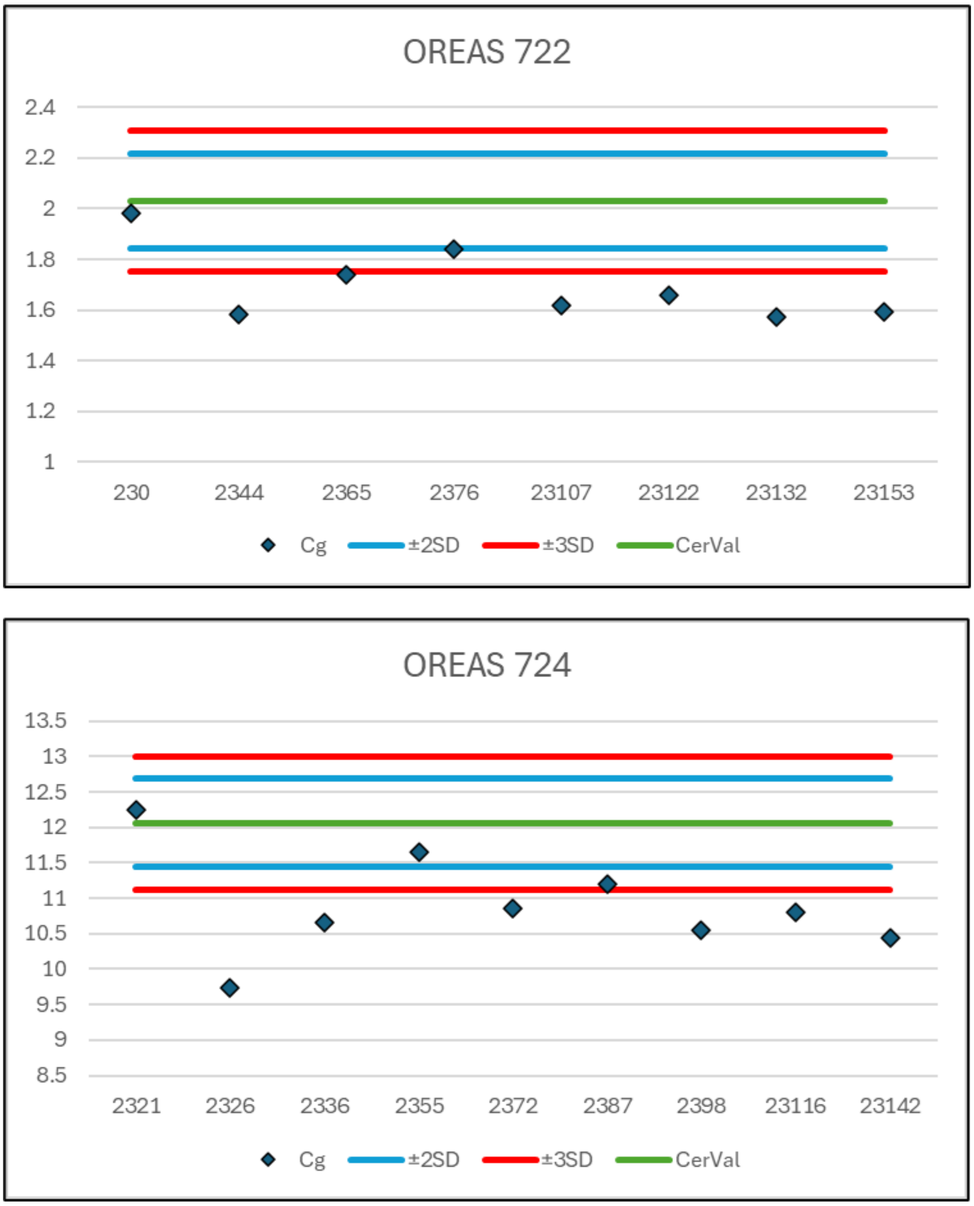


Figure 8-10. Standard assays (Cg) and ranges for standards. Sample number marked on horizontal axis. 2013 drilling.

8.1.6.2 QA/QC for 2024 drillings

In total 950 drill core samples were assayed. In addition to this, 57 blanks, 57 standards and 56 duplicates were assayed. Blanks, standards and duplicates combined, equates to 17.89 % of all the drillhole assays. The results from the analyses of the standards are shown in Figure 8-11 - Figure 8-13.

Kupukan Grafiitti inserted a CRM sample with a known graphite concentration around every 20th sample. The actual standard used varies but reflects the expected distribution of graphite values in the samples. The standards used were obtained from CDN Resource Laboratories Ltd., British Columbia, Canada and from OREAS, Ore Research&Exploration Pty Ltd., North Victoria, Australia. The values of these standards are provided in Table 8-3 with an acceptable range of values (defined as three times the standard deviation provided with the standard certificate).

Table 8-3. Standard graphitic carbon values used for the Kupukan Grafiitti drill core assays.

Standard	Certified Value %	Accepted Range (±3SD)	Number of times inserted
CDN-GR-1	3.12	± 0.165	26
OREAS 722	2.03	± 0.279	14
OREAS 724	12.06	± 0.933	17

The assays of the Cg standards, showed for the most part, that the laboratory assays are satisfactory. There were two occurrences where the standards assayed outside of the accepted three times standard deviation (±3SD) limit. One CDN-GR-1 assay result was 2.85 %, which is below the 3SD (2.955 %) and one OREAS 724 assay result was 10.8 %, which is below the 3SD (11.127 %). Also, in average the OREAS 724 assay results were around 4 % lower than the certified value (Figure 8-10).

As CRM standard for base metals and sulphur OREAS 13b was used for KUP-002 and KUP-003 samples and OREAS 130 for samples from other holes. Standard was inserted as every 20th sample. Sulphur is an important element in the deposit and sulphur standard assays are shown in Figures Figure 8-12 and Figure 8-13. The certified value with aqua regia digestion for OREAS 130 is 6.02 % and that for OREAS 13b with 4 acid digestion 1.20 % (Table 8-4). Assays of OREAS 130 are well within the acceptable range, most assays slightly above the certified value. Assays of OREAS 13b are within acceptable range, with two assays near the +3SD limit.

It needs to be noted that a sample number for standard sample contains 2 separate CRMs, one graphite CRM for Actlabs (Table 8-3) and one base metal / sulphur CRM for ALS laboratories (Table 8-4).

Table 8-4. Standard sulphur values used for the Kupukan Grafiitti drill core assays.

Standard	Certified Value %	Accepted Range (±3SD)	Number of times inserted
OREAS 130	6.02	± 0.804	45
OREAS 13b	1.2	± 0.15	12

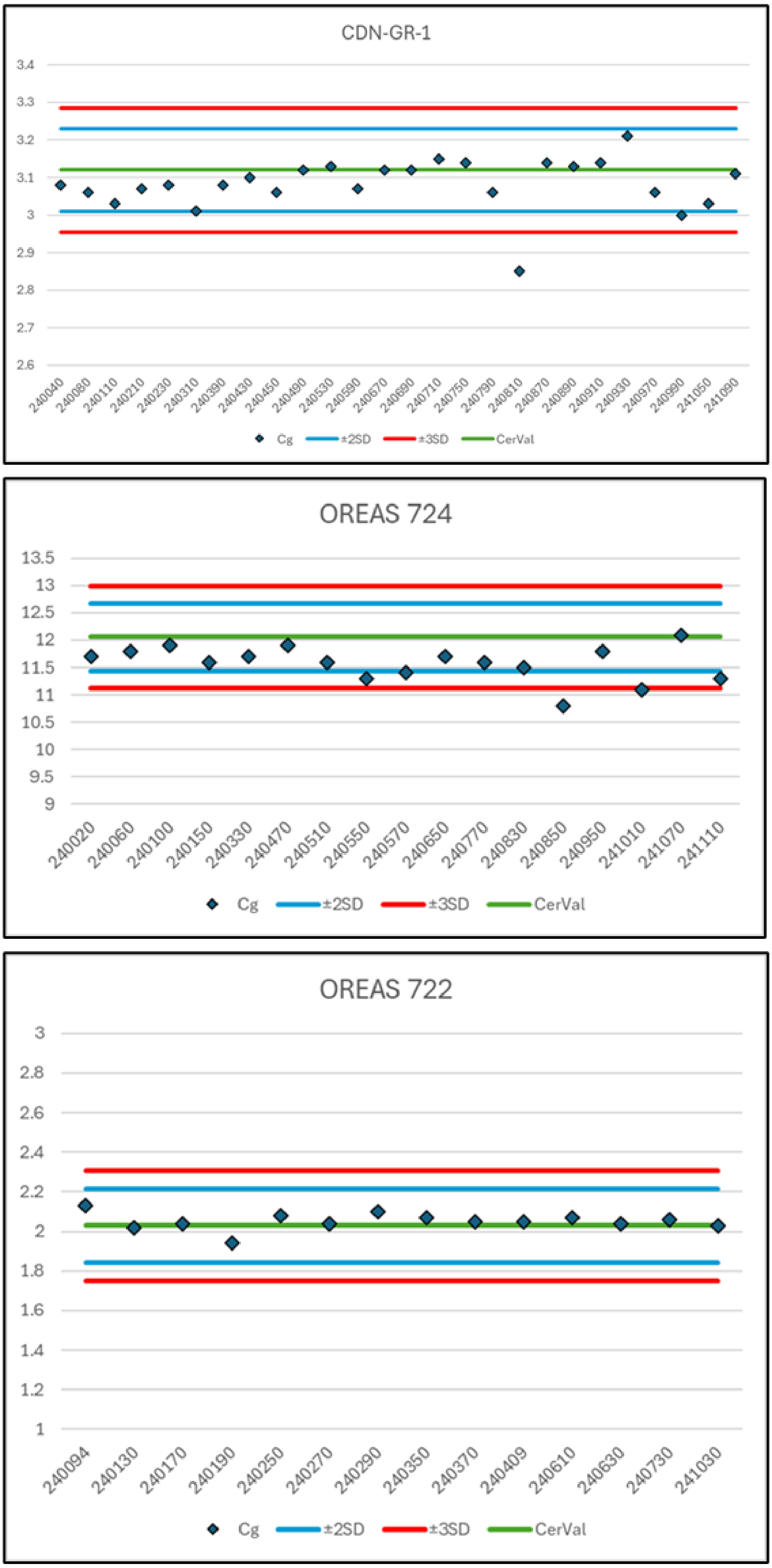


Figure 8-11. Graphitic carbon (Cg) standard assays and ranges for standards. Sample number marked on horizontal axis. 2024 drilling.

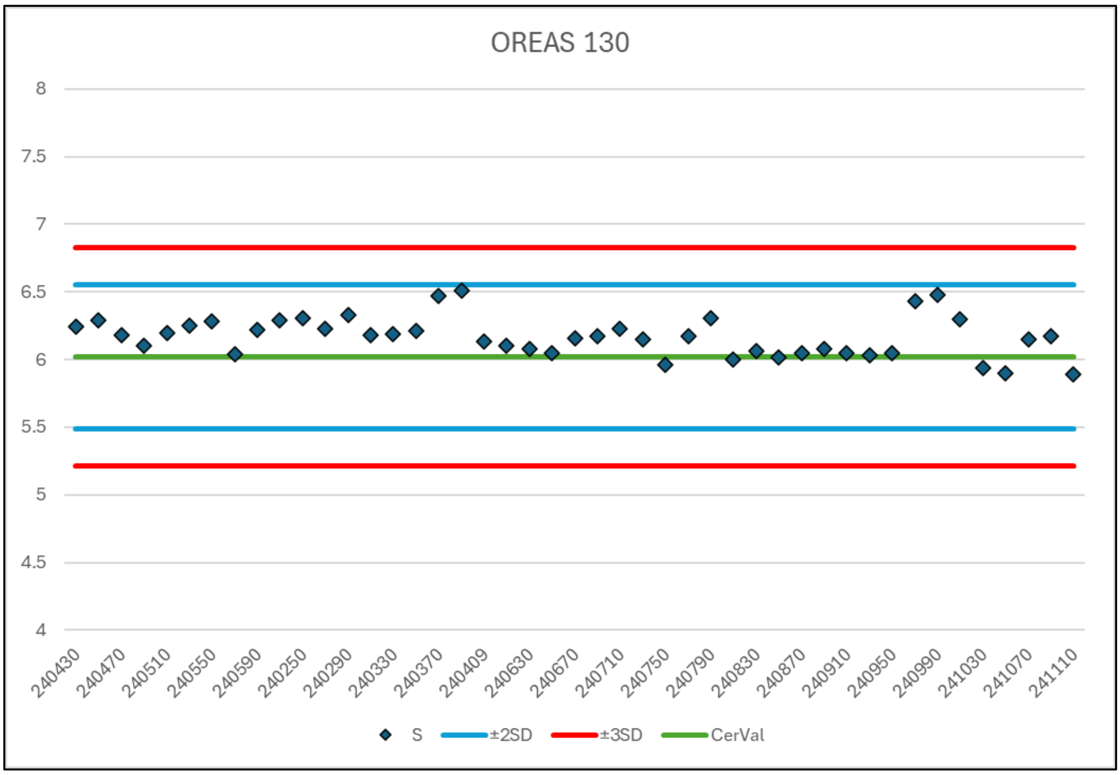


Figure 8-12. Sulphur standard assays and ranges for standards. Sample number marked on horizontal axis (every second number shown). Assay batches for drill cores KUP-001and KUP-004 – KUP-007.

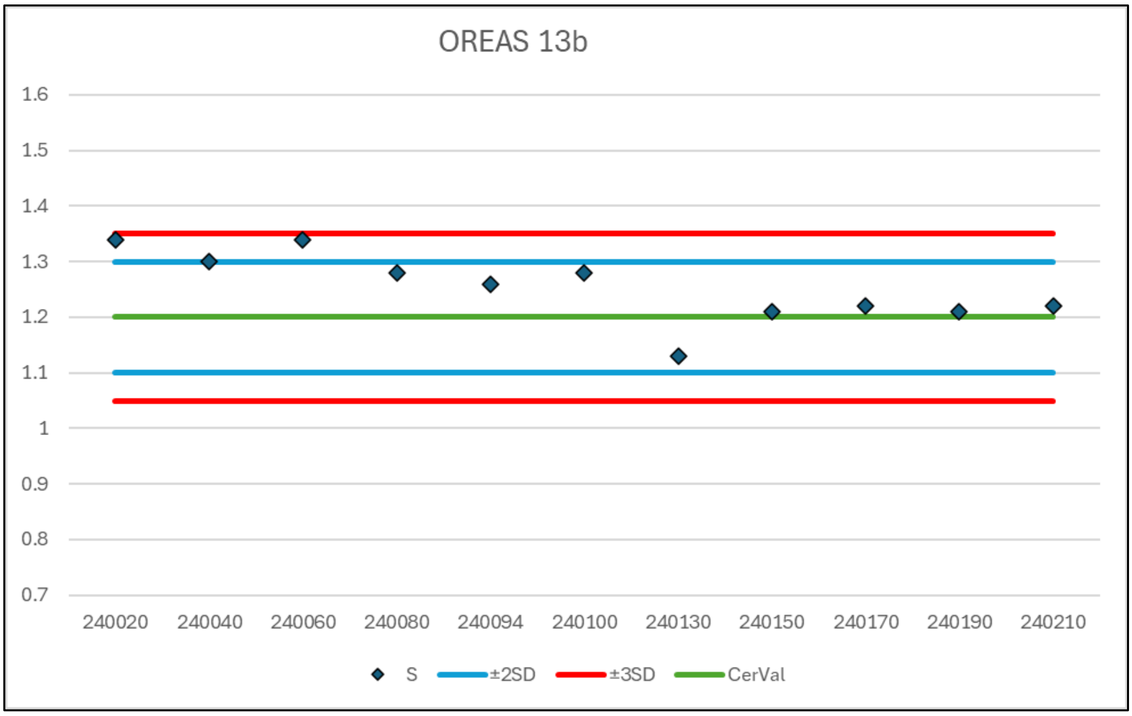


Figure 8-13. Sulphur standard assays and ranges for standards. Sample number marked on horizontal axis. Assay batch for drill cores KUP-002 and KUP-003.

Field duplicates composed of one quarter of drill core. They were inserted systematically, every 20th sample, in total of 56 duplicates, which represents 5.89 % of all assayed samples. With one exception, the assay results of the field duplicates indicate good repeatability (Figure 8-14).

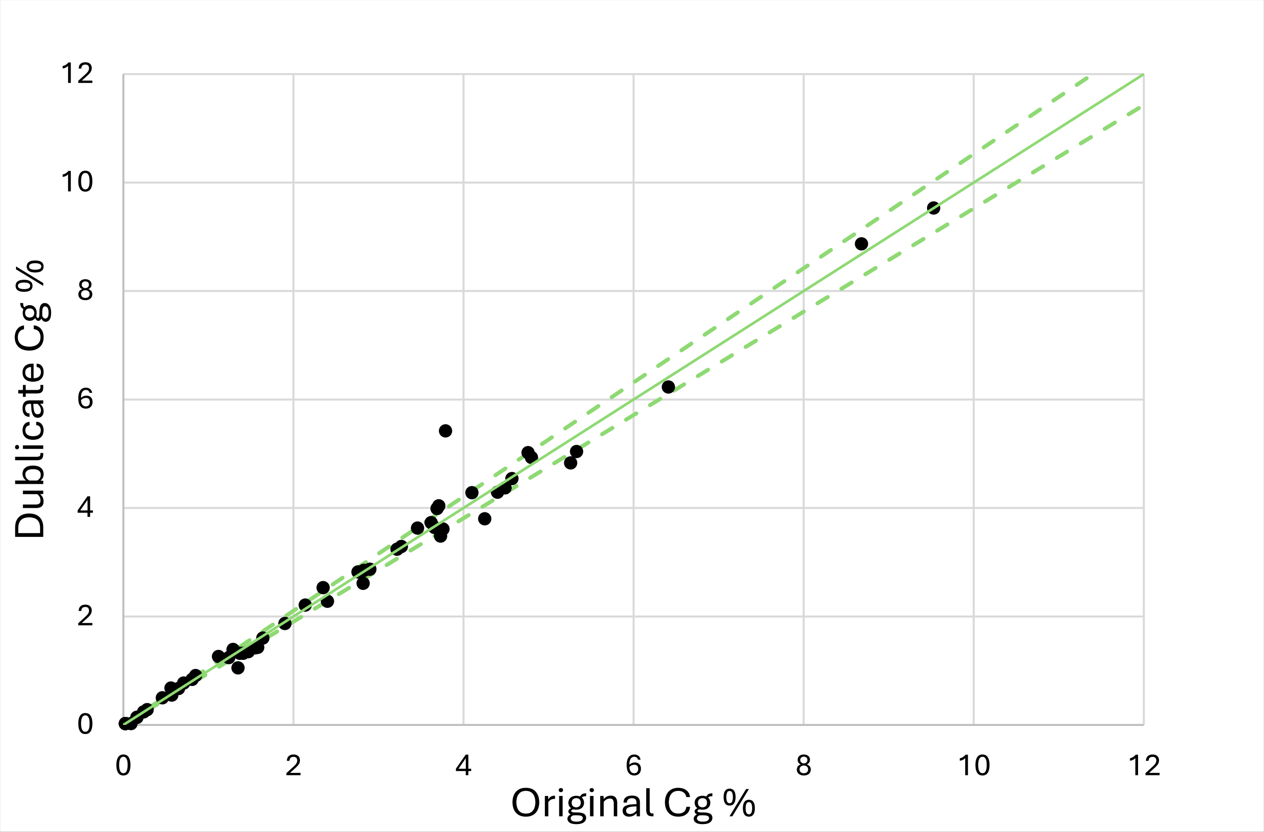


Figure 8-14. Comparison of graphitic carbon (Cg) assays between original and duplicate samples. Green dashed lines show ±5 % range.

Blank samples were inserted at the beginning of every batch sent to the laboratory for assay. This serves to check that there is no contamination of Kupukka samples from other samples being assayed at the Laboratory. More blank samples were inserted randomly inside batches so that total amount of inserted blanks was 57. This counts for 6 % of analyzed samples excluding CRMs and duplicates. KUP-001, KUP-002, KUP-003 and KUP-004 blank samples consisted of crushed Archaean gneiss. In drillholes KUP-005, KUP-006 and KUP-007 the used blank sample material was crushed quartzite from Nilsiä quarry, Finland.

8.2 Laboratory Audits

8.2.1 Outokumpu

The ALS laboratory at Outokumpu was visited by Hannu Makkonen several times during 2021-2024 in connection with the delivery of boulder samples and in connection of sampling the 2013 drill cores. These drill cores were stored and sawn at ALS Outokumpu with sample preparation for chemical assays. Figure 8-15 depicts the automatic diamond saw technique at ALS Outokumpu during sawing the 2013 drill cores from Kupukka.

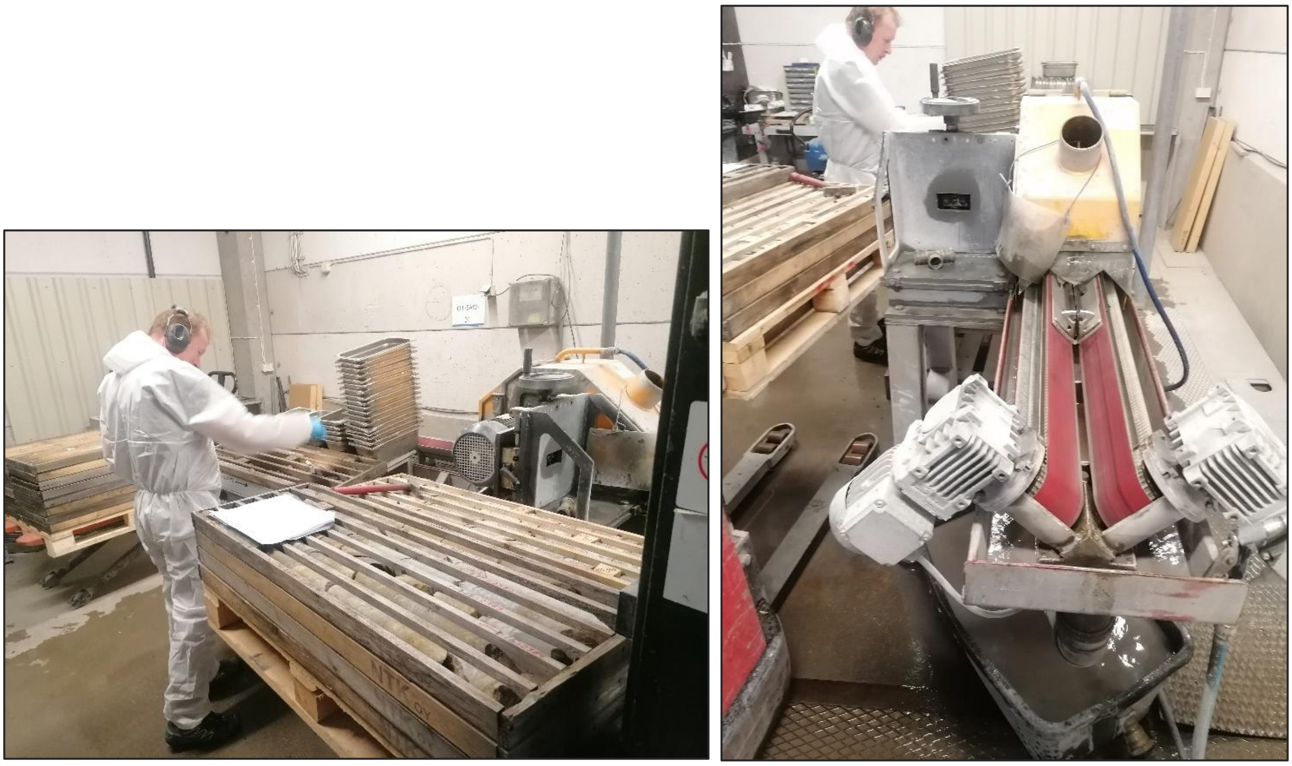


Figure 8-15. Drill core sawing techniques at ALS laboratory Outokumpu in October 2023.

8.2.2 Sodankylä

ALS Sodankylä was audited by Juha-Matti Kekki in 8th of April 2025. Drillhole KUP-007 was under sample preparation procedures during the visit (Figure 8-16). Auditions included observing labeling and data entry, core sawing, sample weighting, drying, crushing and milling. Also, specific gravity measuring station was introduced. In interview with ALS Sodankylä staff, we went through their sample preparation, storage and shipment procedures.

Figure 8-16. On the left, remaining drill core from drillhole KUP-007 after sawing. On the right, weighted samples going for drying in oven. Photos taken at ALS Sodankylä facilities on audition visit, April 2024.

9 Data verification

9.1 Database Validation

The drill core database was checked for errors using access queries and Leapfrog database tools, some minor errors were found (mismatch of maximum depth on few holes) and fixed. No major duplicate values, unmatched values or overlapping samples were found.

9.2 Down-Hole Survey Validation

The data was validated by checking the consistency of consecutive survey results. Surveys done in the Benzinium Oy drillings in 2013 drilling campaign consist only of dip and dip direction from the collar point. All drillings done by Kupukan Grafiitti Oy are measured by DGPS system, also dip and dip deviations along the drill holes are measured using a Reflex Sprint-IQ survey tool.

9.3 Assay Verification

The collar, geology, survey and assay files were provided in Access. All “From-To” data are either zero or a positive value. In KUP-001 and KUP-003 the maximum assayed depth exceeded the maximum depth from Collar table.

All Cg assay intervals contained data. All values were positive or zero.

9.4 Geologic Data Verification and Interpretation

The author has compared the lithological drill core loggings against the drill cores during the site visit.

9.5 QA/QC Protocol

Quality control and quality assurance work is caried out by Kupukan Graffiti Oy. The CP has discussed this matter during the site visit. For this report, the authors have reviewed available information and have found the data to be adequate for the purpose of Exploration target estimation.

Summary of QA/QC

The QA/QC review indicates that the 2024 drilling data are of high quality, with Certified Reference Materials (CRMs), blanks, and field duplicates demonstrating good analytical accuracy, precision, and no detectable contamination. Only minor, isolated CRM deviations were observed, and these are not considered material to the reliability of the dataset. In contrast, the 2013 drilling data exhibit a consistent negative bias of approximately 10–15% in graphitic carbon assays, confirmed by repeated CRM failures even after re-assaying. Although precision appears acceptable, the unresolved bias reduces confidence in the absolute grade accuracy of the 2013 results.

The CP notes that, the 2013 data should be used with caution in the grade estimation, while the 2024 data are considered fully suitable for grade estimation without material qualification.

9.6 Competent Person's Opinion

Kupukan Grafiitti drill core logging and sampling procedures have been reviewed by AFRY's Competent Person and the resulting geological and analysis data for Cg is considered to be reliable and representative. The drilling recoveries are close to 100% and sample or assay bias caused by poor core recovery is negligible.

The competent person considers that the database and the geological data is suitable to be used for a grade estimation for Kupukka graphite deposit exploration target.

10 Beneficiation tests 2025-2026

Preliminary beneficiation tests for the drill core material from GTK drill hole M341293R305, some 4 km east of Kupukka were made during 2021-2022 at GTK Mintec (chapters 7.1.3.6. and 7.1.3.7). Flotation tests of graphite produced graphite concentrate with 87 % of carbon. As a result of the chemical purification process, the carbon grade of the concentrate increased to 97.9%. The chemically purified flotation concentrate was studied by MLA and Raman microscopy showing liberation degree of 99.7% for graphite and a very high graphite crystallinity (Taskinen 2021, Torppa 2022).

ProGraphite GmbH was contracted in June 2025 to do flotation concentrate for breccia ore and disseminated ore samples from Kupukan Grafiitti drillings 2024. Target was to get 4 kg of concentrate 95 % C from both types of ore, which can be used as feed material for further tests and analysis.

Samples were collected in November-December 2024 and January 2025 by Kupukan Grafiitti personnel, Juha-Matti Kekki and Juho Romakkaniemi, from crushed drill core samples received from ALS Sodankylä (fine crushing, 70 % < 2 mm). Samples for the breccia ore were combined in plastic bags from 4 or 5 core samples with a weight of 5.3 – 7 kg. Total weight of the samples was 80.1 kg. Average graphitic carbon content was 7.63 % and average sulphur content 6.01 %. Samples were from drillholes KUP-002 (82.60-100.30m, 118.20-140.75m) and KUP-003 (26.00-46.45m).

Samples for the disseminated ore were combined in plastic bags from 4 core samples with a weight approx. 8 kg. Total weight of the samples was 169.44 kg. Average graphitic carbon content was 3.78 % and average sulphur content 3.52 %. Samples were from drillholes KUP-004 (39.00-131m) and KUP-001 (267.95-273.00m).

Because the flotation of the disseminated ore sample did not produce the desired result additional crushed sample material from disseminated ore was sent in October 2025 to ProGraphite, including 10 kg combined sample from the same drill intercept than the first sample and an "extra" 10 kg sample of disseminated ore combined from another drill intercept (KUP-003). Still, in December 2025 a larger amount, 176.7 kg of the "extra" disseminated ore was sent to ProGraphite with an average graphitic carbon content of 3.20 % and average sulphur content of 3.21 %. These samples were from drillholes KUP-002 (145.00-178.10m) and KUP-003 (70.90-109.45m).

10.1 Flotation of the breccia ore

The flotation of the disseminated ore samples is still ongoing. The following includes the flotation results of the breccia ore according to ProGraphite report, 2026.

First, a rougher flotation was carried out. As the tailings still contained a significant amount of graphite, they were reground and subjected to a second flotation step, referred to as the scavenger flotation. The concentrates obtained from the rougher and scavenger stages were then combined and processed further through several cleaner flotation stages.

After the sixth cleaner stage, the concentrate was completely dried and subsequently sieved. The +71 µm and −71 µm size fractions were then floated separately.

For the flotation of the coarser fraction (+71 µm), five additional flotation stages were required to achieve a carbon content of 95%. For the finer fraction (−71 µm), seven additional stages were necessary to reach a carbon content of 94.3% making it a total of 13 cleaner stages.

Both concentrates were then recombined, thoroughly mixed, and homogenized. The resulting final concentrate served as the basis for the subsequent concentrate analysis. Finally, 4 kg of concentrate with an LOI of 94.6% from the breccia ore were produced. This was sufficient for further processing, including the production of spherical graphite. The final concentrate is rather fine and would commercially correspond to a grade -294 (Table 10-1). Laser analysis shows a homogeneous particle size distribution, typical of a flotation concentrate (Figure 10-1).

Table 10-1. Screening result of the final breccia ore concentrate.

180 µm	+150 µm	+100 µm	+71 µm	+40 µm	-40 µm
0.3	0.2	1.7	8.5	49.6	39.7

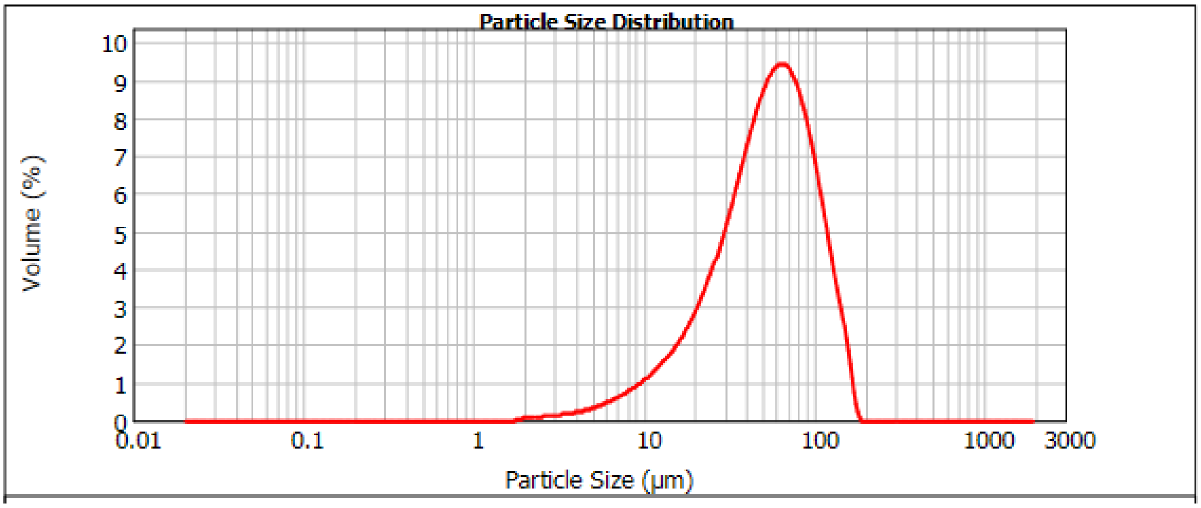


Figure 10-1. Particle size distribution of the final breccia ore concentrate.

Based on XRF analysis the impurities of the concentrate consist primarily of sulphur and iron. This suggests that pyrrhotite is present in the concentrate as it is in the feed material.

The bulk density of the concentrate is in the medium to high range, which is desirable for most applications (Table 10-2).

Table 10-2. Density of the final Breccia ore concentrate.

Bulk Density	Bulk Volume	Tap Density
g/l	l/kg	kg/l
459	2.2	0.55

10.2 Spheronization and purification of the breccia ore concentrate

In October 2025 it was agreed with ProGraphite GmbH that tests to produce spherical purified graphite (SPG) from the Breccia ore concentrate will be done. The following includes the test results according to ProGraphite report (2026).

Typical production steps to get spherical graphite are:

- micronizing
- spheronizing
- purification

Micronizing is done to get the particle size of the feed material close to the desired final size of the spherical graphite.

The next step is then to shape the micronized particles into spherical particles.

Purification is done as the last step. This is because during the spheronization, approx. half of the material is lost as low-value by-product. In case the purification would be done before the spheronization, a lot of value would be "wasted" into the by-product. Another reason for doing the purification last is based on the wear of the spheronizing mill(s) during the spheronization process: some impurities might appear and enter the product, which could cause problems with regard to the strict purity requirements for the final product.

The Breccia concentrate was used to produce spherical graphite. Two types of spherical graphite were targeted: one with a mean particle size (d50 value) of 20 microns and one with 15 microns. These are both typical examples of spherical graphite. For this purpose, the concentrate was first micronized using an impact mill and then brought into spherical shape in a batch spheronizer. The results of the spheronization are recorded in Table 10-3.

Table 10-3. Spheronization results for the breccia ore concentrate.

	Spherical graphite SPG	
	Kupukka Breccia Ore	**Kupukka Breccia Ore**
Test run	**V961 SPG 20**	**V962 SPG 15**
Particle size distribution via Laser diffraction		
d10 (µm)	12	9.3
d50 (µm)	19.8	15.8
d90 (µm)	32.1	26.4
ratio D90/D10	**2.7**	**2.8**
Tap Density		
kg/l	**0.89**	**0.91**
Specific surface area		
BET m^2/g	**7.8**	**8.9**

Usable spherical graphite was produced for both grades. The particle size distribution is very typical for spherical graphite. The specific surface area is slightly increased in both cases, and the tap density is not optimal but still acceptable.

For the purification test work, two methods were investigated:

- alkaline purification and
- acid purification

250 g of the spherical graphite produced in experiment V961 (SPG20, D50 = 19.8 µm) were used for an intensive **alkaline purification**. The main chemical used was NaOH and after an alkaline digestion at moderate temperature (250°C), an acid wash with HCl was carried out. Then the material was purified in a routine second part of the test process with caustic soda and hydrochloric acid again.

Feed Grade	**Method**	**Test #**	**LOI %C**
SPG20 from run V961	NaOH + HCl	RV358	99.96

The purification went well. An LOI value of 99.96% was measured, which is more than normally considered as a minimum for spherical graphite (99.95%). The product after purification is then examined by an WD-XRF analysis, the results can be found in the table further below.

For the **acid purification**, unpurified spherical graphite from the spheronization tests V962 (SPG15, D50 = 15.8 µm) was used. The acid purification uses HF (hydrofluoric acid) as main chemical, due to its ability to dissolve most of the silicates and many other impurities. Minor portions of other acids were added as well.

A strong acid purification was made to reach the battery level of purity. The material was easy to handle and e.g. filtering could be completed without any problems. The process consists of several process steps. During the test work, slight residues were observed, but these were practically completely dissolved during the final purification step resulting in a very high value for the LOI.

Feed Grade	Method	Test #	LOI %C
SPG15 from run V962	HF	HR278	99.97

Both purified spherical graphite were then examined (Table 10-4).

Table 10-4. Purification results of spherical graphite.

	Purified spherical graphite	
	Kupukan Breccia	**Kupukan Breccia**
Internal Sample ID	**S#4103**	**S#4104**
Test run	**RV358 T2 CB HCL**	**HR 278**
	(V961 SPG 20)	**(V962 SPG 15)**
Purification type	**alkaline**	**acid**
LOI%	**99.96**	**99.97**
Particle size distribution via Laser diffraction		
d10 (µm)	11.9	9
d50 (µm)	19.7	15.4
d90 (µm)	31.7	25.7
ratio D90/D10	**2.7**	**2.8**
Tap Density		
kg/l	**0.9**	**0.92**
Specific surface area		
BET m^2/g	**7.3**	**7.8**
XRF-Analyses Panalytical Axios		
Elements	**ppm**	**ppm**
Al	10	45
Ca		21
Fe	13	30
Mg		13
Na	98	9
Ni	5	
P		4
S	750	1200
Si	31	20
Zr	3	2

The particle size distribution has become slightly finer in both products and now corresponds quite closely to an SPG 20 or SPG 15. The uniform and typical SPG-curve can be read from the laser graphs (Figure 10-2 and Figure 10-3).

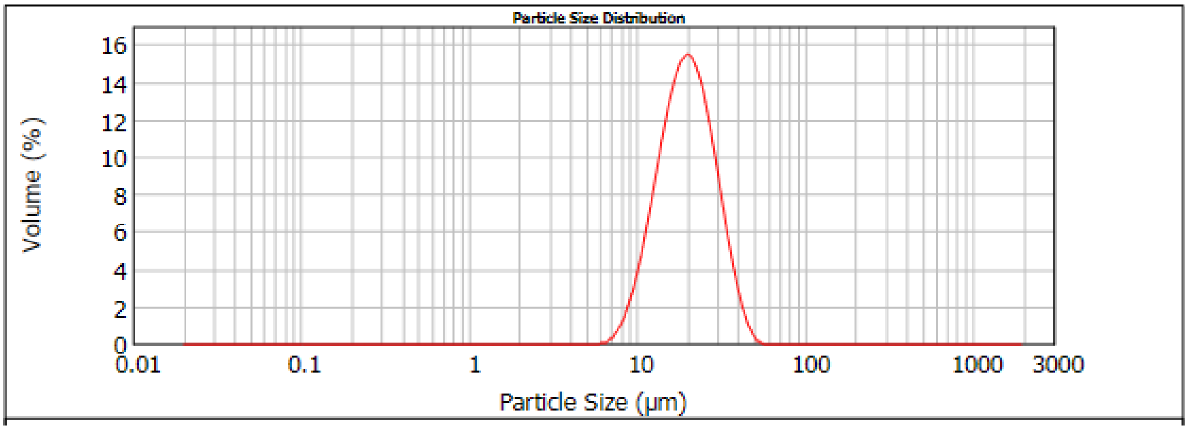


Figure 10-2. Particle size distribution for the alkaline purified spherical graphite (SPG 20).

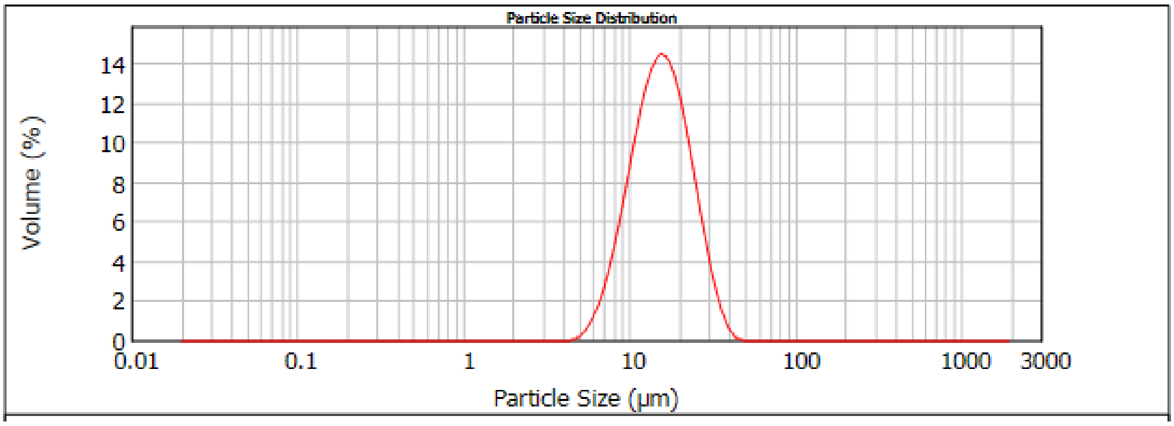


Figure 10-3. Particle size distribution for the acid purified spherical graphite (SPG 15).

The purification process has slightly increased the tap density, making it somewhat better, although it is still rather at the lower end of good SPG values. The specific surface area of both types has decreased slightly due to purification, which is also a positive aspect. The purification process yielded a LOI of 99.96% with alkaline and 99.97% with acid purification. Both products are therefore very pure and can be effectively purified using both alkaline and acidic methods.

A direct comparison of the contaminants reveals that the sulphur content is relatively high in both cases. Otherwise, it appears that alkaline purification produces better results for this material. In particular, the values for aluminium, calcium, iron, and magnesium are somewhat elevated after acid purification.

Except for the sulphur content, very good results were achieved with alkaline purification. The slightly elevated sodium level is probably due to the addition of sodium hydroxide solution and can certainly be reduced by process optimization.

SEM images were taken of both purified SPG grades and are shown in Figure 10-4. The images show that both products, SPG 20 and SBG 15, contain many very well-rounded particles. However, it is also evident that some particles are only partially rounded. Furthermore, it is apparent that, particularly with SPG 15, some coarser particles are present, slightly widening the particle size distribution. It is positive to note that the proportion of very fine particles is low, which has a positive effect on the specific surface area.

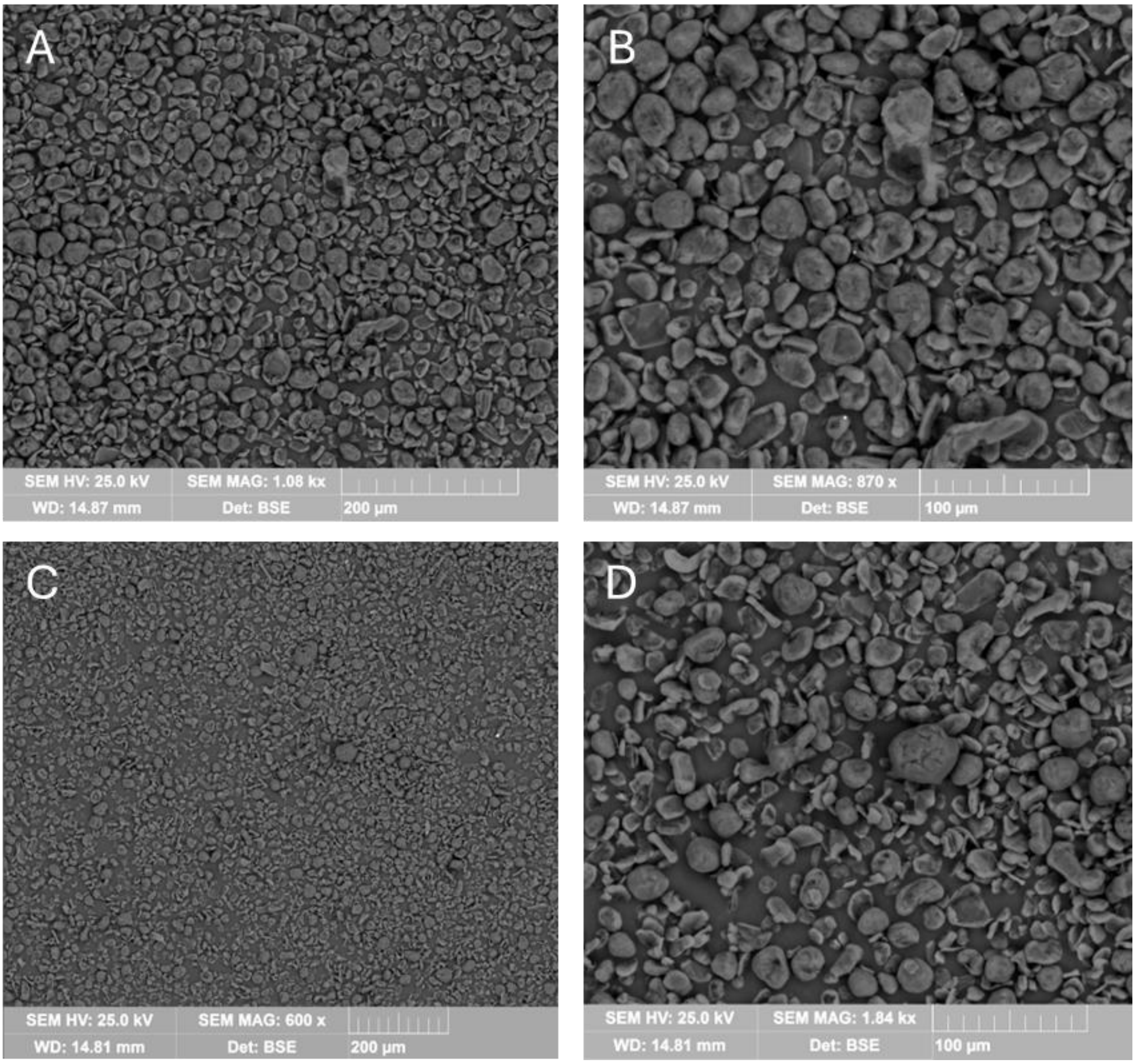


Figure 10-4. SEM images of purified spherical graphite. A and B S#4103 - SPG 20 - Breccia Alkaline purification RV 358, C and D S#4104 - SPG 15 - Breccia HF purification HR 278.

11 Exploration Target estimation

The estimate has been done to comply with the regulations defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources, and Ore Reserves".

11.1 Geology and Mineralization Interpretation

The ore 3D modelling of the Kupukka graphite deposit was done in Surpac software by Kupukan Grafiitti geologists. Each Cg solid was modelled with 3% and 4% Cg modelling threshold in order to illustrate the potential variability of grade and volume variation. These models provide the basis for grade estimation. The Competent Person has reviewed the models and considers them appropriate for use in this work.

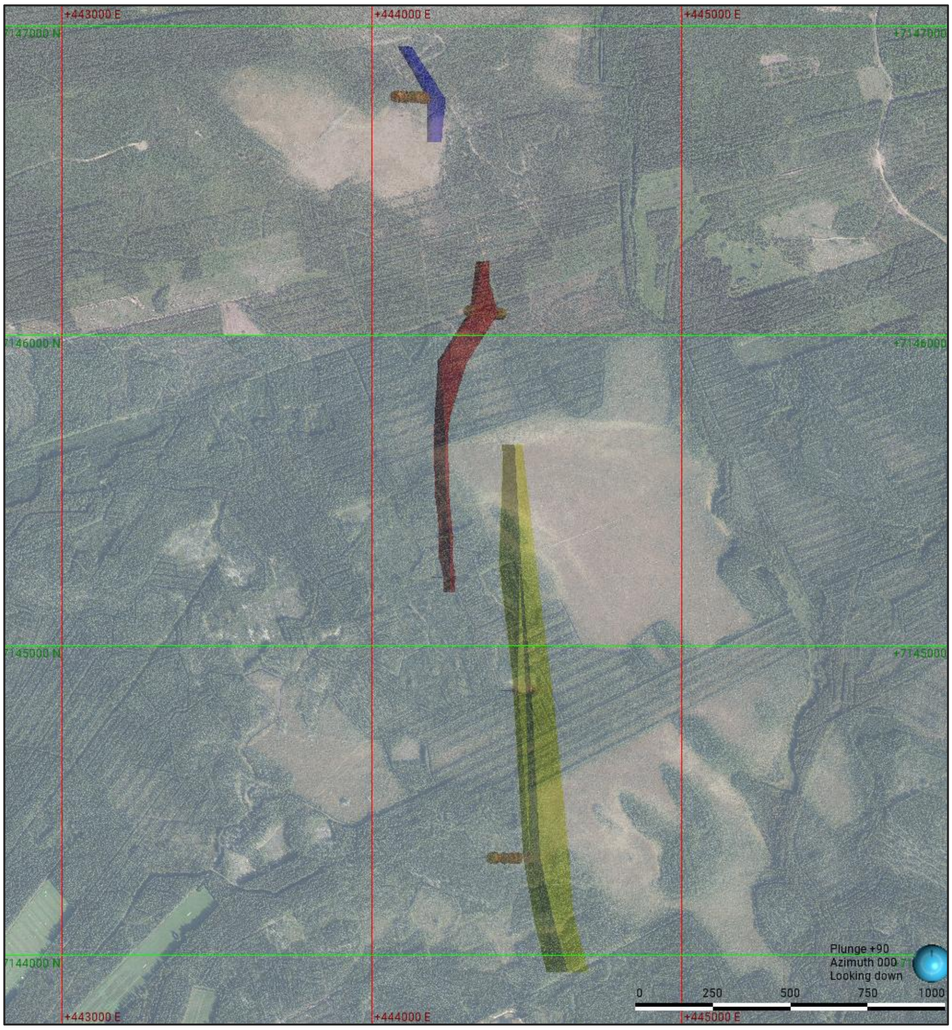


Figure 11-1. Modelled solids (3% Cg modelling threshold), top view. (Blue=Sarvi, Red=Akka, Yellow=Pakkula).

The Kupukka mineralised system has been modelled as a series of discrete solids based on geological interpretation and available drill data. Of these, the Pakkula solid represents the largest and most laterally extensive body, with an interpreted strike length of approximately 1700 m. The Akka solid extends over an approximate strike length of 1080 m, while the Sarvi solid is more limited in extent, with a strike length of approximately 300 m (Figure 11-1).

The vertical extents of the modelled solids vary between domains. The Sarvi and Akka solids have both been modelled to a depth of approximately 200 m below surface. The Pakkula solid extends to a maximum depth of approximately 360 m below surface at its southern end. It is noted that, at the southern termination, the Pakkula solid does not reach surface and remains entirely subsurface in this area.

The interpreted true thicknesses of the modelled solids vary along strike and down dip, ranging from approximately 10 m to a maximum of approximately 100 m. These thickness variations are consistent with the observed geological controls and drill intersection data and have been honoured in the solid modelling process. The created wireframes used in the estimation are listed in Table 11-1.

Table 11-1 Modelling wireframes

Wireframe / Model	Type	Export filename	Notes
Topo	Surface	Topo.dtm Topo.str	Created from collar points
Rock Surface	Surface	rock_topo.dtm rock_topo.str	Created from overburden contact points
Akka	Solid	Kupukka_w1_11_12_25.dtm Kupukka_w1_11_12_25.str	3 % Cg modelling threshold
Sarvi	Solid	Kupukka_n.dtm Kupukka_n.str	3 % Cg modelling threshold
Pakkula	Solid	Kupukka_se_11_12_25.dtm Kupukka_se_11_12_25.str	3 % Cg modelling threshold
Kupukka 4pct combined	Solid	Kupukka_4pct_combined_17_12_2025.dtm Kupukka_4pct_combined_17_12_2025.str	4 % Cg modelling threshold

11.2 Data

The database used in the grade estimation work was provided by Kupukan Grafiitti Oy in the form of an Access® database containing the following tables:

- assay_1
- Kupukka_collar1
- Kupukka_survey1
- lithology1
- RQD
- styles

Based on data validation, all data were accepted for grade estimation, drill holes in relation to modelled solids are presented in Figure 11-3.

The Kupukka database has 29 elements including Cg (graphitic carbon) in total analysed. The basic statistics for Cg is presented in Table 11-2.

Table 11-2 Basic statistics of Cg.

	Total	Sarvi	Pakkula	Akka
Count	1087	37	327	104
Length	1270.97	38.70	345.95	111.07
Mean	2.53	3.83	3.88	3.27
Standard deviation	2.27	1.56	2.71	1.29
Coefficient of variation	0.90	0.41	0.70	0.39
Variance	5.14	2.44	7.37	1.66
Minimum	0.00	0.19	0.00	0.09
Lower quartile	0.64	3.15	2.13	2.53
Median	2.16	4.22	3.22	3.42
Upper quartile	3.69	4.89	5.26	4.07
Maximum	12.80	5.93	12.80	8.04

The majority of samples are analysed close to the nominal 1 m interval length, with a limited proportion of longer intervals. Figure 11-2 present the sample lengths of analysed samples. The interval length statistics are presented in Table 11-3.

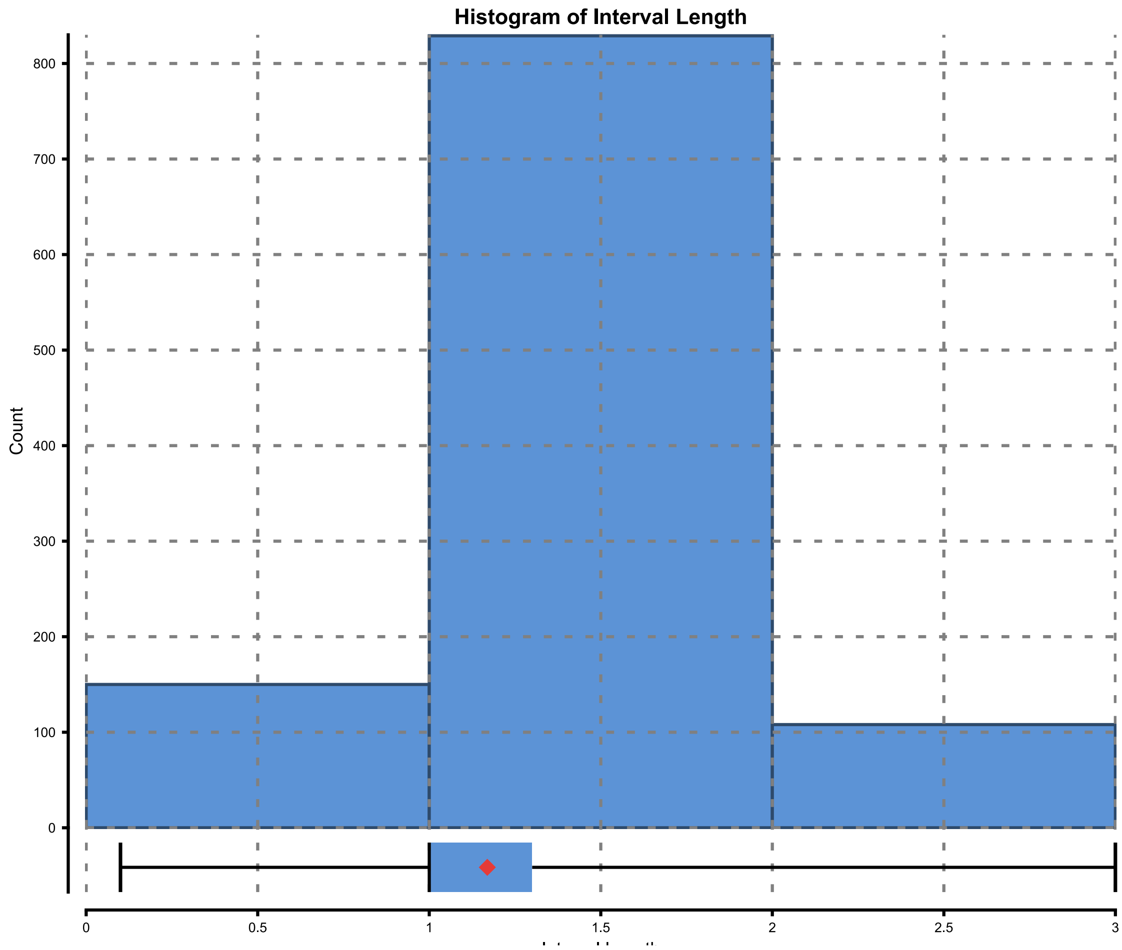


Figure 11-2 Interval lengths.

Table 11-3 Assay Interval Length Statistics.

	Value
Count	1087
Mean	1.169
SD	0.396
CV	0.339
Variance	0.157
Minimum	0.1
Q1	1
Q2	1
Q3	1.3
Maximum	3

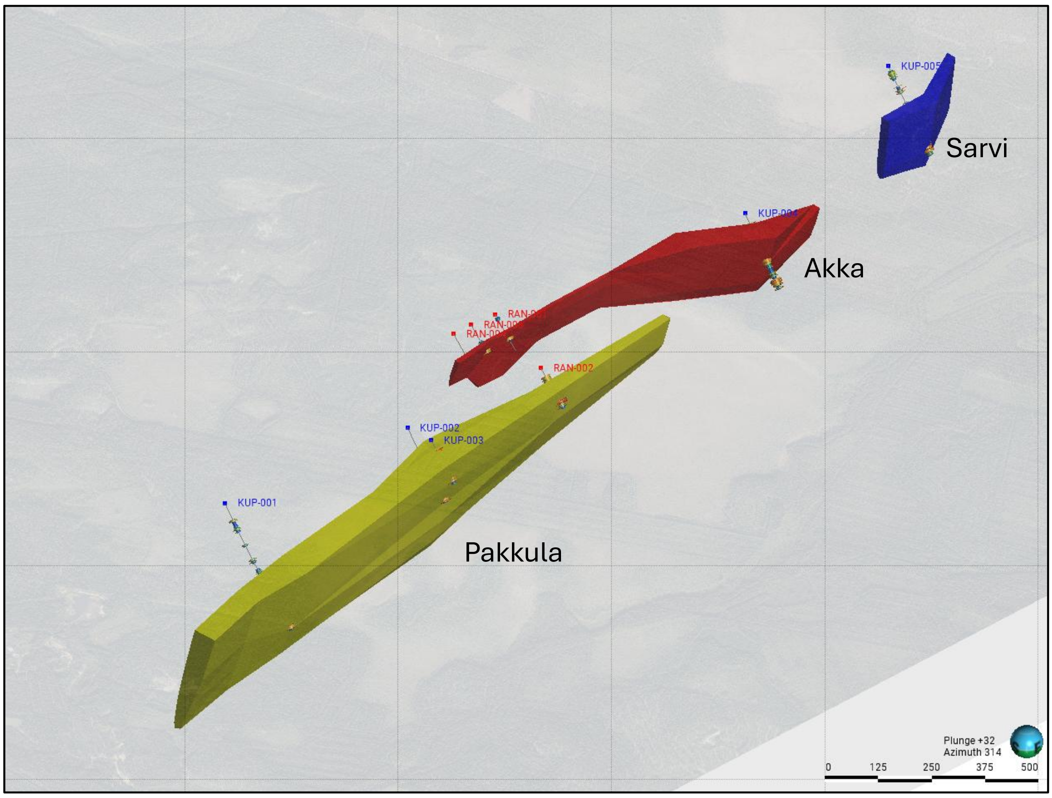


Figure 11-3 Drill holes in relation to modelled solids (3% modelling threshold).

11.3 Drill hole compositing

All input data within the models have been composited to a length of 1 m with a minimum coverage of 0.5 m. If the remaining length at the end of the sampling interval was less than 0.5 meters, this residual length was evenly distributed into the composite sample.

The comparison of composited and uncomposited Cg values is presented in Table 11-4 --Table 11-6 and in Figure 11-4 --Figure *11-6*.

Table 11-4 Comparison of basic statistics of composited and un-composited Cg grades, Sarvi.

Sarvi	Composited	Uncomposited
Count	39	37
Length	38.918	38.7
Mean	3.835	3.832
SD	1.447	1.561
CV	0.377	0.407
Variance	2.092	2.437
Minimum	0.913	0.190
Q1	2.810	3.150
Q2	4.210	4.220
Q3	4.917	4.890
Maximum	5.820	5.930

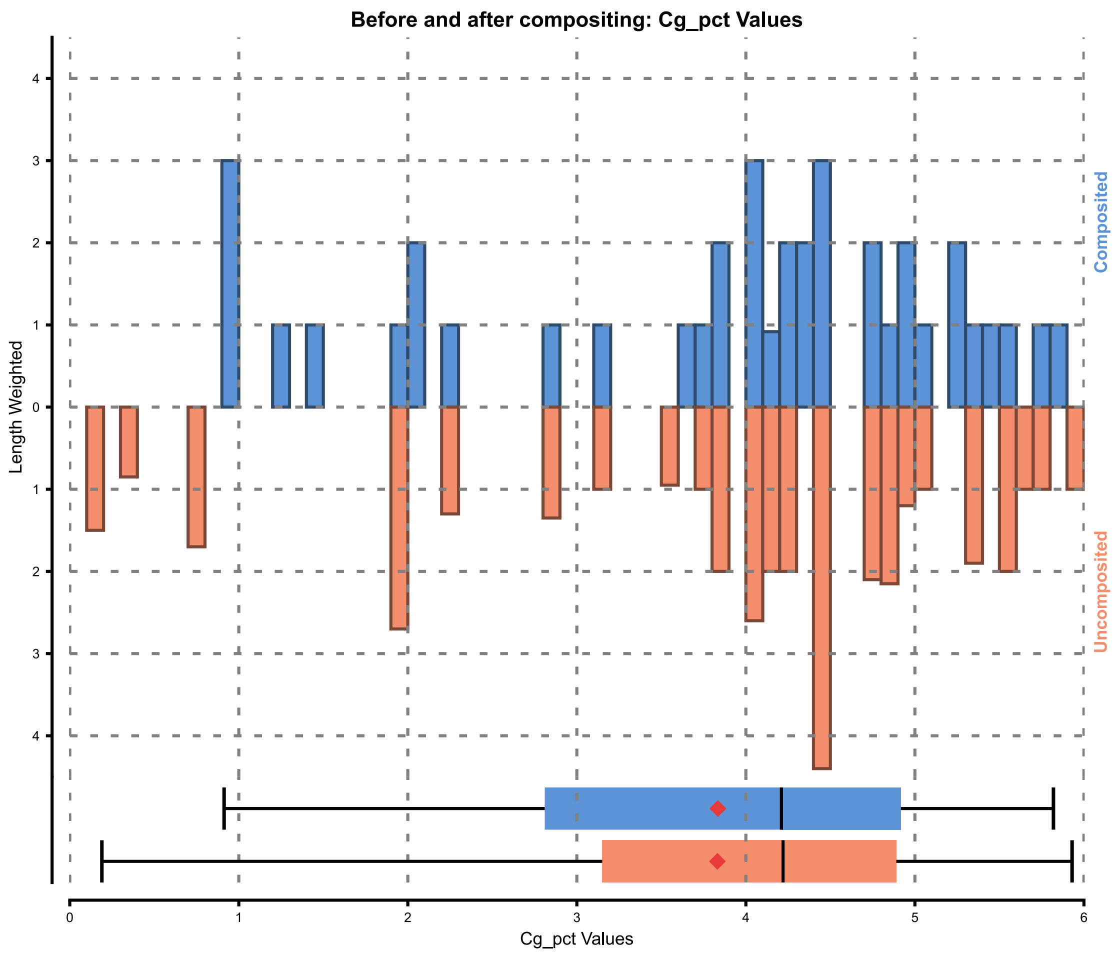


Figure 11-4 Comparison of Cg values before and after compositing, Sarvi.

Table 11-5 Comparison of basic statistics of composited and un-composited Cg grades, Akka.

Akka	Composited	Uncomposited
Count	117	110
Length	117.173	117.07
Mean	3.148	3.172
SD	1.218	1.338
CV	0.387	0.422
Variance	1.484	1.790
Minimum	0.090	0.060
Q1	2.260	2.290
Q2	3.406	3.400
Q3	3.933	4.000
Maximum	6.945	8.040

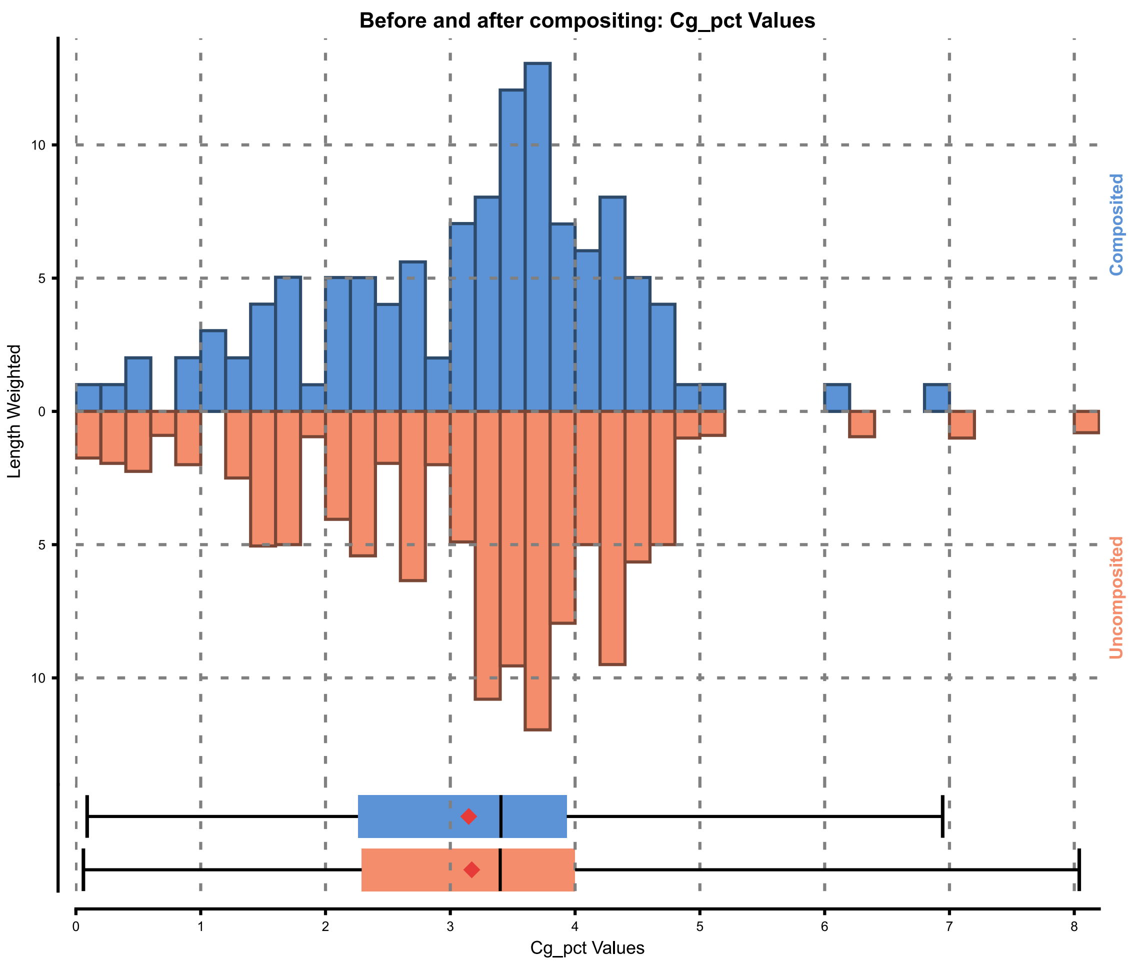


Figure 11-5 Comparison of Cg values before and after compositing, Akka.

Table 11-6 Comparison of basic statistics of composited and uncomposited Cg values, Pakkula.

Pakkula	Composited	Uncomposited
Count	349	327
Length	348.489	345.95
Mean	3.876	3.876
SD	2.608	2.714
CV	0.673	0.700
Variance	6.804	7.366
Minimum	0.000	0.000
Q1	2.191	2.130
Q2	3.234	3.220
Q3	5.117	5.260
Maximum	12.621	12.800

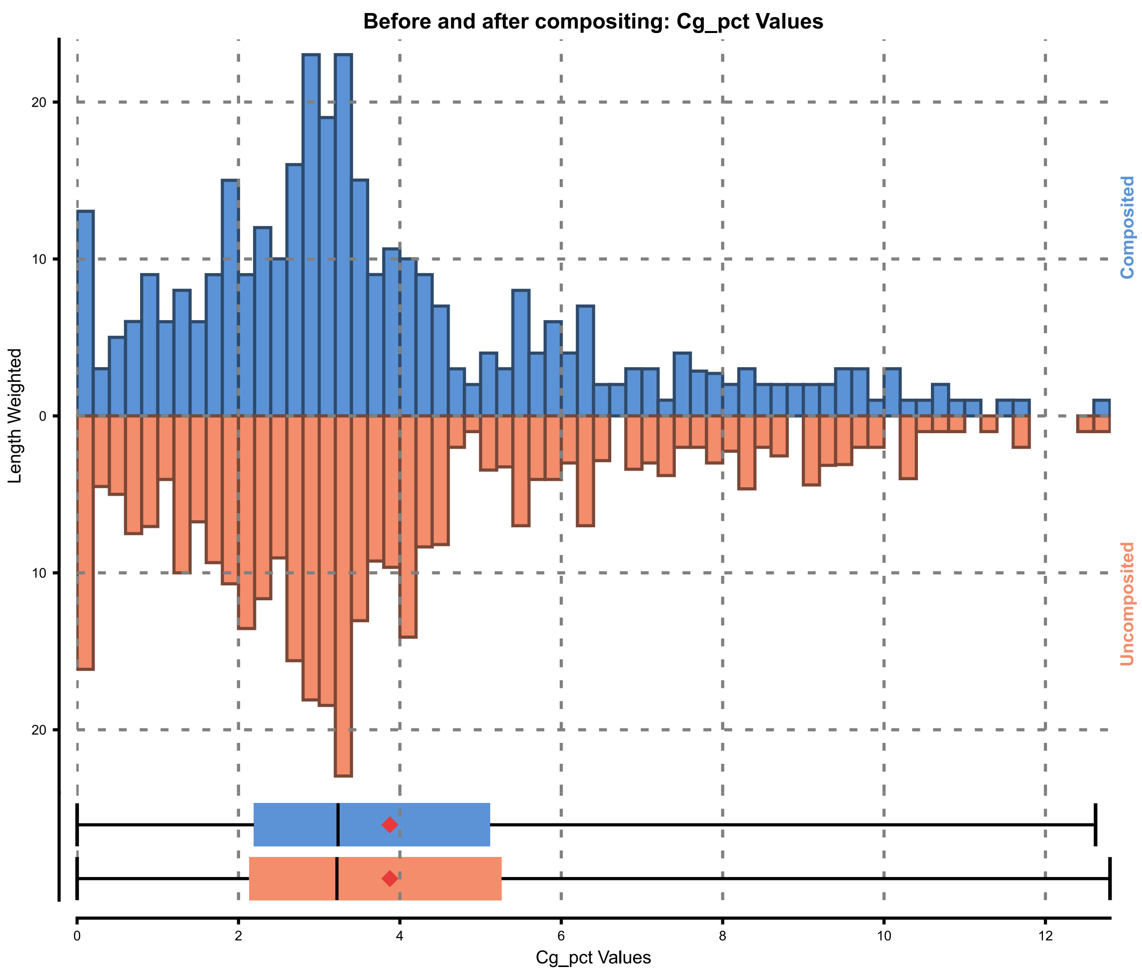


Figure 11-6 Comparison of Cg grades before and after compositing, Pakkula.

11.4 Composite statistics

The statistical analysis of the composite data was undertaken by combining samples from all modelled solids into a single dataset, as the overall number of samples is relatively limited and does not support meaningful statistical evaluation at the level of individual solids.

The log-transformed histogram of Cg (%) composite grades indicates that the graphite mineralization exhibits a broadly log-normal distribution (Figure 11-7). The majority of composite grades are concentrated within a relatively narrow range, with the main population centred at moderate Cg values, while a small number of high-grade values are present.

On the log scale, the distribution shows a well-defined central tendency with limited dispersion, suggesting reasonable grade continuity within the mineralised domains. The lower-grade tail is relatively short once zero values are excluded, indicating that marginal graphite grades are not overly dominant within the composited dataset. A small number of low-grade outliers are present, but these occur at low frequency and do not materially influence the overall distribution.

The upper tail extends to higher Cg values, reflecting the presence of locally enriched zones. No evidence of extreme or erratic outliers is observed, suggesting that the dataset is suitable for geostatistical analysis and grade estimation without the need for top cutting.

Overall, the log-transformed grade distribution supports the application of conventional estimation techniques, such as inverse distance, with appropriate domain controls.

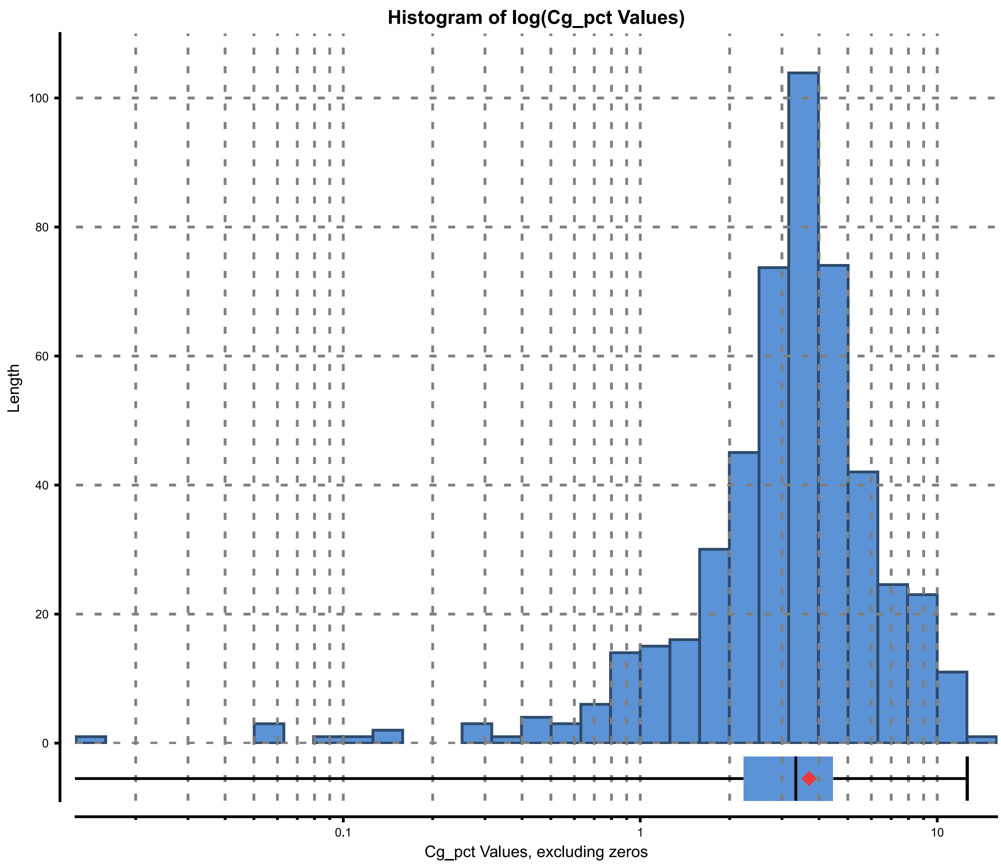


Figure 11-7 Histogram of log/Cg values from Estimation domains.

11.5 Top Cut

The need for top capping was analysed based on the log probability graph of the data (Figure 11-8). At higher grades, the plot shows a modest deviation from linearity in the upper tail, suggesting the presence of a limited number of higher-grade composites. These values do not form a distinct secondary population but instead represent the upper extreme of the main grade distribution. No sharp breaks or inflection points are evident that would indicate multiple grade populations or the need for aggressive top cutting.

Overall, the log probability analysis confirms that the Cg (%) composite dataset is well behaved, dominated by a single log-normal population with a modest high-grade tail. The absence of strong population breaks indicates that any grade capping, if applied, should be conservative and primarily aimed at reducing the influence of a small number of higher-grade values rather than addressing multiple grade domains. As the project is at early stage, no grade capping is applied at this phase of studies.

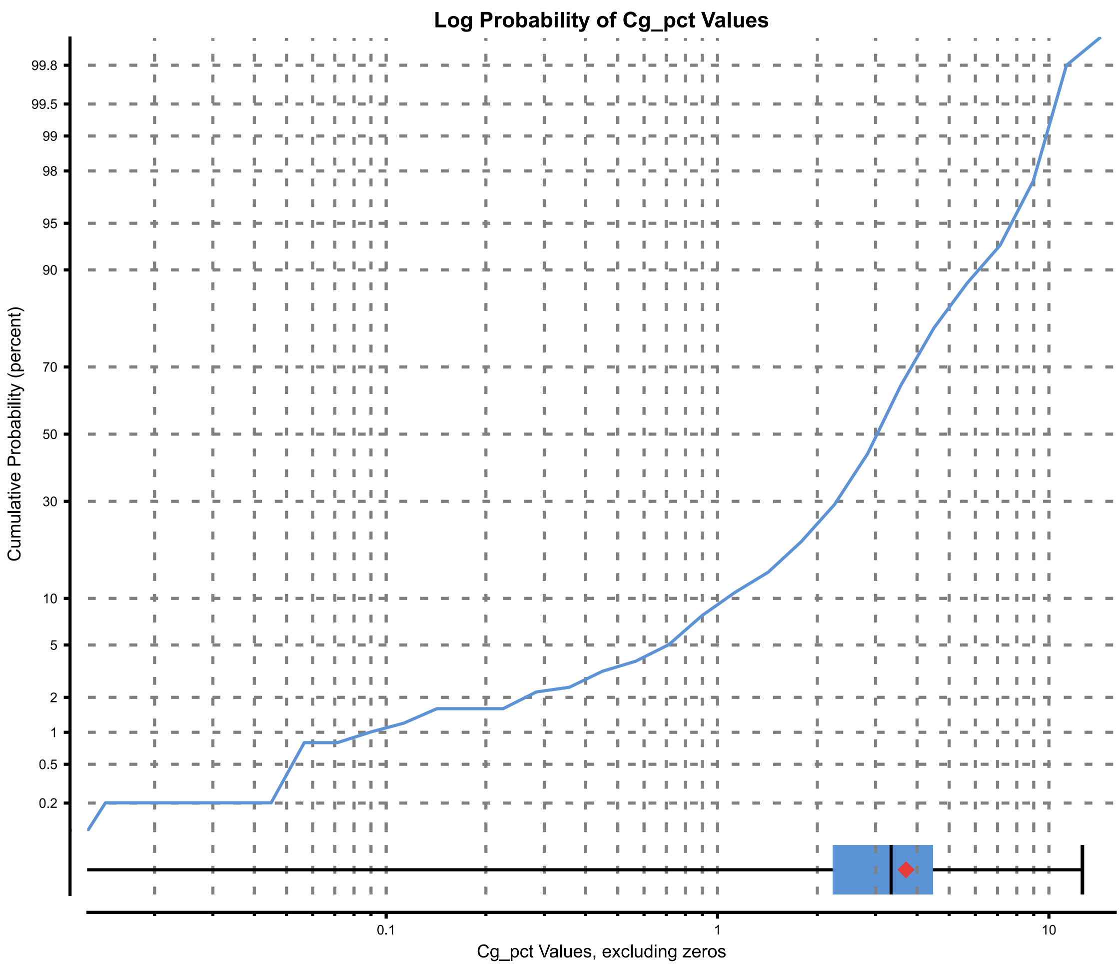


Figure 11-8 Log Probability graph of uncapped Cg grades.

11.6 Block model

The block model created for the Kupukka deposit is made up of 20 m x 20 m x 10-meter blocks with no sub locking. The summary of the block model parameters is given below in Table 11-7. No Kriging analysis was done at this point as the deposit is at early-stage study phase.

Table 11-7 Block model basic statistics.

Base point:	443920, 7143780, 110
Parent block size:	15 × 30 × 20
Dip:	0°
Azimuth:	0°
Boundary size:	885 × 3330 × 460
Sub-blocking count:	No sub blocking
Total blocks:	150,627
Number of parent blocks:	59 × 111 × 23 = 150,627
Minimum sub-block height:	-

11.7 Grade interpolation

The grades were interpolated by using the Inverse Distance Squared (ID2) interpolation method. To determine the High and low tonnes and grades, two separate scenarios were created. One, estimating grades inside the 3% Cg modelling threshold solids and the other inside the 4 % Cg modelling threshold solid. Interpolation search ellipsoids were defined separately for each solid, matching the overall geometry of the individual solid.

Table 11-8 and Table 11-9 shows the estimation parameters used for grade interpolation for the 3% Cg modelling threshold scenario. It should be noted that the presented ranges are conceptual and there is insufficient exploration data to define actual ellipsoid ranges. For the 4 % Cg modelling scenario, estimation parameters from Pakkula were utilised for the combined solid.

Table 11-8 Search ellipse ranges for each domain.

				Ellipsoid Ranges (1st round/2nd round)		
Domain	Element	Method	Estimation rounds	Maximum	Intermediate	Minimum
Sarvi	Cg	ID2	2	150/300	100/200	20/50
Akka	Cg	ID2	2	350/750	100/300	50/100
Pakkula	Cg	ID2	2	300/1300	200/750	30/300

Table 11-9 Estimation parameters.

Element	Estimation Domain	Method	Estimation rounds	Min. Samples	Max. Samples
Cg	Sarvi	ID2	2	4/4	10/20
Cg	Akka	ID2	2	4/4	10/20
Cg	Pakkula	ID2	2	4/4	10/20

As the number of samples used for the estimation is limited, there is a risk that elevated concentrations may extend over a larger area than anticipated. Therefore, Outlier Restriction was applied in the estimation to reduce potential bias by constraining the influence of isolated high values at distance.

In this estimation, the following Outlier Restriction settings were used:

- Option: Clamp data (values exceeding the threshold are reduced to the threshold value)
- Distance (% of search): 10
- Value Threshold: 6% Cg

With these settings, samples are primarily considered only within 10% of the search ellipsoid size. Samples located beyond this distance are included only if their values are below 6% Cg. If a sample point lies beyond the distance threshold and its value exceeds 6% Cg, the value is clamped to 6% Cg.

11.8 Specific gravity

The database contains specific gravity measurements for 950 assay intervals. For the grade estimation a value of 2.77 was used for the estimation domains and 2.75 for the surrounding rocks. The SG values are considered representative of in-situ material and were used directly as dry bulk density (t/m^3) for tonnage calculations.

Chapter 6.4.5 discusses the specific gravity in more detail.

11.9 Validation

Validation of the grade estimation was undertaken to assess the reliability of the Exploration Target estimate. The grades estimated using the inverse distance squared (ID^2) method were compared against the original assay results, the composited input data, and an independently generated check estimate produced using the nearest neighbour (NN) method (Table 11-10. Comparison of initial data and grade estimation Table 11-10).

The comparison demonstrates that the ID^2 estimates are consistent with the underlying assay and composite grade distributions, with no over estimation observed. Visual and statistical checks indicate good agreement between the ID^2 and NN estimates, confirming that the selected estimation approach appropriately reflects the spatial distribution and magnitude of Cg grades within the interpreted mineralised solids. This validation provides confidence that the grade estimation methodology is suitable for the purpose of defining an Exploration Target, recognising that the estimate is conceptual and based on limited data.

Table 11-10. Comparison of initial data and grade estimation.

Estimation solid	Assays	Composites	Nearest Neighbour	ID^2
Sarvi	3.93	3.84	4.33	3.66
Pakkula	4.19	3.88	5.12	3.38
Akka	3.17	3.15	3.31	3.22
Total	3.92	3.70	4.84	3.37

Visual validation was carried out by comparing the assay data against the corresponding block model values (Figure 11-9). Swath (SWATH) analyses were not undertaken, as the available dataset is insufficient to support meaningful statistical evaluation.

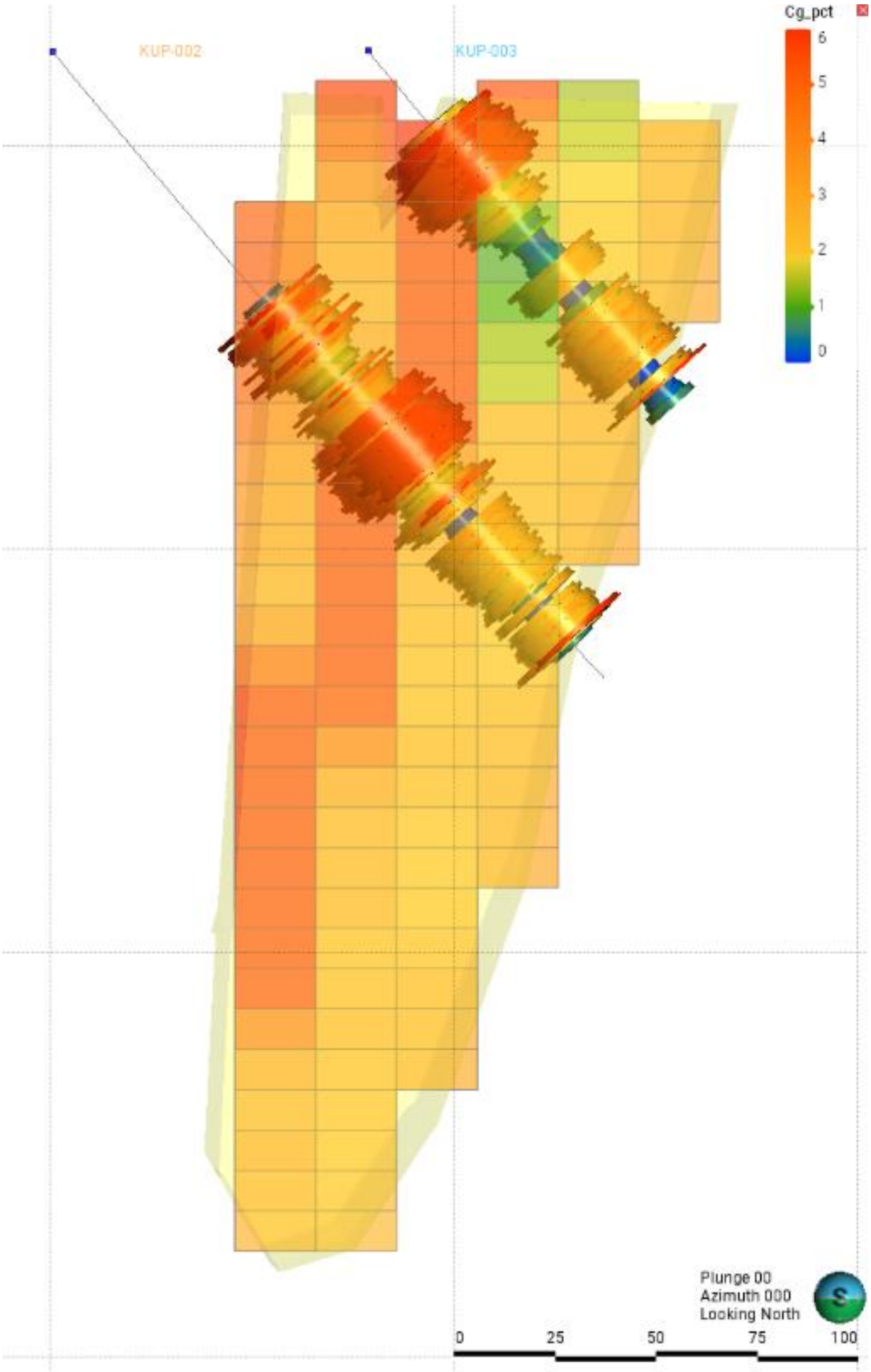


Figure 11-9. Graphical comparison of the block model and drill hole samples.

Figure 11-10 illustrates the estimated block model in relation to drill hole data, no 'bull eye' patterns are visible.

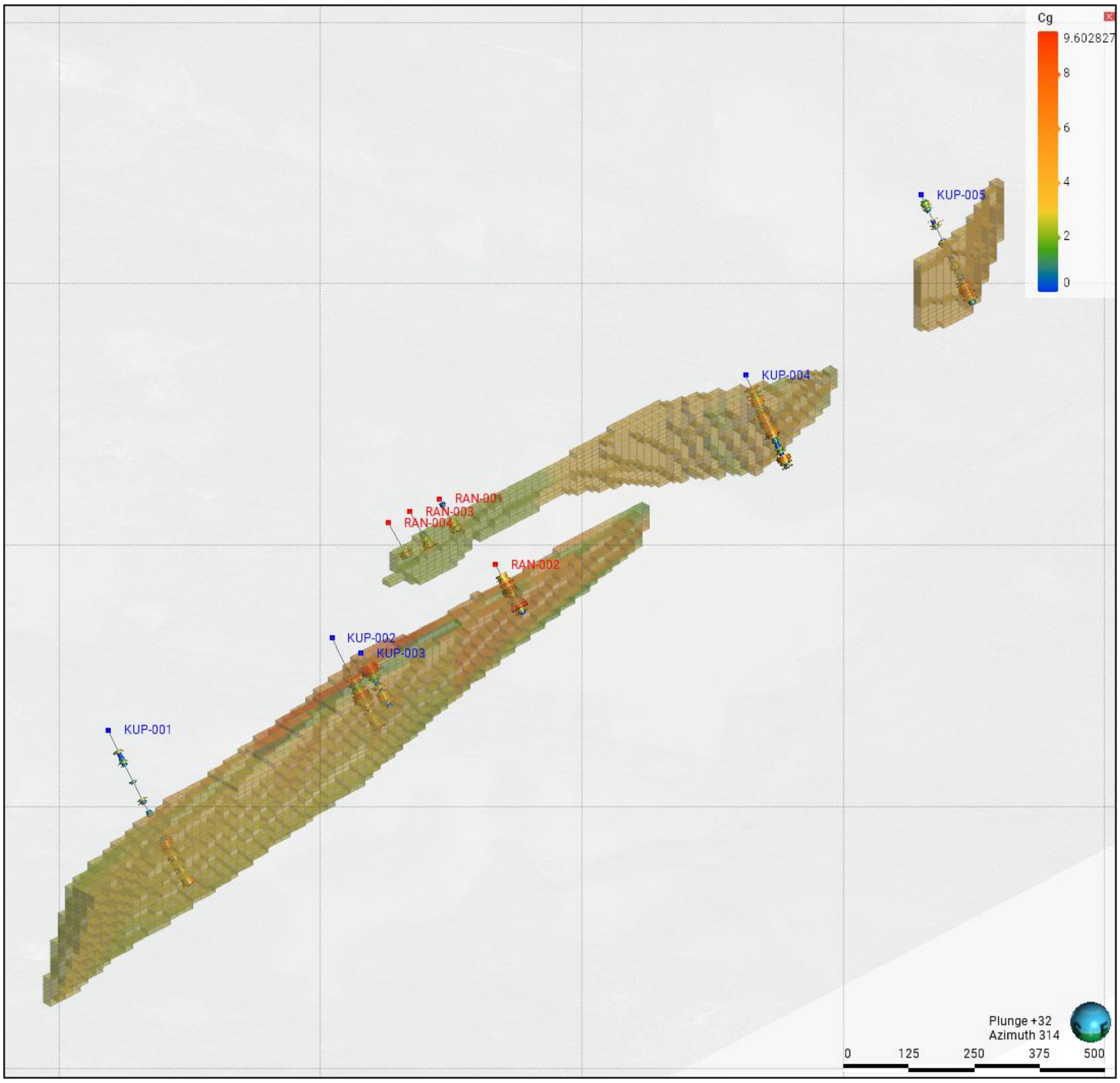


Figure 11-10. Estimated Cg grades and drill holes.

12 Kupukka Graphite deposit Exploration Target

The Exploration Target has been prepared, in accordance with the JORC Code (2012 Edition), to illustrate the potential scale and grade of mineralization identified through geological interpretation, drilling results, and preliminary modelling. It is intended to support ongoing exploration planning and to provide context for the possible development potential of the Kupukka Project.

The Exploration Target is expressed as ranges of tonnes and grades, reflecting the early-stage nature of the project and the limited level of geological confidence currently available. The reported ranges are conceptual in nature and are based on reasonable assumptions regarding the extent, geometry, and continuity of mineralization, informed by available exploration data. The ranges are not estimates of Mineral Resources and should not be interpreted as such.

The minimum and maximum tonnage scenarios reported for the Exploration Target were defined using cut-off grade constraints applied to the block model. The maximum tonnage scenario includes all blocks within the modelled mineralised solids (defined using a 3% Cg modelling threshold), reported above a 1% Cg cut-off. The minimum tonnage scenario applies a reporting threshold of 4% Cg within the 4% Cg modelled solid to demonstrate the sensitivity of the Exploration Target to grade continuity and reporting assumptions.

The 4% Cg reporting threshold is illustrative only and does not imply economic viability. The range of tonnage reported reflects uncertainty in the continuity and extent of mineralization due to the early-stage nature of drilling and the current level of geological confidence.

12.1 Kupukka Graphite Deposit Exploration target classification according to JORC (2012) and bridging to UNFC-2019

The United Nations Framework Classification for Resources (UNFC) is an international classification system that standardizes the evaluation criteria for natural resource projects, facilitating the comparison of projects across different countries and initiatives. The UNFC framework is particularly valuable as it assesses resource reliability, project feasibility, and the developmental phase of projects in a manner consistent with the United Nations Sustainable Development Agenda 2030.

The Committee for Mineral Reserves International Reporting Standards (CRIRSCO) establishes the principles and guidelines for reporting exploration results, exploration targets, mineral reserves and resources. These standards are designed to promote transparency and comparability in resource evaluations, catering specifically to the needs of investors, geological experts, and exploration and mining companies. The CRIRSCO framework is instrumental in ensuring that mineral resource estimates are not only technically sound but also aligned with international best practices.

The Kupukka Deposit is reported in accordance with the JORC 2012 Code. This chapter describes the bridging the UNFC and CRIRSCO International Reporting Templates. As the JORC Committee is a member of the Committee for Mineral Reserves International Reporting Standards (CRIRSCO), the reporting framework is fully aligned with CRIRSCO standards.

UNFC for resources is a resource project-based and principles-based classification (Figure 12-1) system for defining the environmental-socio-economic viability and technical feasibility of projects to develop resources. It was originally developed for use on mineral resource projects but has since been expanded to cover other resource projects based on solar, wind, geothermal, hydro-marine, bioenergy, injection for storage, hydrocarbons, nuclear fuels and water sources of feedstock from which products can be developed. UNFC provides a consistent framework to describe the level of confidence in estimates of the future quantities to be produced by such projects. The most recent version of UNFC was published in 2019.

In UNFC, the products of a resource project are classified using a numerical coding system based on three fundamental criteria, namely:

- Environmental-socio-economic viability (E) which indicates the degree of favourability of environmental-socio-economic conditions in establishing the viability of the project, including consideration of market prices and relevant legal, regulatory, social, environmental and contractual conditions
- Technical feasibility (F) which indicates the maturity of technology, studies, and commitments necessary to implement the project. This allows coding of projects ranging from early conceptual studies through to fully developed projects that are producing and reflects standard value chain management principles
- Degree of confidence in the estimate (G) indicates the degree of confidence in the estimate of the quantities of products from the project.

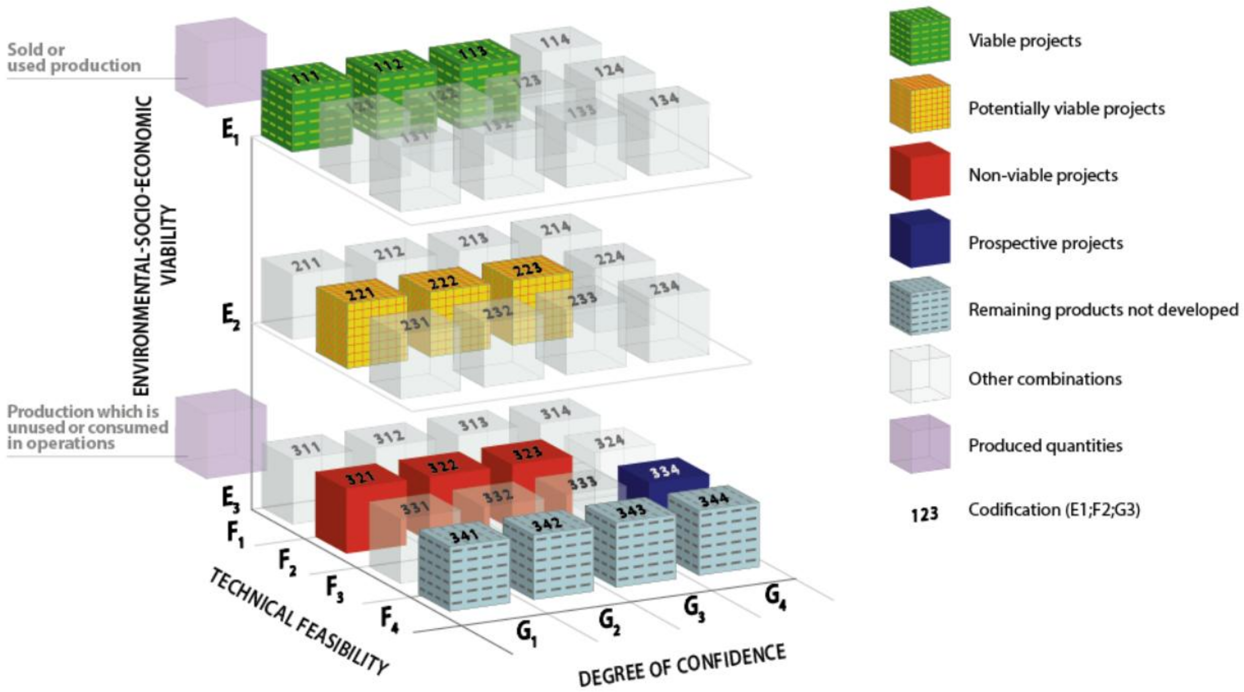


Figure 12-1. UNFC 2019 Classification.

Table 12-1 illustrates the bridging between CRIRSCO definitions and corresponding UNFC Category. Exploration targets are normally mapped to E3F3G4 (or 334).

Table 12-1. Standard mapping of CRIRSCO Template aligned estimates to UNFC Categories.

CRIRSCO Template			Corresponding UNFC Category			UNFC Class
Public Report and Study Types	**Standard Definitions**					
Feasibility Study or Life of Mine Planb (for an operating mine)	Mineral Reserves	Proved	E1	F1	G1	Viable Projects
		Probable			G2	
Pre-feasibility Study	Mineral Reserves	Proved	E2	F2	G1	Potentially Viable Projects
		Probable			G2	
Feasibility Study, Life of Mine Planb (for an operating mine) or Prefeasibility Studye	Mineral Resources (exclusive of Mineral Reserves)	Measured	E2	F2	G1	
		Indicated			G2	
		Inferred			G3	
Scoping Study report or other Public Report on a Mineral Resource estimate	Mineral Resources	Measured	E2	F2	G1	
		Indicated			G2	
		Inferred			G3	
Public Report on exploration stage projects	Exploration Target		E3	F3	G4	Prospective Projects
	Exploration Results		Estimates not published			
Not applicable	Estimates obtained from historical reports					Non-viable Projects

The Kupukka Exploration target environmental-socioeconomic viability cannot yet be determined due to insufficient information. The Technical feasibility of the exploration targets cannot be evaluated based on the limited data and the geological interpretation of the deposit needs further studies to elevate the Kupukka exploration targets to higher UNFC categories.

The following procedure is used when converting an estimate of an Exploration target to UNFC:

- Estimated tonnage ranging from T_{low} to T_{high}
- Estimate grade ranging from G_{low} to G_{high}
- Minimum estimated contained product quantity: $Q_{low} = T_{low} * G_{low}$
- Maximum estimated contained product quantity: $Q_{high} = T_{high} * G_{high}$
- Average estimated contained product quantity: $Q_{av} = 0.5*(Q_{low}+Q_{max})$

Below in Table 12-2 are presented the Kupukka Exploration Target properties.

Table 12-2. Kupukka JORC 2012 Exploration target classification and bridging to UNFC-2019 as of 29th January 2026.

	Tonnes Low (Mt)	Tonnes High (Mt)	Grade Low Cg (%)	Grade High Cg (%)	Contained Cg Low (t)	Contained Cg High (t)	Contained Cg Average (t)	UNFC Category
Sarvi	2.7	4.8	3.7	4.6	99 000	220 000	160 000	334
Pakkula	18.4	76.1	3.4	5.5	630 000	4 200 000	2 415 000	334
Akka	2	12.6	3.2	4.2	65 000	530 000	298 000	334
Total	23.1	93.5	3.4	5.3	793 000	4 932 000	2 863 000	

The potential quantity and grade are conceptual in nature, there are insufficient exploration to define a Mineral Resource, and it is uncertain that further exploration will result in the determination of a Mineral Resource. Differences may occur in totals due to rounding.

13 ESG and Social License to Operate

As a small company our approach to Social License to Operate and ESG matters is lean and straightforward. Local people at Siikalatva and our landowners have welcomed us, and we are doing our best to be good neighbors. Also, the municipality of Siikalatva fully supports our project. Siikalatva region used to be one of the key areas for peat production. Burning peat in district heating systems has been used widely in urban areas such as Oulu, but at present limitedly due to its CO_2 emissions. The Haapavesi-Siikalatva Region and its surrounding municipalities have suffered the most from the decline in peat production. Mining industry would be a direct solution for developing new businesses in line with the green transition and improving the economic and employment situation in the region.

When our exploration permit was granted, we started contacting our landowners. Total of 90 properties are included in our permit area, and we were able to contact all except 6. We talked on phone with each one of them, explaining who we are, what we do and how it affects their life or livelihood. Only one landowner said he did not like what we do, the rest had positive or neutral feelings. During the exploration process, we have been in contact with many of them multiple times.

Whenever we are out in the field, we always wear company clothing and have our vehicle marked with company logo. This is also required for our contractors – people and landowners need to know who we are and what we do. We keep our website updated to inform about our activities and exploration results. On bigger events such as airborne geophysical surveys, we buy add from local newspaper.

Our communication is not limited to landowners. We keep the municipality informed and take part in “Village Fest” held every summer so people can come and chat with us (Figure 13-1). We plan all our work that takes place in autumn with the local hunting clubs, as autumn is moose hunting season. We want to minimize our disturbance to this very popular activity.

Environment

Even though Kupukka area is not pristine, unaltered nature (Figure 13-2), it still has value to local population. And as avid outdoors people, for us. Our plan is to start water sampling in 2026 as a part for future environmental impact assessment.

Safety

Occupational health and safety are well taken care of in Finnish mining industry. Kupukan Grafiitti Oy wants to continue the trend and keep safety as number one priority, always. We have had 0 LTIs during our operation and plan to keep it so. Stop, think, act is our most important safety guideline. We are also covered with extensive occupational health plan that includes vaccines etc.

Governance

In the future, operating mine and its building phase require lots of different professionals and skilled work force. To attract and retain those people, everyone must feel safe and respected at work.

Figure 13-1. CEO Hannu Makkonen chatting about the graphite project in Rantsila Village Fest, summer 2024.

Figure 13-2. Clearcut area on outskirts of Kupukka area. Kupukan Grafiitti, GTK and Radai personnel enjoying their coffee break by the fire during the Dronesom.speed project flight days.

14 Conclusions

A substantial flake graphite mineralization has been discovered and started to be outlined at Kupukka (Table 14-1). The main mineralized trend is 3 km long and has been drilled to date on 57-830m spaced drill profiles. The mineralization stands out clearly on magnetic and electromagnetic maps produced from Drone surveys. Just north of the drill-proven main mineralization magnetic data suggests the main mineralization continues but is not outcropping. Further 1.8 km north of the main mineralization a separate high-grade body has been drill proven (KUP-006), which originally may have related to the main mineralized trend but is disconnected by faulting. In addition, 1-2 km west of the main mineralization trend another graphite-mineralized trend has been intersected by one drill hole. Based on geophysics this western mineralization can be 1 – 4 km long (Figure 14-1).

With a cut-off of 3 % Cg the subvertical main mineralization has true thicknesses varying mainly between 30 – 80 m. The deepest intersections are at the 250 m level from the ground surface. Based on geophysics the mineralization extends further down. Based on drillings and geophysical interpretation the mineralization is outcropping on most of the drill profiles (Figure 14-2).

Interpretations and inversions of the Drone magnetic and EM data indicate that the main mineralization is continuous with short breaks. Figure 14-3 presents a magnetic inversion model constrained by the borders of the drill intersected mineralization (cut-off 3% Cg). The model suggests that the main mineralization has a depth extension down to at least the 375m level below the ground surface, especially in the southern part. In Figure 14-4 cross sections of the magnetic inversion and mineralization solids are shown (see also the EM resistivity model in Figure 7-16).

Table 14-1. JORC 2012 Exploration Target classification for the Kupukka main mineralization and bridging to UNFC-2019.

	Tonnes Low (Mt)	Tonnes High (Mt)	Grade Low Cg (%)	Grade High Cg (%)	Contained Cg Low (t)	Contained Cg High (t)	Contained Cg Average (t)	UNFC Category
Sarvi	2.7	4.8	3.7	4.6	99 000	220 000	160 000	334
Pakkula	18.4	76.1	3.4	5.5	630 000	4 200 000	2 415 000	334
Akka	2	12.6	3.2	4.2	65 000	530 000	298 000	334
Total	23.1	93.5	3.4	5.3	793 000	4 932 000	2 863 000	

The potential quantity and grade are conceptual in nature, there are insufficient exploration to define a Mineral Resource, and it is uncertain that further exploration will result in the determination of a Mineral Resource. Differences may occur in totals due to rounding.

Importantly, the Exploration Target includes high-grade zones @ 8-9 % Cg.

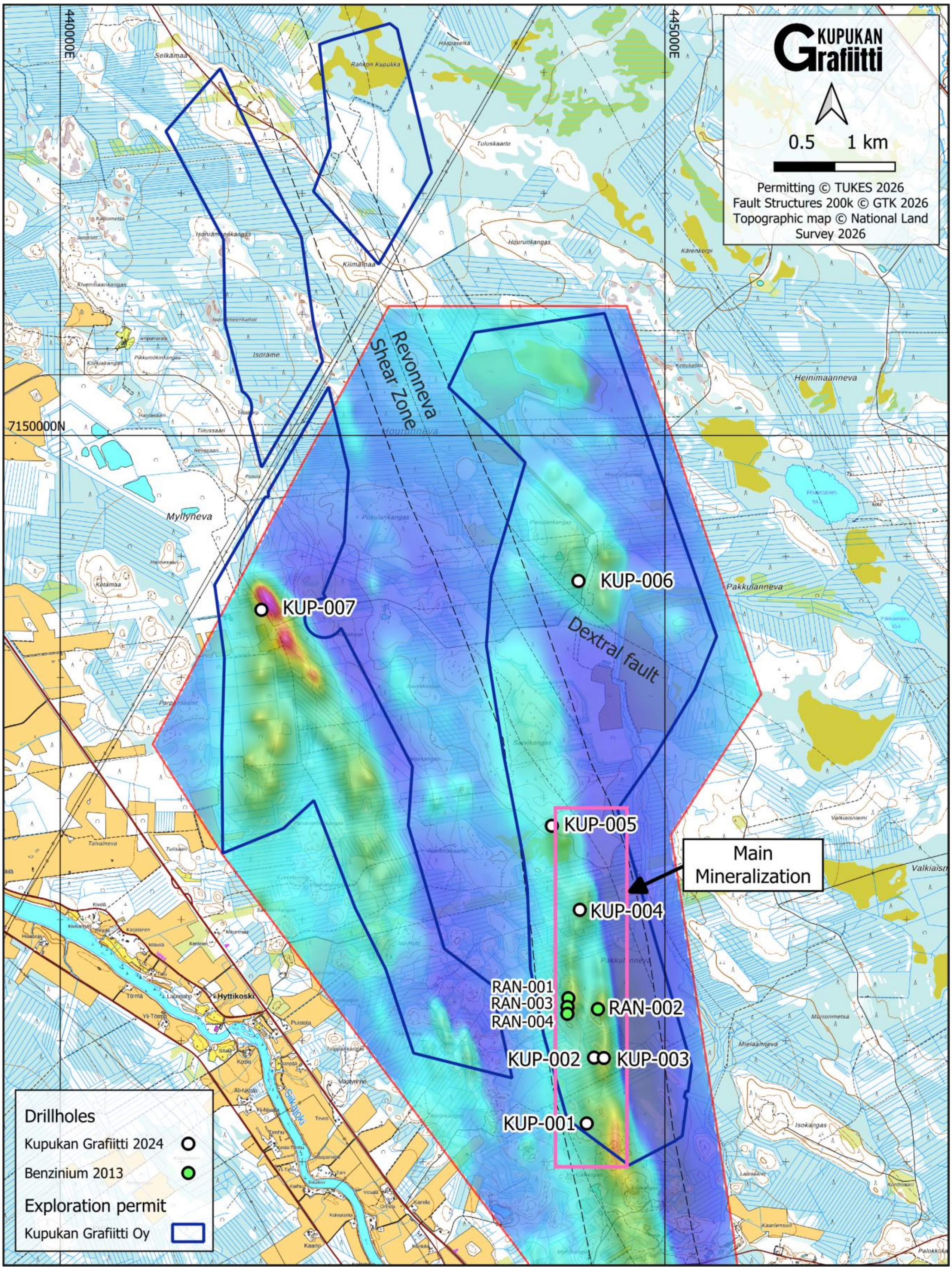


Figure 14-1. Drone magnetic map (red=maximum) at Kupukka depicting the graphite mineralized trends. The main mineralization is within the purple rectangle (3D image in Figure 14-2). The mineralization intersected north by DH KUP-006 is possibly disconnected from the main mineralization trend by a dextral fault. The western mineralization trend is intersected by DH KUP-007.

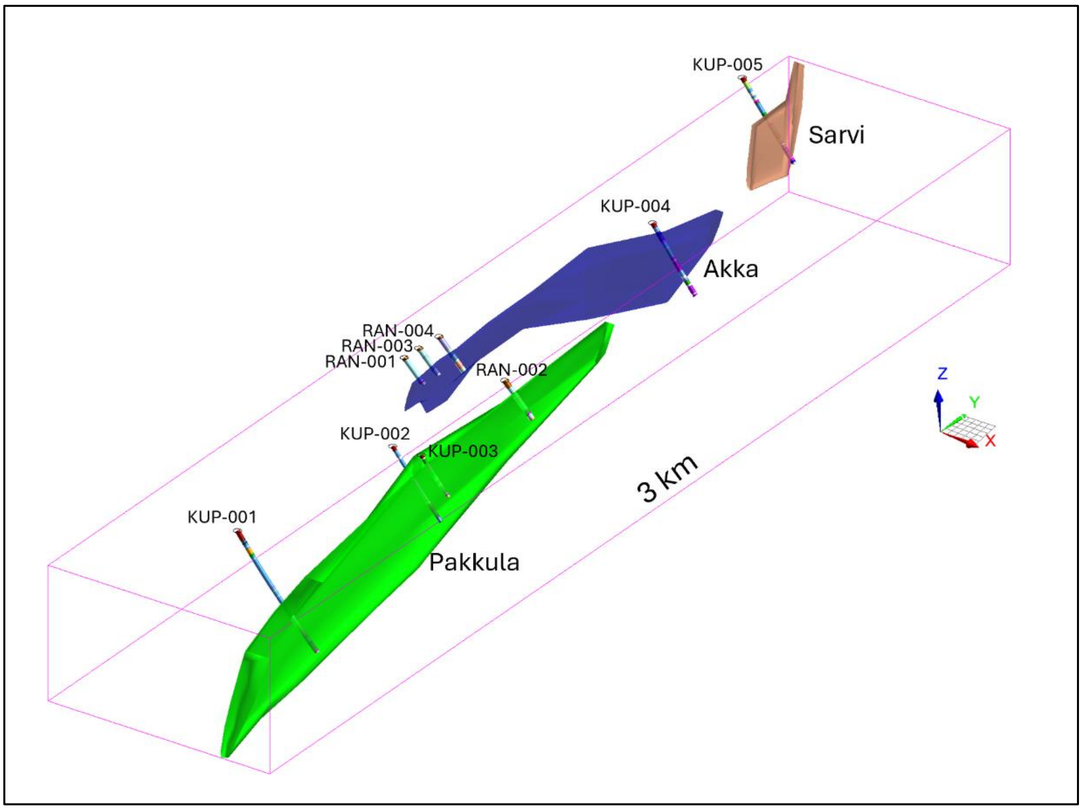


Figure 14-2. Three-dimensional model for the Kupukka main mineralization (cut-off 3 % Cg). Oblique view towards NW, location marked in Figure 14-1.

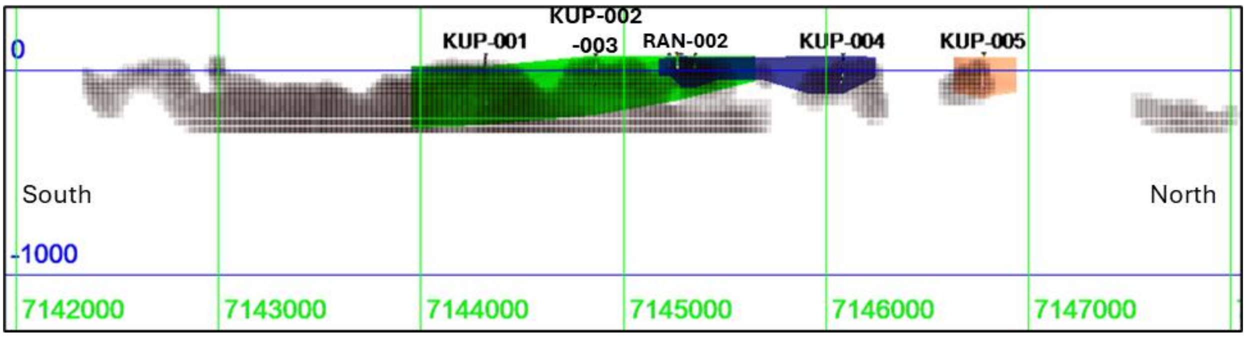


Figure 14-3. North-south vertical section of the interpreted main mineralization as colored solids and magnetic inversion with the magnetic susceptibility over 0.06 SI as grey nodes (from xyz file). The magnetic inversion is constrained by the solids and has a depth limit of 300m from the zero level (around 375m below the ground surface).

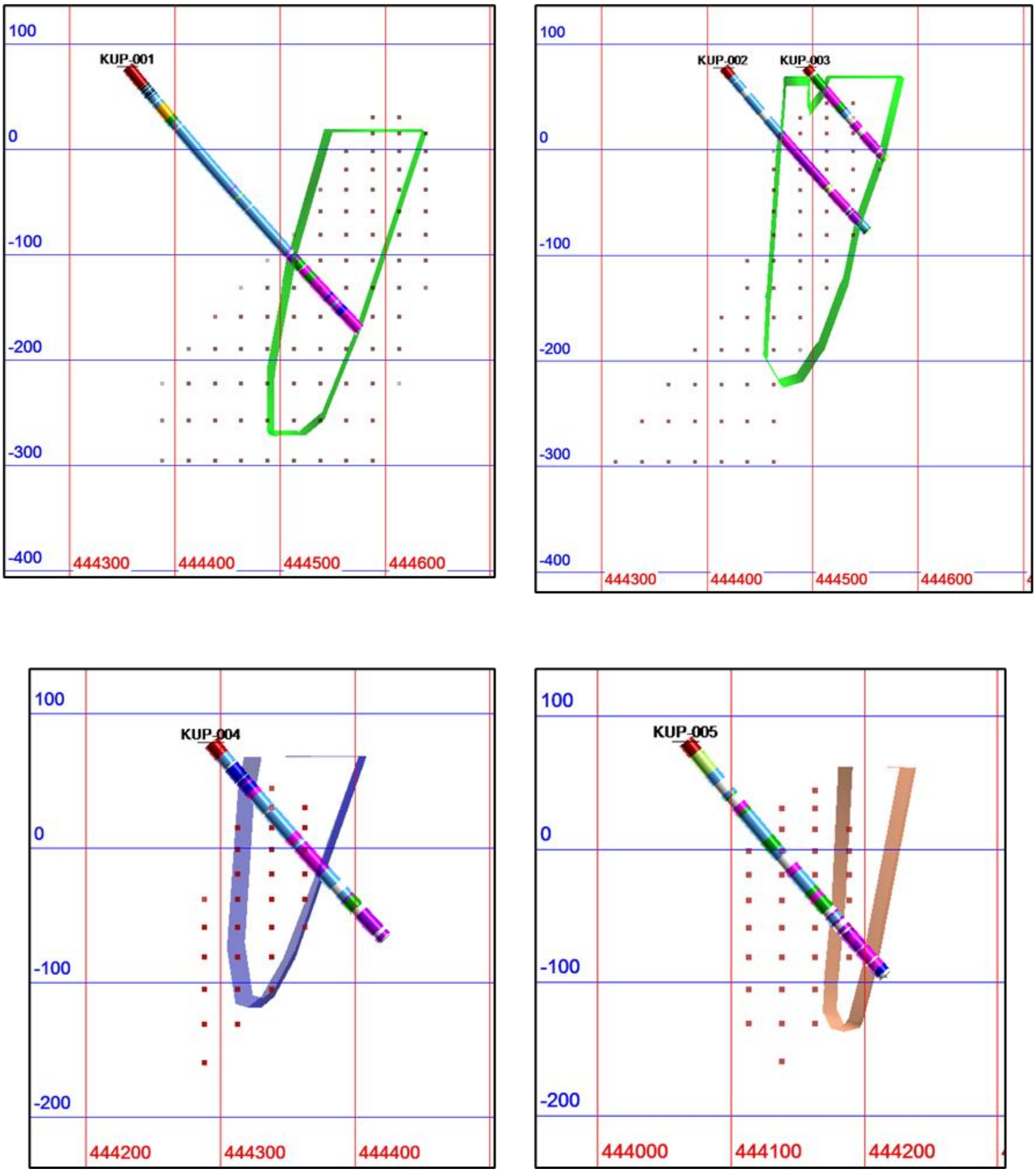


Figure 14-4. Cross sections towards north showing interpreted colored mineralization outlines and magnetic inversion with the magnetic susceptibility over 0.06 SI as nodes (from xyz file). Graphite-mineralized rock shown by purple color in drill trace.

The mineralization is located within the high metamorphic grade mica gneiss unit or in the contact zone of amphibolite and mica gneiss. Also, amphibolite can host graphite mineralization. Mineralization is stratiform and represents a carbon-rich layer. Probably because of isoclinal folding during the early structural history narrow barren mica gneiss layers may occur within the mineralization. Also, granitic pegmatite dykes (≤ 8.4 m in drill core) cut in places the mineralization.

North-south and NW directed faults and fault zones occur in Kupukka area, which may have caused breaks in the mineralization trends. Possibly, the northernmost separate mineralization intercepted by DH KUP-006 was primarily part of the main mineralization but was later separated by a dextral fault (Figure 14-1).

Two main graphite ore types have been recognized, 1) high-grade breccia ore and 2) lower-grade disseminated ore. The host rock for the breccia ore has a breccia-type texture, formed possibly during faulting. Compared to the disseminated ore type the host rock for the breccia ore is quite massive and rich in clinoamphibole, which can be the dominating silicate in the rock, thus the rock is close to amphibolite in mineral composition. In addition to the clinoamphibole, plagioclase occurs as the main silicate mineral.

The host rock for the disseminated ore is a graphite gneiss, which actually is a graphite-rich mica gneiss. The main silicate minerals are plagioclase, quartz and biotite.

In the studied drill core samples (19 thin sections) the length of the graphite flakes is ≤1.5 mm.

Pyrrhotite is usually abundant in the graphite ore. Pyrrhotite is magnetic due to which the graphite ore usually has a high magnetic susceptibility and can be traced by magnetic measurements. In places, especially in the upper parts of mineralization and within shears, pyrrhotite has been altered to pyrite losing its magnetic properties.

Beneficiation tests show that spherical graphite can be produced from the breccia-type ore. Tests for the disseminated ore are ongoing. The first tests of the disseminated ore did not produce the desired result, and more sample material was sent for further tests. Because graphite is relatively coarse at Kupukka also tests for applications other than battery industry will be done. Kupukan Grafiitti takes part in the *Innomin Project*, in which separation of critical materials like graphite is tested by continuously compressing crushing, avoiding finely grinding.

14.1 Competent Person conclusions

The following remarks and conclusions regarding the Kupukka deposit grade estimate are summarised below:

- The drilling and sampling to date support the grade estimation and there is sufficient data to define a conceptual Exploration Target.
- Uncertainty and limitations in the tonnes and grade are related to:
    - drill spacing and data density limitations
    - limited confidence in continuity
    - limited metallurgical data and no recovery modelling
    - density assumptions
    - confirmation of structural interpretation due to limited drill hole data
    - impact of legacy data (2013 bias)

- The CP notes that, the 2013 data should be used with caution in the grade estimation, while the 2024 data are considered fully suitable for grade estimation without material qualification.
- It is recommended that the current logging and data management procedures be maintained for future drilling programmes to ensure continuity and to support potential updates to the Mineral Resource as additional data become available.
- The studied geophysical data supports the geological interpretation of graphite mineralization.
- For an open-pit target, RMR + GSI is generally a more suitable and practical baseline rock mass classification method for drill core logging than Q.

15 Recommendations

The 3 km long main mineralization (DH KUP-001-005) is currently the primary target at Kupukka. Along the around 8 km long magnetic and EM trends, continuing from and occurring near the main mineralization there is an important additional potential for graphite mineralization. However, drilling is widely spaced within the main mineralization and only includes two drill holes outside. The data density is not yet sufficient to enable an estimate of grade, and calculation of a Mineral Resource Estimate.

The spacing between drillhole profiles needs to be reduced to100m, and the number of holes on each profile needs to be increased. The objective should be to provide a data density that supports an Inferred Resource as a minimum (i.e. sufficient confidence to assume geological and grade continuity).

The recent geological understanding of the mineralization as well as the recent geophysical data with 3D interpretations enables planning of the infill drilling. Some of the future drill profiles need geophysical ground surveys to place drill hole collars in optimal locations. Also, after drilling, some geophysical borehole surveys should be done. Also, there is possibility of trenching in a few places, where the soil depth is ≤ 5m. Trenching would strengthen the understanding of the structural controls of the mineralization and make possible voluminous sampling for beneficiation tests.

More comprehensive assay data is needed to secure that all valuable elements have been assayed (e.g. checks for gold and PGEs). Also, more complete assay data is needed to study the host rocks, wall rocks and country rocks, for side stream uses.

Additional beneficiation tests are needed to specify the most profitable products made from the graphite concentrate.

Following the results of infill drilling the Mineral Resource Estimate (MRE) can be made. Also, with the data of the graphite deposit outlined the Environmental Impact Assessment (EIA) is possible to perform.

The work program recommended above is estimated to take two years. Table 15-1presents the budget of the two years' work program.

Table 15-1. Budget for recommended work program at Kupukka.

Estimated Costs	**M€**
Geophysics	
Ground Survey lines	0.03
Borehole Surveys	0.03
Infill Drilling (including assays and other costs)	
20 000 meters @ 200 €/m	4.00
Beneficiation Tests	0.40
Environmental Impact Assessment	0.30
Mineral Resource Estimate	0.10
Personnel	1.00
Grand Total	**5.86**

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JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralization that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (eg submarine nodules) may warrant disclosure of detailed information.	• Samples and geological information were sourced using diamond drilling (DD). • Sampling and lithological intervals were determined by geologists with relevant experience. • DD core intervals selected for assaying were marked up and recorded for cutting and sampling. • Mineralization is generally distinctive from the barren rock. Graphite flakes are visible on drill core surface. • All intersections are reported as downhole widths. • In total, 1669.85m new diamond drilling was made by Kupukan Grafiitti. • All core was logged in detail and partially assayed by Kupukan Grafiitti.
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• Diamond drilling was 63.5 cm HQ core. All core was oriented using Axis Champ Ori tool.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• Core loss has been documented. The largest core loss was at the beginning of hole KUP-001, a total of 6.45 meters in 6 different intervals. KUP-002 had core total core loss of 0.5 meters, KUP-003 0.5 m and KUP-004 0.45 m. KUP-005 had core loss of 0.4 m and KUP-006 0.55 m. KUP-007 had no core loss. Only 3 separate core losses with total length of 0.5 m were logged inside sampled rock intervals. • There was no evidence of sample bias or any relationship between sample recovery and grade.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate	• Logging was completed by Kupukan Grafiitti geologist and a hired geologist under Kupukan Grafiitti supervision.

	Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	• The logging is qualitative and quantitative. • Core photos were taken, both dry and wet. • 100% of core was logged from the relevant intersections.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• The sampling of drill core was conducted as part of the logging procedure. • Full drill core samples were sent to the ALS Sodankylä facilities, where they were sawn longitudinally such that ½ core was taken for sample preparation. Sawing was guided to do next to the drawn bottom line in the core. For field duplicates one quarter of the core was sawn. • Sample size varied between 0.35 – 2.45m; average sample size was 1.17m and total n. of samples 950 (without field duplicates). • It is considered that the sample sizes used are appropriate for the mineralization at Kupukka.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	• Drill core was sent to ALS Sodankylä for sawing and sample preparation. From ALS Sodankylä assay sample was sent to ALS Hub laboratory in Loughrea, Ireland, for aqua regia acid digestion and ICP-AES analysis (method code: ME-ICP41a, total for sulfides, partial for silicates). From the same pulp another assay sample was bagged by ALS Sodankylä personnel and sent to Kupukan Grafiitti. These sample bags were sent to Actlabs Ancaster, Canada, for graphitic carbon assay (method code 4F-C-Graphitic). For the first assay batch the bagging was made by Kupukan Grafiitti personnel. • Kupukan Grafiitti has included periodic blank, standard and field duplicate samples in all of its assays to assess the performance of the used laboratory. No QA/QC issues were noted with the results reported here.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• Significant intersections have been verified by Ville-Matti Seppä, Afry Oy, Competent Person for this Report. • No twinned holes have been used. • Drill cores are stored at the drill core shed of Kupukan Grafiitti, at Rantsila. Logging and other electronic data were collected in Excel templates and compiled in MS Access file. All electronic data are stored by an IT Company including file backups.

Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	• Collar locations and elevations have been DGPS-surveyed (Trimble GNSS). Holes KUP-001, KUP-006 and KUP-007 were double checked for their starting azimuth and dip by inserting Kupukan Grafiitti modified HQ-sized drill rod into hole and measuring its azimuth and dip. • The used coordinate system is ETRS-TM35FIN (EPSG:3067) and vertical datum N2000. • An additional elevation dataset for confirmation has been determined from Finnish National Land Survey's LiDAR digital terrain model with a 2m lateral grid size and an estimated 30cm absolute and significantly higher relative accuracy for elevation.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• Drilling is exploration drilling to ensure that the magnetic and EM trend drilled in 2013 continues as a graphite-rich zone further south and north. The spacing in the main mineralized trend, including the 2013 drilled RAN-holes, varies between 550 – 830 m. The spacing of the 2013 drilled RAN-holes varies between 57 - 256 m. • All input data within the models have been composited to a length of 1 m with a minimum coverage of 0.5 m.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• The underlying geology is a north-south trend steeply dipping to the west, the mineralized package demonstrating a similar trend. Drilling was targeted across strike with drill hole azimuths of 90 degrees and 50 degrees dip. One drill hole has azimuth of 67 degrees across the NW trending geology.
Sample security	• The measures taken to ensure sample security.	• Kupukan Grafiitti followed best practices to ensure sample security. The samples are stored in secure facilities and sample shipments were sent and received under supervision by Kupukan Grafiitti personnel. Confirmation was received from the laboratory on receipt.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Kupukan Grafiitti drill core logging and sampling procedures have been reviewed by AFRY's Competent Person and the resulting geological and analysis data for Cg is considered to be reliable and representative. The drilling recoveries are close to 100% and sample or assay bias caused by poor core recovery is negligible. • The competent person considers that the database and the geological data is suitable to be used for a grade estimation for Kupukka graphite deposit exploration target.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• The tenements are in Siikalatva municipality, Finland, and held 100 % by Kupukan Grafiitti Oy. • The tenements are: 1) Kupukka (Exploration Permit, Registry No ML2023:0007-01), valid until 19th July 2028 after which it can be applied for extensions to a maximum until 2035, 2) Kupukka_SE (Application for Exploration Permit, Registry No ML2025:0069), filed 17th December 2025, 3) Heteneva (Reservation for Exploration Permit, Registry No VA2025:0055-01), valid until 16th November 2026. • The Exploration Permit area is uninhabited, partly forest subject to intermittent logging activities and partly historical peat production area. The nearest settlement is south and SW from the Kupukka Exploration Permit area with the distance to the nearest houses around 1 km from the border of the Permit Area • There are no known environmental liabilities on the Kupukka property. There are no royalties, back-in rights, payments or other encumbrances to which the property is subject. • There are currently no known impediments to obtaining a license to operate in the area.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• Outokumpu Oy made regional bedrock mapping and base metal exploration during late1950's, during 1960's and during 1980's. Geological Survey of Finland (GTK) made during 1970's and 1980's surficial geochemical studies. Flake graphite was reported in these historical studies. Geological Survey of Finland (GTK) made shallow diamond drill holes in the vicinity of the Kupukka area during their bedrock mapping project in 1993 and intersected graphite mineralization in one hole. Proper graphite exploration has been done in the Kupukka area first by Benzinium Oy (Jalonom Oy) during 2013. The first graphite intersection in the Kupukka area is from drillings by Benzinium in 2013. Suomen Malmitutkimus Oy made geophysics and beneficiation tests during 2021-2022.
Geology	• Deposit type, geological setting and style of mineralization.	• The graphite mineralization at Kupukka is located within the high metamorphic grade mica gneiss unit and in the contact zone of amphibolite and mica gneiss. Also, amphibolite can host graphite

Criteria	JORC Code explanation	Commentary
		mineralization. Mineralization is stratiform and represents a carbon-rich layer conforming with the subvertical layering and schistosity. Probably because of isoclinal folding during the early structural history, narrow, barren mica gneiss layers may occur within the mineralization. Also, granitic pegmatite dykes (≤ 8.4 m in drill core) cut the mineralization in places. The thickness (true width) of the main mineralization varies between 30 – 80 m. • Two main graphite ore types have been recognized, 1) high-grade breccia ore and 2) lower-grade disseminated ore. The host rock for the breccia ore has a breccia-type texture. Compared to the disseminated ore type, the host rock for the breccia ore is quite massive and rich in clinoamphibole, which can be the dominating silicate in the rock. Thus, the rock is close to amphibolite in mineral composition. The host rock for the disseminated ore is a graphite gneiss, which actually is a graphite-rich mica gneiss. • Maximum observed graphite flake size is 1.5 – 2.0 mm. • Pyrrhotite is usually abundant in the graphite ore. Pyrrhotite is magnetic due to which the graphite ore usually has a high magnetic susceptibility and can be traced by magnetic measurements.
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	• Provided in Tables 7.2 and 7.5.
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used	• Length-weighted average grade intersections of the drillings by Kupukan Grafiitti in 2024 are reported at a primary cut-off level of 3 % Cg (graphitic carbon). A maximum internal interval below the cut-off is 22.95 m (DH-KUP-003, Table 6.2).

Criteria	JORC Code explanation	Commentary
	for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralization widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	• True width is estimated to be 65-85 % of the intercept length. The geometry of mineralization follows the layering and main schistosity.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	• Relevant maps and sections are provided in the report. Also, 3D models are presented.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• All available relevant information is reported.
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• All exploration data are reported.
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• The next steps include infill drilling (around 20 km) to secure the continuation of the graphite mineralization between the now drilled profiles and for depth extensions. Infill drilling results will enable the maiden resource estimate to be done. Also, more beneficiation tests will be done.