DANMARKS OG GRØNLANDS GEOLOGISKE UNDERSØGELSE RAPPORT 2009/39

Pituffik 2007: mineral reconnaissance in the Pituffik region, North-West Greenland

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GEOLOGICAL SURVEY OF DENMARK AND GREENLAND
MINISTRY OF CLIMATE AND ENERGY

GEUS

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G E U S

Frontispiece. *Mesobanded BIF south of Pingorsuit at BIF locality 3. A chip sample over 1.4 m returned 29.1% Fe (495816). General view of the outcrop is shown in Figure 12.*

Contents

1. Abstract

The 2007 field work investigated selected types of mineralisation in the greater Pituffik (Thule Air Base) region, North-West Greenland, in order to evaluate its mineral potential and update the Survey's database. The region exposes a high-grade Neoarchaean crystalline shield, comprising four major complexes, overlain by the unmetamorphosed Mesoproterozoic Thule Supergroup. This is a multicoloured, continental to shallow marine sequence with one interval of basaltic volcanic rocks. Basic sills are common at several levels. Very limited mineral exploration has been carried out and no commercial mineral occurrences are known.

The main targets were banded iron formation and structurally-controlled gold mineralisation in the crystalline basement, base-metal mineralisation in the Thule Supergroup, and Recent gold placers. A total of 166 rock samples, 39 stream sediment samples, 39 panned heavy mineral concentrates and one active beach sample were collected and subjected to multi-element analysis. Seven mineral settings are discussed.

Banded iron formation (BIF) belonging to the Thule Iron Province, a correlative of the Algoma-type Mary River iron deposit of Baffin Island, was investigated at six localities. The BIF units located in the transition zone between amphibolite and pelitic gneiss are typically 2 m thick. They are composed of mesobanded quartz-magnetite/hematite averaging 28% Fe (47% Fe_2O_3+FeO) and 48% SiO_2. Magnetite and hematite occur in variable proportions, the latter formed from the magnetite through martitization. The only significant gold value (0.25 ppm Au) came from a BIF-associated amphibolite.

Structurally-hosted Au mineralisation in crystalline rocks was found at two localities with concentrations up to 397 ppb Au and 342 ppb Au. These localities are associated with the WNW–ESE-trending faults of the Thule half-graben system.

Unconformity-hosted U mineralisation. A stream-sediment uranium anomaly deemed associated with the unconformity at the base of the Thule Supergroup is indicative of this type of mineralisation, by analogies to the uraniferous Athabasca Basin.

Shale-hosted Pb-Zn-Cu mineralisation. No signs of base metals were detected in pyritiferous dark shales and sandstones of the Dundas Group of the Thule Supergroup.

Carbonate-hosted Pb-Zn mineralisation. The carbonate-dominated sequence within uppermost Thule Supergroup (Narssârssuk Group), a correlative of the host rocks for the MVT-type Nanisivik Pb-Zn deposit, Baffin Island, was investigated in one area. However, no signs of sulphide mineralisation or significant bedrock alteration were observed.

Contact-hosted Cu-Pb-Zn-Au mineralisation. Rusty contacts between Neoproterozoic mafic intrusions (sills and dykes) and Dundas Group sediments, caused by hydrothermal alteration and disseminated pyrite, are detectable by remote-sensing techniques based on Landsat 7 ETM and Aster satellite data. Scattered base-metal-bearing veinlets may occur in

both dolerites and adjacent sediments. A dolerite moraine block with 5.6 ppm Au indicates gold potential in this mineralisation.

Placers. Panning for gold in Sioqqap Kuua did not verify rumours of gold placers in ‘Fox Canyon’ immediately south of Pituffik. A single beach sample collected at Booth Sund returned 1.4% TiO_2, only a fraction of the concentrations reported from the Moriusaq ilmenite showing to the south-east.

It is concluded that the Pituffik region offers excellent exploration targets for a number of commodities, especially Fe, Ti, Au, Cu and U.

2. Introduction

The *Pituffik 2007* project investigated selected types of mineralisation and remote-sensing anomalies in the Pituffik region between Melville Bugt and Olrik Fjord (75°50′N–77°10′N, 64°W–72°W), North-West Greenland (Map 1). The investigated region, which is centred on Pituffik (Thule Air Base) in the Qaanaaq (Thule) municipality, is referred to herein as the Pituffik region. The aim is to evaluate the mineral potential and to collect data for the Survey's mineralisation data base. The project follows on from *Qaanaaq 2001* that focussed on the region immediately north of the present study area (Steenfelt *et al.* 2002; Thomassen *et al.* 2002a, b), albeit in a more modest scale. As a preparation for field work in the region, a Landsat-based remote sensing study carried out in 2003 had pin-pointed 24 anomalous localities with mineralisation potential (Krebs *et al.* 2003).

The Pituffik region has an area of *c.* 17,000 km^2 of which *c.* 4,300 km^2 are ice-free. The northern part is dominated by 400–800 m high plateaus capped by local ice caps. In the south, high dissected terrain occurs on the Kap York peninsula, and to the east the Inland Ice reaches the sea on a broad front where the coast consists for the most part of islands, peninsulas and nunataks. The highest altitude is in the north-east at *c.* 1130 m. The climate is high arctic and the whole area is underlain by permafrost. The only permanent habitations are at Pituffik, Moriusaq and Savissivik.

Field work by the authors was from July 19 to August 31 from five fly camps (31 days) and from Pituffik (13 days). The camps were moved by Air Greenland's Bell 212 helicopter stationed at Pituffik. From Pituffik we worked with rented vehicle from the extensive net of dirt tracks surrounding the base. Logistics and preliminary results have been reported by Thomassen (2007). The weather and snow conditions were conducive to field work and only six field days were lost due to bad weather.

This report presents the main results of the 2007 field work. It contains brief field descriptions of the investigated mineral occurrences, as well as the locations and analytical results of the collected samples. In addition, a single locality outside the field area visited in 2007 is included since magnetite-rich samples were collected by the helicopter pilot. This is designated BIF locality 6 (see section 6.5). A review of the region's mineral potential and recommendations for further work conclude the report.

3. Regional geology and mineralisation

The Pituffik region exposes the high-grade Neoarchaean crystalline shield cut by a late Palaeoproterozoic dyke swarm and overlain by unmetamorphosed Meso–Neoproterozoic strata of the intracratonic Thule Basin (Map 2, Dawes 1991, 2006; Nielsen 1990).

North-West Greenland was mapped by the former Geological Survey of Greenland (GGU) between 1971 and 1980, mainly by shoreline investigations with limited helicopter traversing inland. Steensby Land and areas around Pituffik (Map 2), exposing large tracts of Thule Basin deposits, were mapped at 1:100 000; other areas, composed mainly of shield rocks are available at 1:200 000 (Dawes 1988). Unpublished maps at these scales form the basis of the Survey's 1:500 000 geological map, Thule, Sheet 5 (Dawes 1991). Unless otherwise stated, rock unit names in this report are taken from this map. For further geological information the reader is referred to this map and its descriptive text (Dawes 2006). The region has seen little commercial exploration (see next chapter).

3.1 Archaean crystalline shield

Geochronological information suggests that the crystalline shield of the Pituffik region is composed of Archaean rocks that have been subjected to Palaeoproterozoic reactivation (see summary in Nutman *et al.* 2008). However, some Palaeoproterozoic crust could be present, in one or more of the following four map units recognised by Dawes (1991, 2006).

Thule mixed-gneiss complex.
Highly deformed amphibolite- to granulite-facies gneisses making up the complex are exposed in the central part of the region (Map 2). Main lithologies are quartzo-feldspathic to pelitic paragneisses, multiphase orthogneisses with genetically-related granitic rocks, as well as minor mafic and ultramafic bodies. Para- and multiphase orthogneisses are structurally complex and intricately associated on all scales. In many places the gneisses show pronounced compositional layering and the distinction of para- and orthogneisses can only be unravelled by detailed mapping.

Kap York meta-igneous complex.
This suite of plutonic rocks occupying the whole of the Kap York peninsula contains metagabbro, metadolerite, diorite and tonalite with smaller units of light-coloured granodioritic and granitic rocks. The rocks are thought to have been emplaced into the gneisses of the previous unit (Dawes 1976).

Melville Bugt orthogneiss complex.
This complex forming the coastland of Melville Bugt is composed of massive to foliated amphibolite-facies gneisses and granitoids with conspicuous mafic components. It contains at least some rocks that have been derived from the previous unit.

Lauge Koch Kyst supracrustal complex.
These supracrustal rocks, exposed mainly on nunataks and ice-draped peninsulas, make up a rusty-weathering succession of pelitic and mafic schists, quartzites and siliceous schists with banded iron formation as well as amphibolite and pyribolite. The supracrustal pile represents a considerable post-tectonic thickness that must far exceed 1 km. The rocks have amphibolite-facies mineral assemblages characterised by biotite, hornblende, garnet and sillimanite, but iron formation and metabasite contain orthopyroxene that may well be indicative of earlier granulite-facies metamorphism. The precise Archaean age of the rocks is unknown; some lithologies could be Palaeoproterozoic.

The Pituffik region hosts parts of the Neoarchaean Thule Iron Province which is spatially the largest iron formation known from Greenland. It forms a WNW–ESE-trending belt traceable for more than 350 km along the Melville Bugt coast (Lauge Koch Kyst) to Wolstenholme Ø. This belt correlates with the iron-rich rocks on northern Baffin Island, Canada, that host the Algoma-type Mary River iron ore deposits (Map 3; Dawes & Frisch 1981; Jackson 2000; Brown 2008). In the study area, the iron province stretches 175 km from east of Meteorbugt west-north-west to De Dødes Fjord and Wolstenholme Ø, as indicated by Dawes (1979, fig. 6; 1991). Iron in the form of magnetite and hematite occurs both as oxide-facies quartz banded iron formation (BIF), massive lenses and layers, and disseminated, mainly in pelitic and mafic schists of the Lauge Koch Kyst supracrustal complex. BIF occurs in units of varying thickness, from less than a metre and up to 40 m; iron concentrations are typically 25–35%. Furthermore, oxide-facies BIF as well as silicate-facies BIF with minor iron sulphides occur scattered north of the Pituffik region (Dawes 2006; Thomassen 2008).

3.2 Thule Basin

The intracratonic Thule Basin is one of several Proterozoic depocentres on the northern rim of the North American craton with comparable development histories: thick sandstone and basalt units in lower levels, often with red beds, are succeeded by carbonate/shale-dominated sequences (Map 3). Two of these basins are the Athabasca Basin of northern Saskatchewan and the Borden Basin of Bylot Island and northern Baffin Island, both known for their economic mineralisation, U and Pb-Zn, respectively (Dewing *et al.* 2007; Alexandre *et al.* 2009).

The Thule Basin developed on the peneplaned surface of the Precambrian shield. It is represented by the 6–8 km thick Thule Supergroup, a multicoloured, continental, littoral to shallow marine sedimentary succession with one main interval of basaltic volcanic rocks. Basic sills are common at several levels. The strata are little deformed occurring as shallow-dipping packages in fault blocks. The study area exposes the south-eastern part of the basin where four groups are recognised (Dawes 1997). The lower three groups are Mesoproterozoic in age; the age of the upper strata (Narssârssuk Group) is uncertain.

Nares Strait Group.
This forms the basal strata exposed in the north-western part of study area where it is up to 500 m thick. It is dominated by sandstones – both red beds and clean white quartz arenites

– with one main interval of basaltic volcanics including flows, sills and volcaniclastic deposits (Cape Combermere Formation). Siltstone/shale intervals also occur. The group represents deposition in alluvial plain, littoral and offshore environments. North of the study area, malachite, chalcocite and hematite occur as coatings and blebs in various volcanic rocks anomalous in Cu, Ag and Ba, and drainage geochemistry indicates a gold potential in the volcanics (Thomassen & Krebs 2004). Furthermore, by analogies to the uraniferous Canadian Athabasca Basin, the basement/cover contacts of this and the following group have potential for unconformity-type uranium deposits (Alexandre *et al.* 2009).

Baffin Bay Group.
The group conformably overlies the Nares Strait Group and in the east and south overlaps onto the crystalline shield. In the study area it has a maximum thickness of 500 m, thinning to the east to less than 200 m. The group consists of multicoloured siliciclastic rocks: sandstones, quartz grits and quartz-pebble conglomerates, with important intervals of shales and siltstones, representing mixed continental to marine shoreline environments. The uppermost strata (Qaanaaq Formation) represent a gradually deepening depositional regime from predominantly alluvial plain to shallow-shelf, tide-dominated deposition that is part of a regional transgression that continues into the more basinal sequence of the Dundas Group. North of the study area, malachite staining on pale sandstones in red-bed sequences is widespread with pyrite, chalcopyrite, bornite and chalcocite occurring as flecks and disseminations (Thomassen *et al.* 2002b).

Dundas Group.
This is a dark-weathering succession conformably overlying the previous group along a gradational contact. Its upper limit is marked by Quaternary deposits and the present erosion surface. In the study area, the *c*. 2 km thick sequence comprises fine-grained sandstones, siltstones and shales with some carbonate units. Dark shales can contain stratiform pyrite. Deposition was in an overall deltaic to offshore environment. Sills and dykes of mainly tholeiitic composition and unusually rich in titanium are common, and the so-called 'Steensby Land sill complex' (Dawes 1997) contains about fifteen master sills of probable Neoproterozoic age. The thickest of these is over 100 m with sill rock composing 30–40% of the stratigraphic section. Sediment/sill and sediment/dyke contacts are characterised by rusty weathering caused by pyrite, and minor chalcopyrite, galena and sphalerite may occur in thin quartz-calcite veins, lenses and pods in both sediments and dolerites. The Neoproterozoic sills and dykes are the source of placer ilmenite on the south coast of Steensby Land (Cooke 1978, 1984; Dawes 1989, 2006).

The Narssârssuk Group.
This group represents the youngest strata. It is 1.5–2.5 km thick and outcrops in a graben structure stretching from Pituffik to Saunders Ø. The dominantly fine-grained carbonate–red bed siliciclastic sequence with evaporites represents cyclic deposition in a low energy, hypersaline, peritidal environment in conditions perhaps analogous to modern coastal sabkhas (Dawes 1997). The Narssârssuk Group is lithologically comparable and a time equivalent to part of the Bylot Supergroup of the Borden Basin, that hosts the Nanisivik Pb-Zn deposit (Olson 1984; Sherlock *et al.* 2004; Dewing *et al.* 2007).

3.3 Basaltic magmatism

Minor basic intrusions occur throughout the Pituffik region. They are predominantly sills and dykes, with occasional sheets, characterised by sharp chilled contacts. The basic intrusions fall into three age groups with respect to their relationship to the Thule Basin: pre-, syn- and post-sedimentation, c.f. the general stratigraphic chart in Dawes (2006) Fig. 4 that schematically shows all basic intrusions geochronologically.

All intrusions are pyroxene-plagioclase rocks with a varying amount of opaque minerals, generally in accessory amounts although Neoproterozoic intrusions are characterised by essential amounts of ilmenite, which may reach over 15% vol. Dawes (2006) distinguishes the following groups:

Group 1: Palaeoproterozoic–Mesoproterozoic continental dyke magmatism of alkaline basalts – only known from dykes.

Group 2: Mesoproterozoic intracratonic basin magmatism represented by dykes, sills and volcanics of mainly tholeiitic composition. The rocks are characterised by being relatively poor in TiO_2 and P_2O_5

Groups 3 and 4: Neoproterozoic rift-related magmatism represented by dykes and sills of mainly quartz-tholeiitic composition but some are alkali basalts. Comprises the WNW-orientated 'Thule dyke swarm' and the 'Steensby Land sill complex'. The rocks are relatively high in TiO_2 and P_2O_5. They are an expression of the Franklin magmatic event, defined from arctic Canada. The Neoproterozoic bodies represent several magmatic events: a main event prior to the major extensional faulting and perhaps two post-faulting events.

3.4 Regional structures

Down-faulted blocks of Thule Supergroup form the western part of the Pituffik region bordered on the east and south by generally higher elevation areas of the Precambrian shield. The study area has a distinct WNW–ESE structural grain formed by regional faults and basic dykes. The main WNW-striking dyke swarm that cuts the entire Thule Supergroup including the Franklin sills is Neoproterozoic (*c.* 710 Ma).

Most of the crystalline shield of the study area is composed of Neoarchaean rocks that have been subjected to Palaeoproterozoic reactivation, but Palaeoproterozoic crust could also be present (Nutman *et al.* 2008). Deformation, metamorphism and migmatisation with gneiss formation occurred in the late Achaean and polyphase deformation with isoclinal folding and regional metamorphism up to granulite-facies grade affected the region *c.* 1900 Ma ago.

The Thule Supergroup is little disturbed with main regional structures being block faults and large-scale flexures, with some local folds associated with faults. The Thule Basin is dissected by the Thule half-graben system dominated by WNW–ESE-trending faults (Dawes 2006). Some faults represent appreciable displacement, for example those juxtaposing the middle to upper strata of the Thule Supergroup with the Precambrian shield. Thus the Narssârssuk Fault that borders the youngest strata of the Supergroup (Narssârssuk Group) on the south represents a down-throw of several kilometres.

North of the project area, the faults can show hydrothermal alteration and be mineralised with quartz, barite, pyrite and chalcopyrite – and drainage geochemistry indicates a potential for gold. This mineralisation is probably associated with the Franklin Neoproterozoic magmatic episode, well known from Arctic Canada (Thomassen & Krebs 2004; Dewing *et al.* 2007).

4. Previous mineral exploration

Limited mineral exploration has been carried out in the Pituffik region and no major economic mineral occurrences are known. The most publicised occurrence has been the ilmenite placer deposits (Ghisler & Thomsen 1971, 1973; Dawes 1989). A brief historical review of mineral discovery and exploration is given below.

19th century: Early expeditions to the region in the late part of the century found that the Eskimos used pyrite from Steensby Land as 'firestone'. A main locality at Nuulliit (Nûgdlît) was described by Peary (1898, vol. 2, p. 219).

Pre-war: Pyrite, arsenopyrite and iron-sand (ilmenite-rich) from southern Steensby Land was reported by Koch (1920) and boulders of hematite from Kap York were mentioned by Bøggild (1953).

1950: During ship-based geological reconnaissance by the former Geological Survey of Greenland (GGU), sand samples were collected at sporadic localities along the coast during geological reconnaissance. This resulted in detection of ilmenite- and magnitite-rich sands at North Star Bugt at Pituffik (Ghisler & Thomsen 1971).

1952: GGU reconnaissance noted iron ore in Meteorbugt and near Parker Snow Bugt (Bøggild 1953).

1953: Geologists of the U.S. Geological Survey working around Pituffik (Thule Air Base) noted a magnetite 'vein' at four localities from Wolstenholme Ø to the margin of the Inland Ice (Davies *et al.* 1963).

1969: The commercial company Greenarctic Consortium investigated a rust zone at Ironstone Fjeld, Melville Bugt, during regional reconnaissance (Stuart Smith & Campbell 1971).

1971–80: During regional mapping by GGU, a number of mineralised localities were recorded (e.g. Dawes 1975, 1976, 1979; Dawes & Frisch 1881). Main localities are indicated on the 1:500 000 map sheet (Dawes 1991).

1974: Cominco Ltd. followed up on 'previously reported' Au (and Pb-Zn) showings at Ironstone Fjeld with negative results. Finding of Naajat (Naujat) Cu-showing (Gill 1975).

1975 and 1977: Selected mineral occurrences found during the regional mapping mentioned above became the focus of GGU investigations (Cooke 1978, 1984).

1985: Greenex A/S investigated ilmenite placers in Steensby Land (Christensen 1985).

1989–2002: Several mineralised rock samples from the region collected by Greenlandic residents were submitted to the Greenland mineral hunt programme, *Ujarassiorit* (Dunnells 1995; Olsen 2002).

1992: During *Ujarissiorit* follow-up in 1992, 15 heavy mineral concentrates (HMC samples) were collected around Pituffik and in southern Steensby Land. Three of these were anomalous in gold: Sioqqap Kuua (Siorqap kûa or 'Fox Canyon'), 2710 ppb Au, Narssarssuk Elv, 174 ppb Au and Booth Sund north, 123 ppb Au (Ujarassiorit 1993).

1994–1995: Nunaoil A/S explored the region and reported a number of mineral indications. Stream sediment samples were collected in selected parts of the Pituffik region. The company took large sediment samples for bulk leaching gold analysis (BLEG), as well as standard stream sediment samples. Subsequently, the company rejected the BLEG technique. During the two summers, 92 stream sediment samples were collected and these show modest metal concentrations, viz. max. 43 ppb Au, 258 ppm Cu, 118 ppm Pb, 173 ppm Zn and 1000 ppm Ba (Gowen & Sheppard 1994; Gowen & Kelly 1996).

2001: During a joint GEUS-BMP (Bureau of Minerals and Petroleum) project *Qaanaaq 2001*, mineral reconnaissance was carried out in the Qaanaaq region immediately north of the Pituffik region. Furthermore, 23 stream sediment samples were collected by helicopter in a test area in southern Steensby Land. The purpose was to try to establish geochemical background concentrations of relevance for the ongoing pollution assessment at Pituffik (Thule Air Base). The maximal gold and base metal concentrations are: 5 ppb Au, 419 ppm Cu, 19 ppm Pb and 181 ppm Zn (Steenfelt 2002).

2003: A remote sensing study based on Landsat 7 scenes was carried out by GEUS. Twenty-four anomalies with mineralisation potential were outlined: six in shield lithologies and 18 in the Thule Supergroup, mainly Dundas Group (Krebs *et al.* 2003).

5. Field work in 2007

The field work was so planned that as many types of known mineralisation and Landsat anomalies as possible could be visited. The main targets were:

- Banded iron formation
- Structurally-controlled mineralisation
- Rusty contacts between basic intrusions and Thule Basin sediments
- Carbonate rocks
- Placer gold based on rumour
- Remote-sensing anomalies

The targets were localised and investigated during daily traverses within a radius of 4–5 km from the five field camps, or by road from Pituffik. Outcrops, scree cones and stream beds, as well as lateral and terminal moraines of active glaciers, were investigated and sampled and the work was supplemented by sampling of sediments from streams, see below.

Rock samples (map symbol: red squares)
A total of 166 variably mineralised rock samples were collected. These were grab and chip samples from outcrop (92) and loose blocks from screes, stream beds and moraines (74). They are briefly described in Table 1 with GPS geographical co-ordinates; sample localities are indicated on Maps 4–9. Three samples are not on maps (478613–14; 495835). The samples have been analysed for 49 elements by a combination of instrumental neutron activation (INNA) and inductively coupled plasma emission spectrometry (ICP) at Activation Laboratories Ltd. (Actlabs), Ontario, Canada (Actlabs code 1H). Consequently, 41 of the samples yielding enhanced gold values or other interesting aspects were assayed for gold, platinum and palladium by fire-assay methods (code 1C). A selection of 25 BIF samples was also assayed for main elements by fusion XRF plus FeO by titration (codes 4C + 4F). The analytical results are presented in Table 2 and BIF results are summarised in Tables 7 and 8. In addition, 16 polished thin sections have been studied under the microscope.

Stream sediment samples (SS, map symbol: blue dots)
Thirty-nine samples each weighing *c*. 500 g were collected from active streams. The samples were dry sieved at 0.1 mm and splits of the fine fraction were analysed for 49 elements by INAA/ICP (Actlabs code 1H). Samples are listed in Table 3 and analytical results shown in Table 4 and summarised in Table 9. Sample localities are indicated on Maps 4, 6 and 7.

Heavy mineral concentrates (HMC, map symbol: blue dots)
At each stream-sediment locality, a heavy mineral concentrate was also collected, see list in Table 5. Some 5–15 litres of active sediments were wet-sieved at 1.0 mm on location and a HMC-sample was produced by panning of the fine fraction. This was analysed for 39 main and trace elements by INNA/ICP (codes 3A + 3C) and for 11 main elements by fusion ICP (code 4B), as shown in Table 6 and summarised in Table 10. Sample localities are indicated on Maps 4, 6 and 7. Furthermore, a non-panned beach sample was collected, and the heavy fraction (d >2.83) analysed (507399).

Remote-sensing anomalies

Landsat 7 ETM and Aster (Advanced Spaceborne Thermal Emission and Reflection Radiometer) satellite data have been processed to pin-point localities with mineralisation potential seen through minerals carrying iron oxides (rust zones) and hydroxyl ions (clay alteration). Most of the resulting anomalies are within the Dundas Group associated with dykes and sills. The Landsat anomalies have been defined by Krebs *et al.* (2003). As a preparation for the 2007 field work, a number of Aster scenes were purchased and interpreted. Aster is an imaging instrument on the Terra satellite launched in December 1999 as part of NASA's Earth Observing System and used to obtain detailed maps of land surface temperature, reflectance and elevation. The satellite data were used in the field and processed on a laptop in an iterative process of comparing with the field observations.

6. Archaean shield

The Archaean shield was investigated from three field camps and from Pituffik. The main targets were (1) banded iron formation and (2) structurally-controlled mineralisation.

(1) The region hosts the western part of the Thule Iron Province stretching from east of Meteorbugt west-north-west to De Dødes Fjord and Wolstenholme Ø. The correlative rocks on Baffin Island host the Algoma-type Mary River iron ore deposits consisting of nearly pure hematite and/or magnetite, from where an ore reserve of 365 Mt grading 64.7% Fe has been outlined (Map 3; www.baffinland.com).

The visited sites have been grouped in six BIF localities. Each locality is believed to represent a coherent unit whereas the relationship between the localities is uncertain. One could speculate that we are dealing with a single strongly deformed unit. The localities are generally poorly exposed and difficult to sample, best exposures occur at BIF locality 3 (Frontispiece). Where possible, chip samples were collected across each unit. Special attention was paid to possible gold mineralisation, and vein quartz and sulphide-bearing parts of the BIF were sampled for gold-analysis.

(2) The most obvious structures with potential for gold and other metals are the faults delineating half-grabens in the Thule Basin as defined by Dawes (2006).

6.1 Magnetitbugt area

The Magnetitbugt area was investigated during four days (Map 7). It is underlain by rocks of the Thule mixed-gneiss complex. An outlier of Baffin Bay Group sediments occurs at Magnetitbugt, and the gneisses are cut by dolerite dykes of variable orientation and a dolerite sill at Sortetoppe. An E–W to WNW–ESE-orientated fault – the Magnetitbugt Fault – was mapped by Davies *et al.* (1963) east of Magnetitbugt and on Wolstenholme Ø, where it juxtaposes Baffin Bay Group against the shield with a downthrow of *c.* 300 m to the north (Map 2). Dawes (2006, fig. 35) extrapolated the fault eastwards to the Freuchen Nunatak area and employed it as the southern bounding fault for his Qeqertarsuaq half-graben.

6.1.1 Banded iron formation

On Wolstenholme Ø (Map 2, Figure 1), a 6–15 m thick, east-trending magnetite-quartz 'vein' was mapped across the island and at Magnetitbugt by Davies *et al.* (1963). They also indicated that magnetite rubble occurs for 3–5 km eastwards from Magnetitbugt. Two analysed samples from Wolstenholme Ø gave 56.2–65.0% Fe_2O_3, 34.9–45.0% SiO_2 and 0.22–0.30% P_2O_5 whereas one sample from Magnetitbugt returned 53.2% Fe_2O_3, 45.4% SiO_2 and 0.24% P_2O_5. Written information from W.E. Davies (to P.R. Dawes 1975) suggests that the occurrence is not a 'vein' in a cross-cutting sense but a tract of gneiss rich in magnetite.

In 1974, P.R. Dawes collected magnetite-rich rocks at the base of the cliff on the south side of Magnetitbugt (Dawes 1975). In 1977, H.R. Cooke visited the locality and traced the magnetite float on the beach to its source near the top of the cliff. Here, he noted several conformable massive magnetite bands up to 3 m thick in the folded gneiss, with an exposed strike length of 200 m, dipping shallowly west (Cooke 1978, 1984).

BIF locality 1

A magnetite-rich unit localised at 222 m a.s.l. near the top of the steep coastal cliff of Magnetitbugt constitutes BIF locality 1. It is flat-laying, with pinch-and-swell involving thicknesses of 0.5–2.5 m. The top of the unit was followed from a steep fault zone – probably the Magnetitbugt Fault – for 50 m towards the south until it became inaccessible but it was seen to continue in the steep cliff for more than 100 m. Our investigations were hampered by coastal fog. The unit is too steep for chip sampling, but three grab samples were collected from its upper part (495807–09). They are typical mesobanded BIFs, consisting of finely laminated magnetite/hematite and quartz with minor pyrite and vein quartz. The sample collected at the fault zone (495807) is more coarse-grained and probably recrystallised (Figure 3). Iron concentrations are 17.9–29.4%. At the top of the cliff, BIF occurs as rubble in 254 m a.s.l. (478517 – 19.4% Fe; Figures 2 & 5) and as scattered boulders at 277 m a.s.l. (495810 – 31.2% Fe).

Under the microscope, gradational steps of martitization – the alteration of magnetite to hematite – can be seen. In 495807, there is incipient hematite replacement along the margin of magnetite grains with new formation of hematite needles whereas in 478417, magnetite has been nearly completely replaced by hematite with only sparse relicts preserved (Figures 4 & 6). Minor carbonate and K-feldspar were also detected in the recrystallised sample (495807).

East of the cliff, exposure is poor but magnetite-bearing mafic-ultramafic and quartz-rich rocks were observed 2.5 km ESE of Magnetitbugt. A magnetite-rich ultramafic rock returned 23.9% Fe (478513) and a quartzitic rock with magnetite and minor pyrite gave 10.2% Fe (478514). About 1 km SW of this locality there is a boulder field of similar magnetite-rich rocks. A sample of quartz-amphibole-magnetite rock with minor pyrite returned 14.8% Fe (495806). Furthermore, presumably sub-outcropping BIF was found in the slope towards Nipitartuup qoorua 3 km SE of Magnetitbugt. A sample with disseminated pyrite returned 19.4% Fe (478518).

BIF locality 2

Some 3–4.5 km SSE of BIF locality 1, rubble and float of BIF occurring intermittently in the poorly exposed terrain over 1.5 km is named here BIF locality 2. These blocks are taken to represent a continuous, WNW–ESE-orientated BIF unit linking up with the Magnetitbugt outcrop. The probable along strike continuation of the BIF unit south of Nipitartuup qoorua was not confirmed. The country rocks are flat-lying gneisses and amphibolite.

The largest sub-outcrop or rubble field is 50 x 20 m and reflects a flat or gently SW-dipping unit estimated to be 1–2 m thick (Figures 7–8). It consists of fine-grained, laminated quartz-magnetite/hematite rock with red jasper and minor vein quartz. A chip sample over 4 m representing *c*.1.5 m true thickness returned 32.1% Fe (495812), whereas a grab sample gave 32.5% Fe (495811). The footwall is formed of highly altered gneissose rock (478523) while the hanging wall is of grey gneiss and skarnoid amphibolite (478524–25). Sample 478524 returned 7.4% Fe and 9 ppb Ir, 3 ppb Pt and 1 ppb Pd. Samples from similar, smaller rubble fields occurring for some 500 m to the WNW returned 16.6–30.1% Fe (478519–22; Figure 9). Abundant BIF-blocks in the regolith *c*. 1000 m further WNW probably belong to the same horizon. Two grab samples returned 19–21.4% Fe (478511, 29).

Under the microscope, incipient martitization of the magnetite is seen in 495811 whereas about half the magnetite has been replaced by hematite in 478521 (Figure 10). A quartz-carbonate veinlet and traces of chlorite and amphibole were also observed in 495811.

6.1.2 Ultramafics

Davies *et al.* (1963) describe a serpentinized plug 9.6 km east of Magnetitbugt. However, on the geological map included in the publication, it is shown 2 km ESE of Magnetitbugt. The plug is light green and 100 m in diameter. The investigated samples consist of antigorite with minor tremolite, amphibole, chlorite and opaque minerals, probably chromite.

In 2007, a serpentinite plug composed of various highly altered ultramafic rocks was localised on the drift-covered plateau 2 km ESE of Magnetitbugt. Hornblendite with minor magnetite and traces of sulphides returned 16.6% Mg, 6.3% Fe, 1534 ppm Cr, 1720 ppm Ni, 8 ppb Pt and 6 ppb Pd (478515). A sample of dark green serpentinite with minor magnetite returned 25.6% Mg, 4.5% Fe, 972 ppm Cr, 2980 ppm Ni, <1 ppb Pt and <1 ppb Pd (478516).

Sub-outcrops of similar alteration products of ultramafic rocks were observed at the top of the Magnetitbugt sea cliff.

6.1.3 Structurally-controlled mineralisation

The approximate trace of the Magnetitbugt Fault was followed for 5 km from Magnetitbugt eastwards. Nowhere is the fault exposed. Quartz veins or silicified breccia zones were localised a three localities near the proposed fault line.

Three km east of Magnetitbugt, sub-cropping vein quartz and quartz-cemented breccia with minor hematite and chlorite (478528) occurs 50–100 m north of an E–W-orientated dolerite dyke. The orientation of the breccia could not be determined. Analysis shows nothing of interest.

Some 300 m SSE of the vein quartz, a 30–40 m wide, 060º/70º N-orientated breccia zone cemented by quartz, calcite and epidote is exposed in the gneiss-amphibolite bedrock in a N–S-orientated stream bed. This could be a lateral branch or splay to the Magnetitbugt Fault. A sample of quartz-calcite cemented breccia (478512) was collected from a several metres wide, intensely brecciated part of this zone. Analysis shows slightly enhanced PGEs: 20 ppb Pt, 8 ppb Pd and 11 ppb Ir.

About 4 km east of Magnetitbugt, the gneiss hosts a *c*. 2 m thick, N–S-orientated quartz vein with minor calcite, chlorite, hematite and pyrite (478526–27). Vein quartz occurs also conformable with the foliation of the flat-laying gneissic country rock. Analysis shows nothing anomalous apart from slightly raised copper (485 ppm).

6.1.4 Unconformity-related uranium mineralisation

As previously stated, the basement/cover contacts have potential for unconformity-type uranium deposits. On Wolstenholme Ø, a Landsat anomaly (no. 9) is located at the faulted contact between sediments of the Baffin Bay Group and the Thule mixed-gneiss complex, and it was recommended by Krebs *et al.* (2003) that this locality be checked for gold and uranium (Map 2; Figure 1).

Lack of time prevented a check of the Landsat anomaly but strata of the Baffin Bugt Group were briefly inspected at Magnetitbugt. The sediments are dominantly pink, severely weathered sandstones (Figure 2). The sediment/basement contact is completely covered by solifluncted material and no signs of mineralisation were observed. However, the three westernmost SS/HMC sample pairs collected in the main river (Nipitartuup qoorua) are anomalous in uranium, thorium, yttrium and rare earths, see below under "Drainage geochemistry". This could be caused by mineralisation along the basement/cover contact east of Magnetitbugt or by the hypothetical contact at Sortetoppe. However, thorium, yttrium and rare earths are not typical for this type of mineralisation but more indicative for a pegmatitic or palaeoplacer origin.

6.1.5 Sills and dykes

The Magnetitbugt area is crossed by several swarms of basic dykes of which WNW-striking dykes are dominant. Two samples yielded no anomalous element concentrations (0.47–1.60% Ti, 8.16–8.69% Fe) (478510, 495805). On Sortetoppe, the uppermost 80–90 m of the mountain consists of a medium-grained dolerite sill, as indicated on the map of Davies *et al.* (1963). The sill is almost certain much younger (Neoproterozoic) than the late Palaeoproterozoic WNW dykes. Perhaps the sill was intruded at the contact between the crystalline complex and now eroded Thule Supergroup sediments.

6.1.6 Drainage geochemistry

Eight pairs of stream sediment samples (SS) and heavy mineral concentrates (HMC) were collected along the 4–5 m wide stream Nipitartuup qoorua and its tributaries. The main results from the chemical analyses are summarised in Tables 9 and 10.

Gold is only detected in the two westernmost HMC with 243 ppb and 30 ppb, respectively (503263–64). Base metals yield low values. The titanium concentrations are relatively high, the highest values being in the two westernmost sample pairs. Uranium, thorium, yttrium and REE concentrations are relatively high in the three westernmost SS/HMC sample pairs: 16–20/19–76 ppm U, 82–101/118–566 ppm Th and 60–84/114–525 ppm Y.

Compared with the other areas presented in Tables 9 and 10, the Magnetitbugt area is anomalous in titanium and the western part also in uranium, thorium, yttrium and REE. The titanium could stem from the Sortetoppe dolerite sill, and the other elements could indicate the existence of uranium mineralisation in the western parts of the area. By way of comparison, the maximal uranium value in the 327 stream sediment samples collected in the Qaanaaq region to the north is 18 ppm U (Steenfelt *et al.* 2002).

6.1.7 Remote-sensing anomalies

Landsat anomaly no. 1 of Krebs *et al.* (2003) is located along intersecting N–S and WNW–ESE-orientated, *c.* 20 m thick dolerite dykes that cut the Thule mixed-gneiss complex. Both dykes were followed along strike and their intersection studied. The age relationship between the dykes could, however, not be determined. No signs of rock alteration or mineralisation were observed. The anomaly is probably caused by thin films of clay left by melted snow along the dykes.

6.2 Pingorsuit South

The area was investigated during three field days (Map 8). It is underlain by gneiss and amphibolite with a general WNW-directed trend mapped as Thule mixed-gneiss complex and Lauge Koch Kyst supracrustal complex, respectively, by Dawes (1991). Immediately to the east of Map 8, an outlier of Baffin Bay Group clastic sediments is exposed. Davies *et al*. (1963) indicate a WNW-trending fault down throwing the sediments against crystalline rocks on the south (Map 2). Dawes (2006, fig. 35) interprets this fault as the eastwards continuation of the Magnetitbugt Fault which forms the southern border of his Qeqertarsuaq half-graben.

In 1953, W.E. Davies observed numerous ‘veins’ of magnetic gneiss up to 0.7 m thick in grey gneiss in an east–west-orientated belt west of Freuchen Nunatak (written communication to P.R. Dawes 1975). Later on, Dawes (1976) reported that iron-rich gneiss and schist occur as several tracts in association with amphibolites and basic schists near the Inland Ice south of Pituffik.

In 1994, Nunaoil investigated the area west of Freuchen Nunatak (‘Freuchen Gletscher’) and found numerous sulphide-bearing showings located in a supracrustal sequence, as well as BIF with iron-sulphides along fractures. A float of silicified and carbonatised pyrite-rich pyroclastic rock returned 860 ppb Au. Hematite iron-formation float was also noted (Gowen & Sheppard 1994). Follow-up investigations in 1995 in an east–west-orientated valley west of ‘Freuchen Gletscher’ exposing mafic, felsic and magnetite schists revealed rust zones up to 20 m in width and at least 300 m in strike length. Silicification and dm-wide bands of mylonitised country rock with semi-massive pyrite in lenticular zones, as well as minor quartz veining were noted. Up to 43 ppb Au was recorded in scree sediment at one of the rust zones (Gowen & Kelly 1996).

6.2.1 Banded iron formation

BIF locality 3

The north-western end of the E–W-orientated valley west of Freuchen Nunatak was investigated (Figure 11) and this constitutes BIF locality 3. BIF was located intermittently for 1.7 km in an E–W to ESE–WNW striking belt along the steep north side of the valley.

In the east, a 0.5–1.0 m wide, steeply north-dipping, strongly deformed BIF with minor pyrite follows the bottom of the valley in an east–west direction (478550 – 22.5% Fe). In the hanging wall on the north side, it is accompanied by a rust zone consisting of mica schist with minor disseminated pyrite (478551).

One kilometre further to the west, the BIF unit in the valley floor is 5–10 m thick and fairly flat-laying, dipping *c.* 20º to the north. It is seen as a distinct horizon in the steep valley cliff further to the SSW (478549 – 25% Fe). Abundant BIF blocks in the slope 500 m further west could stem from this unit (478548).

The BIF re-appears at the top of the 70–100 m high valley slope. The displacement from the bottom of the valley is probably due to folding: an open synform facing southwards with an E–W near horizontal axis, the same sort of structure as illustrated by Dawes (2006, fig. 18). At the cliff top locality, the strongly sheared BIF is *c.* 2 m thick and orientated 90º/40º N. A chip sample over 1.8 m returned 17.9% Fe (478540) and a grab sample 22.4% Fe (478537). The BIF contains minor quartz-veining with trace chalcopyrite and 845 ppm Cu (478538; Figure 14). The foot and hanging walls (478539 and 478541, respectively) consist of mica schist and the unit is located on a transition zone between pelitic gneiss and amphibolite. The horizon can be followed for about 200 m towards west. Another chip sample 100 m further to the west returned 29.1% Fe over 1.4 m (495816; Frontispiece, Figure 12).

At the westernmost, small exposure, 3-400 m west of that previously described, the BIF is *c.* 3 m thick, displays small-scale folding and has a footwall of garnet mica schist with cm-sized garnets (478552–54; Figure 13). Iron concentrations are 22.6–36.4%.

The only opaque mineral seen under the microscope in two investigated samples is magnetite (478552, 495816). In addition to magnetite and quartz, the samples contain 10–15 vol% orthopyroxene.

BIF locality 4

About 1.5 km north of BIF locality 3, BIF crops out intermittently over 700–800 m in an NW-SE-oriented belt. This constitutes BIF locality 4.

To the south-east, on the plateau, the BIF is located along the margin of an amphibolite band. The poorly exposed belt is characterised by sub-outcrops and local block fields of BIF (478542–43) and pyritiferous BIF (478546) with 18.9–31.5% Fe, and siliceous mica schist with pyrite (478544–45). Apart from iron, the analyses show nothing of economic interest.

On the valley slope to the NW, semi-outcropping pyritiferous BIF protrudes through the scree over 20–30 m (Figure 15). It represents a relatively flat-lying, 2–3 m thick unit with small-scale folding from which a chip sample over 10 m along strike returned 33% Fe (495822). Grab samples gave 28.6–33.2% Fe (495820, 23). A sample from a local concentration of BIF blocks 400 m further south returned 34.7% Fe, 30 ppb Au and 9 ppb Ir (495819). Under the microscope, incipient martitization of the magnetite is seen in 495822 whereas nearly half the magnetite has been replaced by hematite in 478542 (Figure 16). In addition to quartz, the samples also contain minor orthopyroxene and mica.

A sample of vein quartz from the valley slope BIF (495824) showed nothing of economic interest, whereas a rusty sample of silicified amphibolite from a nearby sub-outcrop returned 2210 ppm Cu, 262 ppm Pb, 346 ppm Zn, 248 ppb Au and 7.87% S (495818). Microscopy of the latter showed disseminated pyrite (15 vol%) and chalcopyrite (4 vol%).

6.2.2 Ultramafics

The area hosts several up to 10'ths of metres thick and 100'ths of metres long lenses of ultramafic rocks. Two grab samples returned 15.1–16.4% Mg, 9.79–10.7% Fe, 668–2570 ppm Cr, 2290–2340 ppm Ni, 9–32 ppb Au, 10–11 ppb Pt and 2–6 ppb Pd (495813, 17).

6.2.3 Structurally-controlled mineralisation

The Magnetitbugt Fault is probably located immediately north of the main E–W-orientated valley. The fault zone was not pin-pointed but minor mineralisation of iron sulphides with traces of chalcopyrite is common in the mafic rocks of these tracts. They seem to be hosted by E–W-striking shear zones. Four localities were sampled: (1) A pyrite-bearing shear zone at the margin of an amphibolite unit with 1500 ppm Cu (478530); (2) minor sulphides in sheared amphibolite with faint malachite coating and up to 616 ppm Cu (478531–32); (3) a 0.5–1 m thick unit of sheared skarnoid gneiss malachite-stained over 15–20 m along strike (Figures 17–18) containing minor chalcopyrite with 644–1670 ppm Cu and 22–397 ppb Au (478533–35) and (4) nearby local scree blocks from a higher level of skarnoid gneiss with minor malachite and chalcopyrite which returned 1820 ppm Cu and 48 ppb Au (478536).

6.2.4 Remote-sensing anomalies

The north-eastern end of Landsat anomaly no. 2 of Krebs *et al.* (2003) is located at the western end of the main E–W-orientated valley. It seems to correspond to rusty weathering mica schists located in the open synform defined by the BIF unit. Alternatively, the whole anomaly can be explained by the distinct blanket of sediments deposited by an ice-dammed lake that recently filled the lower parts of the valleys of the area.

6.3 Ironstone Fjeld

The peninsula shown on Map 9 was investigated during four field days. It has been mapped as granodioritic to tonalitic amphibolite facies gneiss of the Melville Bugt orthogneiss complex by Dawes (1991). Two iron-mineralised localities shown on Dawes' map are based on information from V.F. Buchwald who searched the peninsula for meteorites 1962–63 (Buchwald 1964).

In 1969, geologists from Greenarctic Consortium found a gossan on the south side of a large fault and a massive quartz vein 1.5 km south of the fault. It is not evident whether the gossan and the quartz vein are coincident. The gossan area is 200 m in diameter and criss-crossed by small quartz veins with associated disseminated (pyrite) mineralisation. The host rock is granite gneiss with inclusions of biotite schist. A sample returned 0.10 oz Au and 1.56 oz Ag, with low base-metal concentrations (Stuart Smith & Campbell 1971).

In 1974, a Cominco team investigated the locality found in 1969. Pb, Zn, Ag, Au occurrences were described as the target and a Pb, Zn showing near the coast *c*. 2 km NE of Appalilik was indicated on their map (Gill 1975). Only a short period was spent searching for this showing but no evidence of it or any other mineralisation was found.

6.3.1 Banded iron formation

BIF locality 5

The two iron localities indicated on Dawes' 1991 map (see above) were traversed but only BIF erratics were found (478566, 495829). However, numerous scree blocks of BIF were found on the steep south-western slope of Ironstone Fjeld (Figure 19). The slope host a several hundred metres long amphibolite sheet partly covered by a snow field and it would seem that a BIF unit is associated with this amphibolite. This constitutes BIF locality 5. The along strike continuity of the unit is uncertain due to surficial cover.

BIF was sampled in scree at 210 m a.s.l. to the NNW of the snowfield (478557, 495826) together with magnetite-pyrite-bearing amphibolite (478558–59), and 3–400 m further SSE at 120 m a.s.l. (495827) together with rusty, pyrite-bearing gneiss (478560–61). The BIF is rather rich in amphibole and irregularly banded (Figure 20); iron concentrations are 23.1–31.0% NNW of the snowfield and 21.9% to the SSE. The pyritiferous amphibolite and gneiss show nothing of economic interest apart from slightly raised copper (max. 420 ppm).

The only opaque mineral seen under the microscope in two investigated samples is magnetite (495826, 27); in addition to this and quartz, the samples contain 20–25 vol% green amphibole.

6.3.2 Structurally-controlled mineralisation

A NW-orientated fault crosses southern Ironstone Fjeld on Dawes' map (1991). This probably corresponds to the fault reported by Stuart Smith & Campbell (1971). The fault zone was followed and investigated over 3 km. The country rock is mainly paragneiss which in the *c.* 5 m wide fault zone shows crushing and low-temperature alteration: reddening and quartz veining with epidote, chlorite and hematite (478555, 495825). Analysis shows nothing anomalous.

A major zone of quartz veins occurs on a small summit some 2.3 km NE of Appalilik (Figure 21). It is clearly visible from the coast and probably corresponds to the occurrence described by Stuart Smith & Campbell (1971) and Gill (1975). The vein structure is orientated 110º/80º N, hosted by 120º/20º N orientated granodioritic gneiss and exposed over 400–500 m along strike (Figure 22). The zone, *c.* 40 m wide, consists of a network of up to 1.5 m thick quartz veins (478562) filling tension gashes and breccias, which show extensive wall rock alteration in the form of silicification, epidotization and hematitization (495828). Analysis shows nothing of economic interest.

A similar zone occurs some 500 m to the SSW on the margin of the Appalilik plateau (Figure 21). The central part of the 160º-striking vein zone is *c.* 10 m wide. Analysis of a grab sample with minor hematite shows nothing of interest (478563). Several smaller quartz veins occur in the slope between the two main vein structures.

Another breccia or crush zone occurs in the gneiss on the western side of the peninsula. It is steep, 15–20 m wide, strikes 170º and hosts quartz, epidote and hematite (478565).

6.3.3 Meteorites

The name Ironstone Fjeld goes back to British explorer John Ross, who anchored his ships at the ice margin south of Meteorbugt in 1830. He learned that the Eskimos extracted iron for their knifes from a nearby locality which he marked as 'Iron Mountains' on his map. Later investigations showed the iron to stem from meteorites of the Kap York iron meteorite shower (Buchwald 1964; Dawes 2006). The area investigated in 2007 hosts the fall sites for three of the meteorites viz. 'Woman' (3,000 kg), 'Dog' (407 kg) and 'Agpalilik' (20,140 kg). The sites were visited and we kept an eye open for new finds, especially on the now ice-free Appalilik plateau. No finds were made.

'Agpalilik' site

A number of objects including an oil drum, a cable spool and pieces of wood mark the site where Vagn F. Buchwald found 'Agpalilik' in 1963 (Figure 23). The meteorite was taken to Copenhagen in 1967 and it is now exhibited at the Geological Museum. The locality is indicated on Map 9 and its position is 76.1458º N, 65.1425º W, 55 m a.s.l.

'Woman' and 'Dog' site

The site is marked by two cairns surrounded by Eskimo wind shelters build of local stones and heaps of exotic dolerite boulders (Figure 24). In former days, the meteorites constituted a source of iron worked by the Eskimos by means of the hard dolerite boulders which were transported to the locality from 'Inmallick' 50 km away (Buchwald 1964). The meteorites were removed by Robert E. Peary in 1895 and are now on exhibition at the American Museum of Natural History, New York. The locality is indicated on Map 9, the coordinates being: 76.1377º N, 64.9375º W, 38 m a.s.l.

6.4 Ulli (Uvdle)

We investigated the area during two days (Map 5). An ESE-trending fault – the Uvdle Fault – was mapped east of Ulli on the south coast of Wolstenholme Fjord by Davies *et al.* (1963) (Map 2). The fault juxtaposes Baffin Bay Group strata and the basement complex with a downthrow of the southern block of about 600 m. The existence of an ESE-trending fault in the Wolstenholme Fjord and under Harald Moltke Bræ to the east – the Moltke Fault – was assumed by Davies *et al.* (op cit.).

Dawes (2006) uses the Moltke Fault as the northern boundary for his Pituffik half-graben. The shield between the Moltke and Uvdle Faults represents a horst comprising a banded succession of garnet-pyroxene-bearing amphibolites and schists more than 200 m thick containing structures suggestive of a volcanic origin (Dawes 1975). These supracrustals belong to the Lauge Koch Kyst supracrustal complex (Dawes 1991, 2006).

In 1994, Nunaoil geologists investigated the supracrustals south of Harald Moltke Bræ and found the main mineralisation to be carbonate- and sulphide-rich amphibolite with sheared, pyrite-bearing quartz veins and anomalous levels of gold (10–30 ppb Au) (Gowen & Sheppard 1994).

6.4.1 Structurally-controlled mineralisation

The Ulli horst was traversed by us in a north-westerly direction from the Uvdle Fault to the coastal cliffs across a mixed package of metavolcanic and metasedimentary rocks including hornblende schist, amphibolite with lenses of ultramafics, mica schist and garnet skarn. The fault is evident as a depression in the terrain, north of which the amphibolite weathers brown, indicative of carbonate alteration along the fault zone.

The amphibolite and hornblende schist host minor sulphides, mainly pyrrhotite and pyrite, in quartz veins (7 grab samples; Figure 25) and disseminated (4 grab samples). Some samples are anomalous in gold (max. 100/391 ppb), copper (max. 3150 ppm), lead (max. 4230 ppm), zinc (max. 3150 ppm) and sulphur (max. 3.3%).

A 3 m wide pyrite-bearing, 045º/70º E orientated shear zone in quartzitic schist is visible as a distinct rust zone. The zone is exposed in three small pits, apparently excavated by explosives by an unknown prospector some years ago (Figure 26). Four grab samples from the pits consisting of pyrite-bearing siliceous schist (478620–21) and vein quartz (478622–23) are anomalous in gold (13–342 ppb) and sulphur (1.76–5.52%).

6.4.2 Ultramafics

A grab sample from a 0.5 m large erratic block of serpentinite yielded 20.9% Mg, 2500 ppm Ni, 266 ppb Au, 19 ppb Ir, <3 ppb Pt and <3 ppb Pd (478618).

6.5 Döcker Smith Gletscher

This locality, situated *c.* 90 km ENE of Ironstone Fjeld, is outside the region visited in 2007 but is included here because of samples collected by Air Greenland helicopter pilot Håkon Kristensen. It is not shown on any map in the present report but corresponds to locality 7 in Thomassen (2008).

6.5.1 Banded iron formation

BIF locality 6

Two magnetite-rich rock samples on a nunatak in Döcker Smith Gletcher constitutes BIF locality 6. On the map of Dawes (1991) there are two large nunataks shown as composed of pelitic schists of the Lauge Koch Kyst supracrustal complex and gneiss of the Melville Bugt orthogneiss complex. The two samples collected by pilot Kristensen were taken from the northernmost nunatak. According to Mr. Kristensen, the samples stem from recently deglaciated bedrock. One is a fine-grained, rather homogenous magnetite-rich rock with 27.7% Fe (478613). The other is a coarse-grained, massive magnetite rock with 55.0% Fe (478614).

Under the microscope, a fine-grained aggregate of magnetite (50 vol%) and hematite (3 vol%) is seen in 478613.

7. Thule Basin

The Thule Basin was investigated from two field camps and from Pituffik. The main targets were: (1) Contact mineralisation in the Dundas Group; (2) lead-zinc mineralisation in the Narssârssuk Group and (3) rumoured gold placers south of Pituffik.

(1) In the study area, the Dundas Group is represented by the Steensby Land Formation, dominated by shales and characterised by basic sills. In addition to black and grey, sometimes pyritic shales, the formation has siltstones, fine-grained sandstones and thin dolomitic units. The sediments are invaded by the Neoproterozoic Steensby Land sill complex and Thule dyke swarm of high TiO_2 and P_2O_5 tholeiitic basalts. They are an expression of the Franklin magmatic event, defined from Arctic Canada. Many sediment/sill and sediment/dyke contacts are characterised by rusty weathering, indicative of minor sulphide mineralisation. The main sulphide is pyrite but traces of pyrrhotite, chalcopyrite, galena and sphalerite has also been reported (Dawes 2006). The sulphides occur disseminated and in pockets and veinlets in dolomite, shale and dolerite, typically along the base of the sills.

A pyrite mineralisation south-west of the mouth of Granville Fjord (Map 2; Nuulliit/Nûgdlît, see Dawes' 1991 map) has been used for generations by the Thule Inuit as a source of 'firestone' for producing fire (Peary 1898). At this locality, pyrite occurs in dolomite beds as disseminated cubes and in pods and lenses up to 15 cm thick, and traces of copper sulphides causing malachite staining is associated. The sulphides were probably introduced by one or more of the nearby sills (Cooke 1978).

On Victoria Island, Canada, the lower part of the Neoproterozoic Shaler Supergroup – lithologically comparable to the Thule Supergroup – is intruded by gabbroic sills and dykes supposed to belong to the 725 Ma old Franklin magmatic event. Contact metamorphic mineralisation of massive chalcopyrite along the base of the sills is mentioned by Dewing *et al.* (2007).

(2) The Narssârssuk Group carbonate–red bed sequence with evaporites is lithologically comparable to part of the Bylot Supergroup of the Borden Basin that hosts the Nanisivik MVT-type Pb-Zn deposit (Map 3). For this reason the Narssârssuk Group holds a potential for similar mineralisation.

(3) Rumours about gold panning from the river Sioqqap Kuua (Fox Canyon) at Pituffik have survived since the 1960s (Cooke 1977). This mystery should be unravelled once and for all.

7.1 Booth Sund

An area flanking the north-eastern coast of Booth Sund is shown in Map 4. This was investigated during five days (Figures 27–28). It is located in the middle of the Moriusaq half-graben of Dawes (2006) and comprises a gently SW-dipping sequence of shales, siltstones, sandstones, minor carbonates and dolerite sills, cut by WNW-trending dolerite dykes. The area was selected for field work because it hosts Dundas Group sediments and

Franklin intrusions in strike continuity of the pyrite localities indicated on Dawes' 1991 map along the west coast of Granville Fjord 20 km away. Furthermore, a heavy mineral concentrate collected in front of the glacier Sermipaluk in 1982 has 123 ppb Au (Ujarassiorit 1993) and pyritic float from the area with up to 1354 ppm Zn and 522 ppm Pb was reported by Nunaoil (Gowen & Sheppard 1994).

7.1.1 Contact-related mineralisation

Sermipaluk

At the south-east side of the Sermipaluk glacier, a 10–20 m thick dolerite sill rests on slightly baked sediments of the Steensby Land Formation. Scattered outcrops, here referred to as Southern, Central and Northern outcrops, were studied and the adjacent moraines were traversed.

Southern outcrop (Figure 29). This is a small exposure of a sharp dolerite–limestone contact with disseminated pyrite in the foot-wall limestone (478592) and chilled margin in the hanging-wall dolerite (478593). No skarn minerals were observed. The two samples returned 17–20 ppb Au.

Central outcrop (Figure 30). This outcrop comprises dolerite on top of sandstone and shale with unexposed contact. About 5 m above the contact, a 2–3 cm thick quartz-calcite vein with base-metal sulphides in sub-outcropping dolerite yielded 734 ppm Cu, 372 ppm Pb, 7300 ppm Zn, 6 ppm Bi and 51 ppb Au (478595; Figure 32). One to two metres below the contact, the interbedded sandstone and shale host pyrite as few mm-thick, conformable bands (478596; Figure 31), in 70º/90º-orientated veinlets (478597) and as semi-massive magnetite-pyrite lenses (478598). Analysis gave up to 1090 ppm Cu, 322 ppm Zn and 17 ppb Au. About 50 m further north, the sandstone and shale are deformed by an 85º/80º S orientated fault. The 5–10 m wide fault zone hosts disseminated pyrite but no noticeable metal enrichment (478599–601).

Northern outcrop (Figure 33). Dolerite hosting pyrite-bearing veinlets and pockets of predominantly E–W-orientations form this outcrop. Two samples returned 744–1140 ppm Cu and < 2 ppb Au (478604–05).

Moraines. Seven sandstone/mudstone moraine boulders with traces of malachite and/or chalcopyrite (max. 710 ppm Cu) were collected. A sample from the eastern lateral moraine, consisting of brecciated dolerite cemented by quartz, pyrite and chalcopyrite, returned a notable 6190 ppm Cu and 5160 ppb Au (478590; Figure 34). An extra slab send to the lab as a control assayed 6040 ppb Au.

East of Sermipaluk

Sub-outcropping, hornfelsed shale with disseminated pyrite below a sill contact shows no significant element concentrations (495830–31). Neither does rusty sandstone with minor disseminated pyrite collected below a sill at another locality further east (478568–70; Figure 28). In general, floats and *in situ* samples of sandstone and dolerite with disseminated pyrite may be slightly enriched in copper (max. 658 ppm in 10 samples). Furthermore, three float blocks (478571, 81, 82) with cm thick quartz veins hosted by sandstone and dolerite (Figure 35) contain minor base-metal sulphides and are slightly enriched in copper (max. 1550 ppm), zinc (max. 266 ppm), bismuth (max. 7 ppm) and gold (max. 80 ppb).

7.1.2 Dolerite sills and dykes

No signs of magmatic segregations of sulphides or oxides were observed in the doleritic sills or dykes of the Booth Sund area. Dawes (2006) reports that the mean TiO_2 contents of sills (4 samples) and dykes (8 samples) from southern Steensby Land are 5.3% and 4.9%, respectively. Dolerites sampled by us do not have the high titanium concentrations previously reported (see below).

ICP analysis of 15 dolerite samples (8 *in situ*, 7 loose blocks) collected by us shows titanium concentrations of 0.15–1.04%, average 0.51% Ti (0.25–1.74%, average 0.84% TiO_2). This corresponds to the TiO_2 concentrations in the Mesoproterozoic basaltic rocks of Group 2 and not to the expected Neoproterozoic Group 3 (Dawes 2006, table 2). Even though the ICP method used may be less suitable than the XRF method reported in Dawes (2006), and the samples are mostly sulphide-bearing and often hydrothermally altered, the difference is distinct and not easily explained.

7.1.3 Coastal placers

Among the heavy mineral beach sands known in the region, the most promising occur on active and uplifted beaches of the Steensby Land ilmenite showing around Moriusaq. The source of the placer ilmenite is the titanium-rich Steensby Land sill complex. The TiO_2 content of the ilmenite is very constant at about 46% (Ghisler & Thomsen 1971, 1973; Cooke 1978, 1984: Dawes 1989, 2006). In 1985, Greenex A/S sampled the black sands east of Moriusaq: three samples from active beaches returned 14.3, 40.9 and 43.7% TiO_2, respectively, and 13 samples from old, uplifted beaches gave 6.1–23.0% TiO_2, median 10.8%. Two of the samples returned 30 ppb Pt (Christensen 1985).

On the beach in front of the Sermipaluk glacier, a composite sample (1138 g) of homogeneous dark grey sand was collected in a 20 m long line perpendicular to the coast, with a distance between sample sites of 0.5 m (507399). In order to avoid wind-blown sand, the composites were collected 5 cm below the surface. In the laboratory, a heavy fraction (d>2.83) was produced and analysed. It returned 8.10% TiO_2 (4.86% Ti) and 15.6% Fe. Assuming that all titanium is hosted by ilmenite and using a TiO_2 content in ilmenite of 46%, this corresponds to 17.6% ilmenite in the heavy fraction, or 3.1% ilmenite (1.4% TiO_2) in the raw sample. This concentration is much lower than those reported from the Moriusaq area.

7.1.4 Drainage geochemistry

Seven pairs of stream sediment samples (SS) and heavy mineral concentrates (HMC) were collected along the 3–4 m wide central stream in the area (Map 4; Figure 28). The chemical analyses, as summarised in Tables 9 and 10, yielded no encouraging results:

Gold is detected in three SS (max. 5 ppb) but not in any HMC. The samples yield relatively low base-metals values and the titanium values are also modest. Two SS returned 5 and 8 ppb Ir (507393, 94).

In order to determine the geochemical variation within the Dundas Group, 22 SS samples were collected by GEUS in an area east of Granville Fjord in 2001 (Steenfelt 2002). The main results of this survey are summarised in Table 9. These values are of the same order of magnitude as the Booth Sund samples, apart from titanium which is about ten times lower in Booth Sund. This corresponds to the results obtained from dolerite samples, as described in section 7.1.2.

7.1.5 Remote-sensing anomalies

The contact mineralisation in the Dundas Group is readily picked up as anomalies in both Landsat and Aster data. Thus, of the 24 Landsat anomalies outlined by Krebs *et al.* (2003), 14 are caused by this type of mineralisation. An example of Aster anomalies representing hydrothermal alteration associated with dykes and sills is shown in Figure 27. The figure also illustrates how the remote-sensing data may facilitate follow-up on the gold-bearing sample 478590.

Landsat anomaly no.12 of Krebs *et al.* (2003) was checked out. It is situated 400–500 m east of sample 478576, immediately east of a steep canyon. It is caused by a topographic depression with slightly rusty-weathering surficial deposits.

7.2 Naajat (Naujat)

The copper showing in Dundas Group sediments on the north coast of Wolstenholme Fjord was discovered 1974 by Cominco geologists (Map 4; Gill 1975). Their description is as follows:

"Copper is present principally as malachite and azurite over an area measuring 50 x 50 m between two dolerite dykes. In the area of the showing, the sediments consist of an alteration of shales and siltstones with a few bands of limestone. Over the exposed section (*c.* 300 m), there is a gradual transition from fissile shales at the base, to pale buff-coloured siltstones at the top. The shales are typically black and rich in organic carbon. Pyrite and chalcopyrite are present in narrow zones immediately adjacent to the dolerite contacts. Between the dykes the sediments are hornfelsed and characterised by the presence of quartzose pods which contain up to 30% fine-grained pyrite. A chip sample taken across a 2 m bed at the base of the mineralised zone and over a length of c. 35 m averaged 1% Cu. The cliff was too steep to allow for more systematic sampling. An attempt was made to follow the mineralisation inland, but its projected trace is completely till-covered, so that its inland extension is unknown."

In 1977, the locality was visited by GGU. Veinlets and pots of Fe and Cu sulphides were observed in a swarm of steep-dipping basic dykes and in adjacent flattish shales, staining the cliffs green. The prospect was sampled and sketched, but appeared to have no commercial possibilities (Cooke 1978, 1984).

In 1994, Nunaoil geologists visited the area. Their best result is a grab sample from a pod of dark carbonate rock adjacent to the Naujat copper showing which returned 1.8% Zn, 0.2% W and 0.03% Cu (Gowen & Sheppard 1994).

7.2.1 Contact mineralisation

An attempt was made to investigate the copper showing by helicopter. We landed near the coast *c.* 1.5 km west of the malachite-stained cliffs but these could not be reached due to the steepness of the terrain (Figures 36–37). Only small parts of the scree slopes below the showing were accessible and the showing is probably best accessed from boat.

The scree samples collected are dark calcareous shale with minor pyrite but no significant metal concentrations (478606–08; 495832). An altered dolerite with minor pyrite returned 651 ppm Cu (495833) and a fine-grained dolerite with minor chalcopyrite on joints returned 1790 ppm Cu and 6 ppb Au (478609).

7.2.2 Sedimentary mineralisation

During a brief check of the stream bed 2 km west of the Naujat showing, boulders of pyrite-bearing sandstone/shale without noteworthy metal concentrations were collected (478610–11). A grab sample of hematite-cemented sandstone from a small outcrop with a 2 m section of Dundas Group returned 116 ppb Au and 7 ppb Ir (478612).

7.3 Sioqqap Kuua (Siorqap kûa or 'Fox Canyon')

The area shown on Map 6 was investigated during six field days. It is underlain by the Narssârssuk Group, estimated to be 1.5–2.5 km thick. The Group is restricted to the Pituffik half-graben, limited to the south by the Narssarssuk Fault (Map 2; Dawes 1997, 2006). The strata represent subtidal to supratidal deposition in very shallow water, in conditions perhaps analogous to modern coastal sabkhas. Three formations were recognised by Dawes (1991; 1997, fig. 105). The lowermost *Imilik Formation* comprises alternating clastic red beds and paler carbonates arranged in lithological cycles, in places with chert and evaporite. The middle *Aorfêrneq Formation* is a carbonate dominated (mainly dolomite) cyclic sequence characterised by evaporite in varying forms from thin beds to the matrix of thick breccias beds. The uppermost *Bylot Sund Formation* has a similar appearance and lithology to the Imilik Formation but with lesser siliciclastic material. Generally, dolostones and limestones are fine- to very fine-grained but coarser, blocky recrystallised rocks occur, as well as porous and vuggy types. The dolomites can be variously silicified and chert is present in minor amounts, especially in the Aorfêrneq Formation.

The Narssârssuk Group is comparable in lithology and age to part of the Bylot Supergroup of the Borden Basin that hosts the Nanisivik MVT-type Pb-Zn deposit (Map 3). The mine was in operation between 1976 and 2002 producing about 18 million tonnes of ore grading 9.0% Zn, 0.7% Pb and 35 g/t Ag. These base-metal ores were produced from sulphide bodies that collectively total over 100 million tonnes of pyrite. The Nanisivik sulphides are hosted in petroliferous dolostones of the middle and upper Society Cliffs Formation (coeval with the Narssârssuk Group). All known sulphide bodies are associated with normal faults, which are considered significant in controlling sulphide deposition (Olson 1984; Sherlock *et al.* 2004; Dewing *et al.* 2007). Therefore, the most prominent fault in the Narssârssuk Group – the Narssarssuk Fault – constitutes an obvious target for this type of mineralisation.

7.3.1 Carbonate-hosted mineralisation

In 1994, Nunaoil geologists checked the area south of Pituffik for Nanisivik-type Pb-Zn mineralisation, with negative results (Gowen & Sheppard 1994).

In 2007, the middle strata of the Narssârssuk Group were traversed in a N–S direction along Sønderbæk. Vuggy, brecciated (478501–04) and partly silicified (495801–02) dolomitic limestones were observed in the Aorfêrneq Formation but no signs of sulphides, barite or fluorite were observed (Figure 38). Metre-thick units of gypsum-cemented carbonate breccias were noted (Figure 39). Furthermore, a chip sample was collected from a 1.5 m thick, slightly rusty horizon of vuggy limestone breccias (478505). Analysis showed low base-metal concentrations with maximum values of 120 ppm Pb, 62 ppm Zn, 140 ppm Ba, 0.93% Fe and 0.2% S. Likewise, three pairs of SS/HMC samples from Sønderbæk returned low values, maximum 14/11 ppm Pb, 19/102 ppm Zn, 440/526 ppm Ba and 0.01/0.04% S.

7.3.2 Remote-sensing anomalies

Landsat anomaly no. 24 of Krebs *et al.* (2003) some 2 km WNW of 478503 was inspected. Located on the plateau west of Sønderbæk, it forms a nearly E–W-orientated oblong 200 x 1000 m structure in carbonate rocks of the Aorfêrneq Formation. The anomalous area constitutes a gently inclined slope covered by solifluction material of porous, brecciated dolomitic limestone similar to 478505. No signs of mineralisation or distinct alteration were observed. The origin of the anomaly is probably the abundant fine-grained (clay-fraction) material on the south-facing slope.

7.3.3 Placer gold

Following rumours in the 1960s of placer gold mining by personnel working at Thule Air Base (Pituffik), the upper and lower course of the stream Sioqqap Kuua (‘Fox Canyon’) were panned for gold by GGU geologist H.R. Cooke. Only two very small gold colours were obtained from about 50 pans (Cooke 1978, 1984). Subsequently, a HMC with 2.7 ppm Au was collected during *Ujarassiorit* follow-up (Ujarassiorit 1993), and a stream sediment sample with 14 ppb Au was collected from the drainage area by Nunaoil (Gowen & Sheppard 1994).

In order to verify or discard the gold placer rumours, we collected in 2007 a relatively large number of stream sediment samples and heavy mineral concentrates (24 SS/HMC pairs) in Sioqqap Kuua and two of its tributaries from the coast and *c.* 10 km upstream (Map 6, Figure 40). Active sediments were sampled in the 50–100 m wide stream bed on its south side. The stream drains from the Inland Ice and the main course is too deep to be crossed on foot. Bridges exist in the delta and some 10 km upstream. Although the stream in its lowermost 15 km runs through Narssârssuk Group strata, the abundant boulders of crystalline rocks in the stream bed indicate that much sediment stems from the blanket of moraine that covers the main part of the drainage area

The stream is in places braided but hosts only modest concentrations of black sands. No visible gold was observed during the panning (Figure 41). The analytical results from the 2 x 24 samples, summarised in Tables 9 and 10, are not impressive. The gold concentrations are above the detection limit of 5 ppb in four of the HMC samples and two are above 1 ppm with 1.2 ppm and 1.11 ppm Au. Six of the SS samples are above the detection limit of 2 ppb Au with a maximum of 6 ppb in two samples. These results are in no way indicative of gold placers and they should help put an end to the myth of gold placers in 'Fox Canyon'.

As to the distribution of the ten samples with detected gold, eight are distributed along Sønderbæk and the lower reaches of Sioqqap Kuua, indicating a source in the upper Sønderbæk drainage area. However, the distribution pattern is ambiguous. The most obvious explanation for the scattered enhanced gold concentrations is that they stem from morainic crystalline rocks, since anomalous gold has been detected in the basement.

The SS/HMC samples yield low base-metal values with maximum concentrations of 43/16 ppm Pb, 112/112 ppb Zn and 560/526 ppm Ba, i.e. no indication of carbonate-hosted lead-zinc deposits in the drainage area. The titanium values are modest with maximums of 1.03/4.7% Ti. Three SS returned 7, 9 and 9 ppb Ir, respectively.

8. Conclusions and recommendations

During the 2007 field work in the Pituffik region a number of previously known mineralisation types were investigated and new localities and types found. Given the unexplored character of the region, excellent exploration targets for a number of commodities are outlined, especially Fe, Ti, Cu, Au and U. The results are summarised below.

8.1 Archaean shield

Banded iron formation from six localities has been investigated in the western part of the Neoarchaean Thule Iron Province which is spatially the largest in Greenland. This province is a correlative of the iron-rich rocks on Baffin Island, Canada, that host the Algoma-type Mary River iron ore deposits consisting of nearly pure hematite and/or magnetite.

At five of the six localities investigated on the ground (BIF loc. 6 is only based on opportune samples), the BIF is located in the transition zone between amphibolite and pelitic gneiss of the Lauge Koch Kyst supracrustal complex. In the region, BIF occurrences are rarely well-exposed and *in situ* units are usually inferred from profuse magnetite-hematite rubble. The typical thickness of BIF units is estimated to 1.5–2.0 m. Iron oxides are magnetite and hematite in variable proportions. The hematite is formed from the magnetite through martitization. Remaining minerals are quartz with variable amounts of amphiboles, micas, carbonates, goethite and pyrite. Mm-thick alternating lamina of magnetite/hematite and quartz (mesobanding) is the most typical structure

Analytical results are summarised in Tables 7 and 8. Iron concentrations have a range of 18–35% Fe with an average of 28% Fe or 47% Fe_2O_3+FeO. SiO_2 concentrations range 18–63% with an average 48%. Sulphide-bearing quartz veins and lenses in the BIF returned minor copper but no significant gold values. The only significant value (0.25 ppm Au) came from a pyrite-chalcopyrite-rich, silicified part of a BIF-associated amphibolite at Pingorsuit South.

Low-grade iron deposits mostly in units of a few metres thickness are widespread in the region but, in view of the relatively poor exposure and the very limited exploration carried out, it can not be ruled out that thicker units exist. High-grade enriched hematite iron mineralisation comparable to the Mary River deposits has not been located in the region but again, it may exist. A first attempt to explore these possibilities would be a regional aeromagnetic survey followed by a gravity survey in order to pick up the hematite.

Structurally-hosted Au mineralisation. Various sulphide-bearing quartz veins and shear zones were tested for gold. Values above 0.1 ppm were recorded in two areas. E–W-striking shear zones associated with the Magnetitbugt Fault south of Pingorsuit may host minor pyrite and chalcopyrite with up to 397 ppb Au. Near the Uvdle Fault north-east of Pituffik, up to 342 ppb Au was found in a pyritiferous shear zone, and up to 100 ppb Au was recorded in quartz veins.

8.2 Thule Basin

Unconformity-associated U mineralisation. By analogies to the uraniferous Athabasca Basin, Canada, the well-preserved unconformity at the base of the Thule Supergroup provides a target for this type of mineralisation. Within the investigated area, a geochemical uranium anomaly south-east of Magnetitbugt could stem from such mineralisation. An obvious target for further investigation exists on nearby Wolstenholme Ø where a Landsat anomaly indicating hydrothermal alteration at the basement–Baffin Bay Group contact remains untested.

Shale-hosted Pb-Zn-Cu mineralisation. Stratiform pyrite is common in the dark shales, siltstones and sandstones of the Dundas Group. However, no signs of base metals were observed in the field and no significant analytical values were returned from the collected samples.

Contact-hosted Cu-Pb-Zn-Au mineralisation. The rusty contact zones between the Dundas Group sediments and Franklin mafic intrusions are characterised by minor disseminated pyrite and low-temperature hydrothermal alteration of the sediments. This alteration is readily picked up by remote-sensing techniques based on Landsat 7 ETM and Aster satellite data. The sediments may be bleached and baked but no well-developed skarn minerals have been observed. In addition to disseminated pyrite, minor massive mineralisation of especially pyrite but also chalcopyrite, galena and sphalerite occurs in pockets and veinlets in both dolerite and adjacent sediments. This mineralisation is slightly enhanced in gold and a dolerite morainic block from the Booth Sund area assayed 5.6 ppm gold. This indicates a gold potential for such mineralisation and effort should be made to locate the source of this block.

Carbonate-hosted Pb-Zn mineralisation. The Narssârssuk Group is lithologically comparable and coeval to part of the Bylot Supergroup, Baffin and Bylot Islands, that hosts the MVT-type Nanisivik Pb-Zn deposit. At Nanisivik, pyrite-dominated Pb-Zn mineralisation is fault controlled and hosted in karstic features within dolomites and dolostones. No signs of sulphide mineralisation or significant bed rock alteration were observed in the carbonates traversed south of Pituffik. However, potential host rocks in the form of brecciated and porous carbonates do occur. The best possibilities for finding MVT-type mineralisation would be along the Narssarssuk Fault further south.

8.3 Placers

Ilmenite. A single beach sample collected in 2007 at Booth Sund returned 1.4% TiO_2, less than 10% of the concentrations reported from the Moriusaq coast to the south-east.

Gold. Panning for gold in Sioqqap Kuua did not verify any truth in the rumours of gold placers in ‘Fox Canyon’ south of Pituffik. The slightly enhanced gold concentrations detected in the stream bed probably stem from the profuse glacial drift that covers much of the drainage area.

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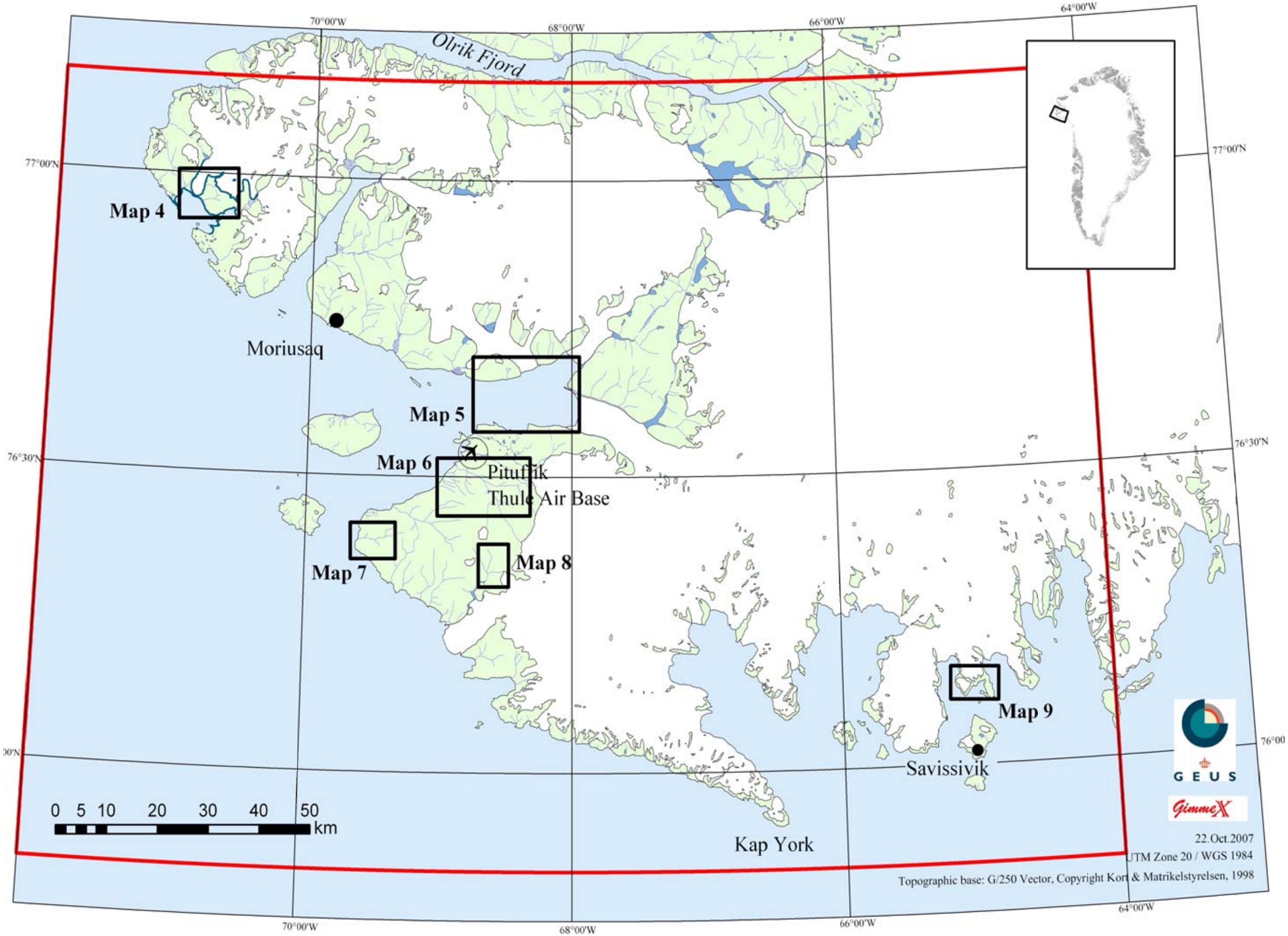
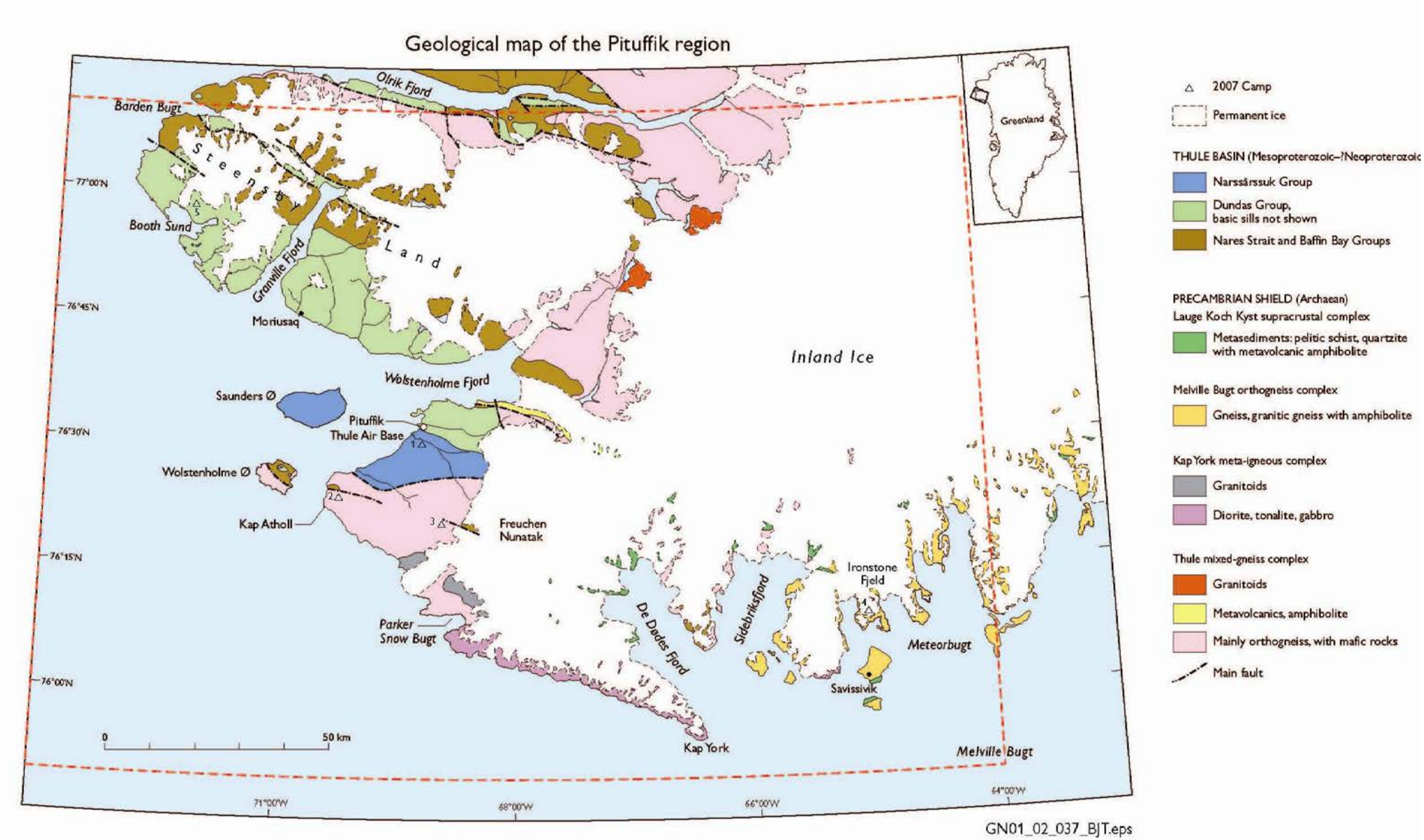
Ujarassiorit 1993: Ujarassiorit 1992. Årsrapport og opfølgning, 6 pp. + 4 appendices. Unpublished report, Nunaoil A/S, Nuuk, Greenland (in archives of Geological Survey of Denmark and Greenland, GEUS Report File **21543**).

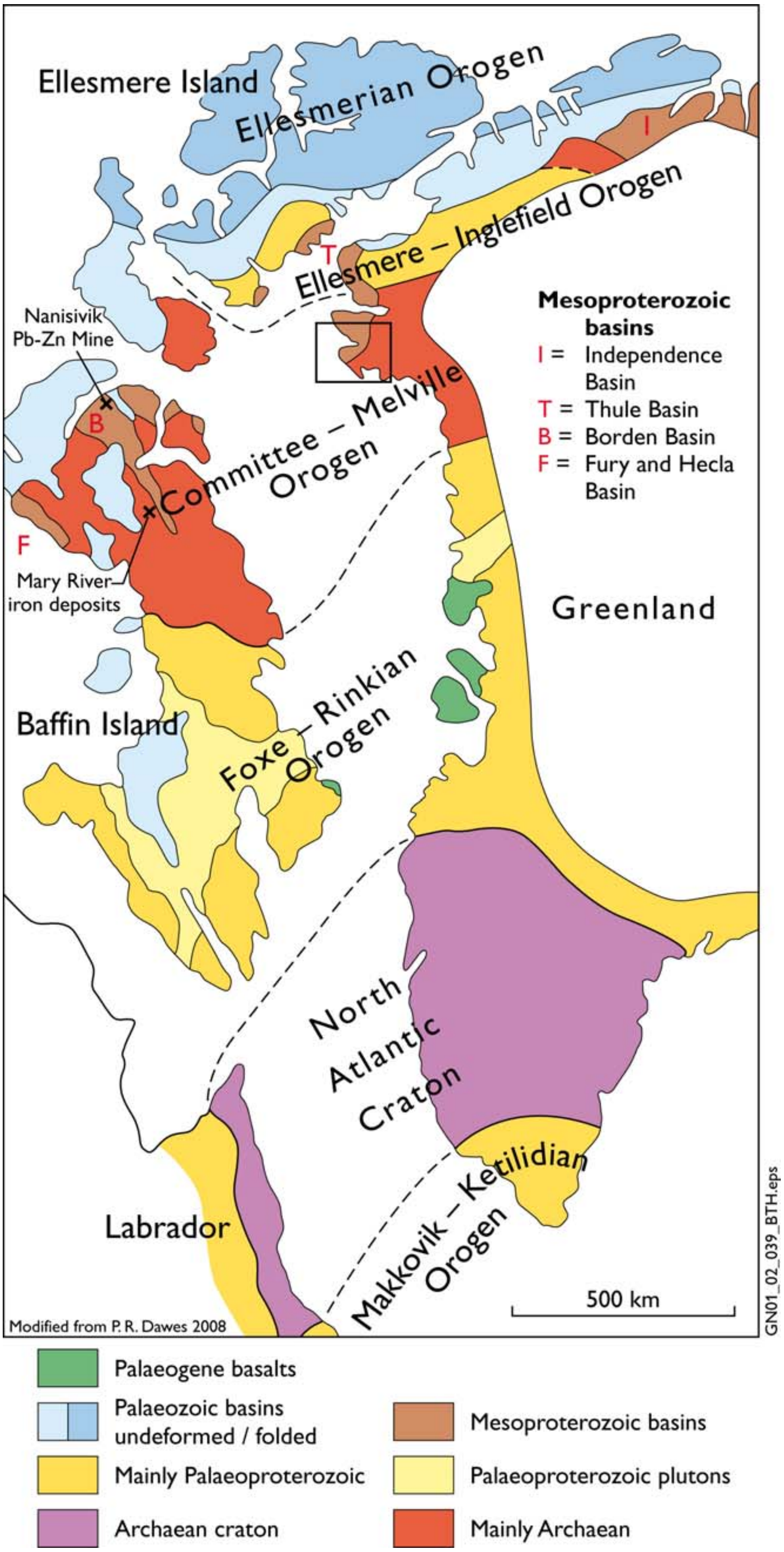
11. Maps



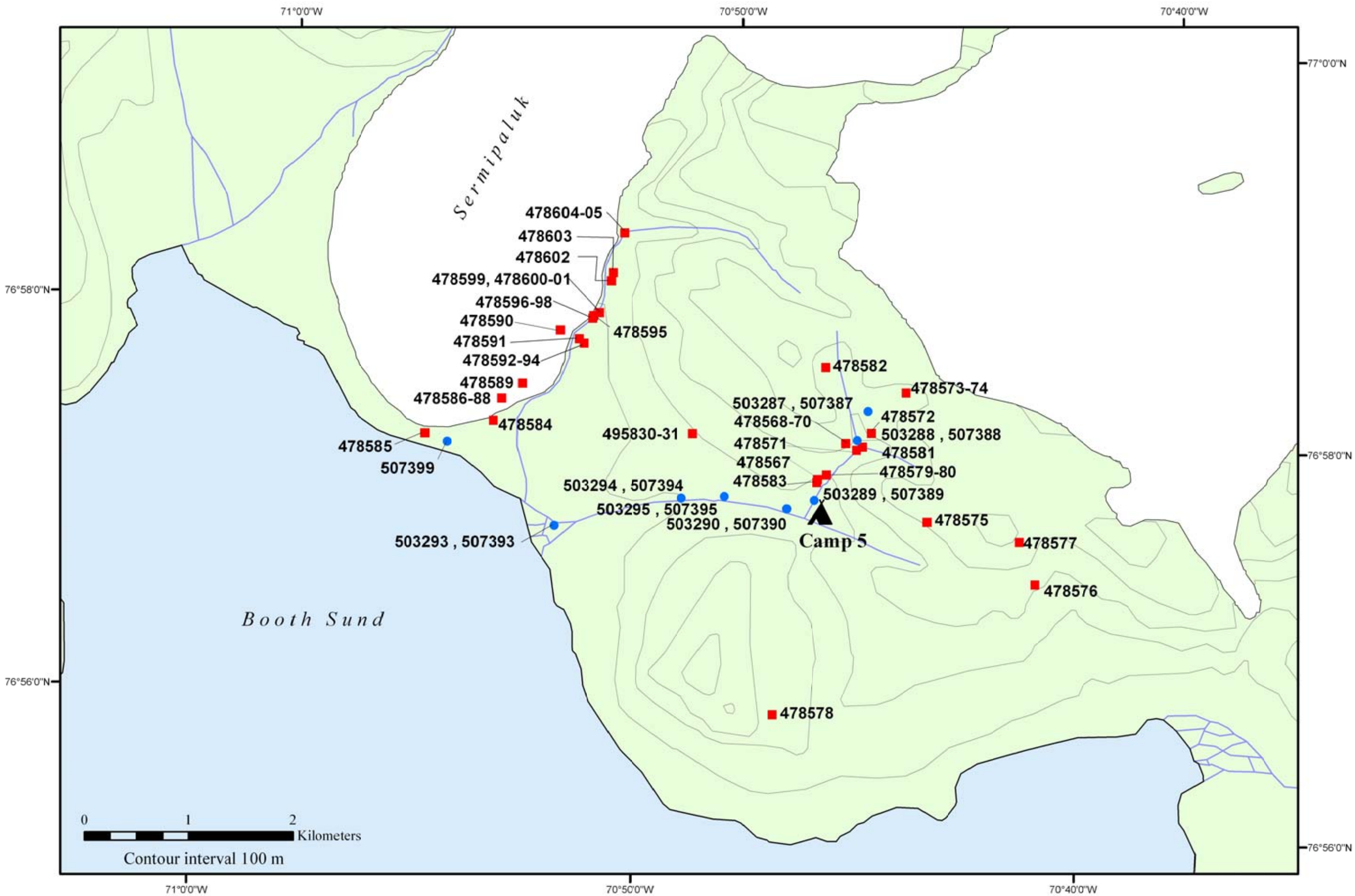
Map 1. *The Pituffik region. Project area is indicated by red frame and detailed maps by black frames.*



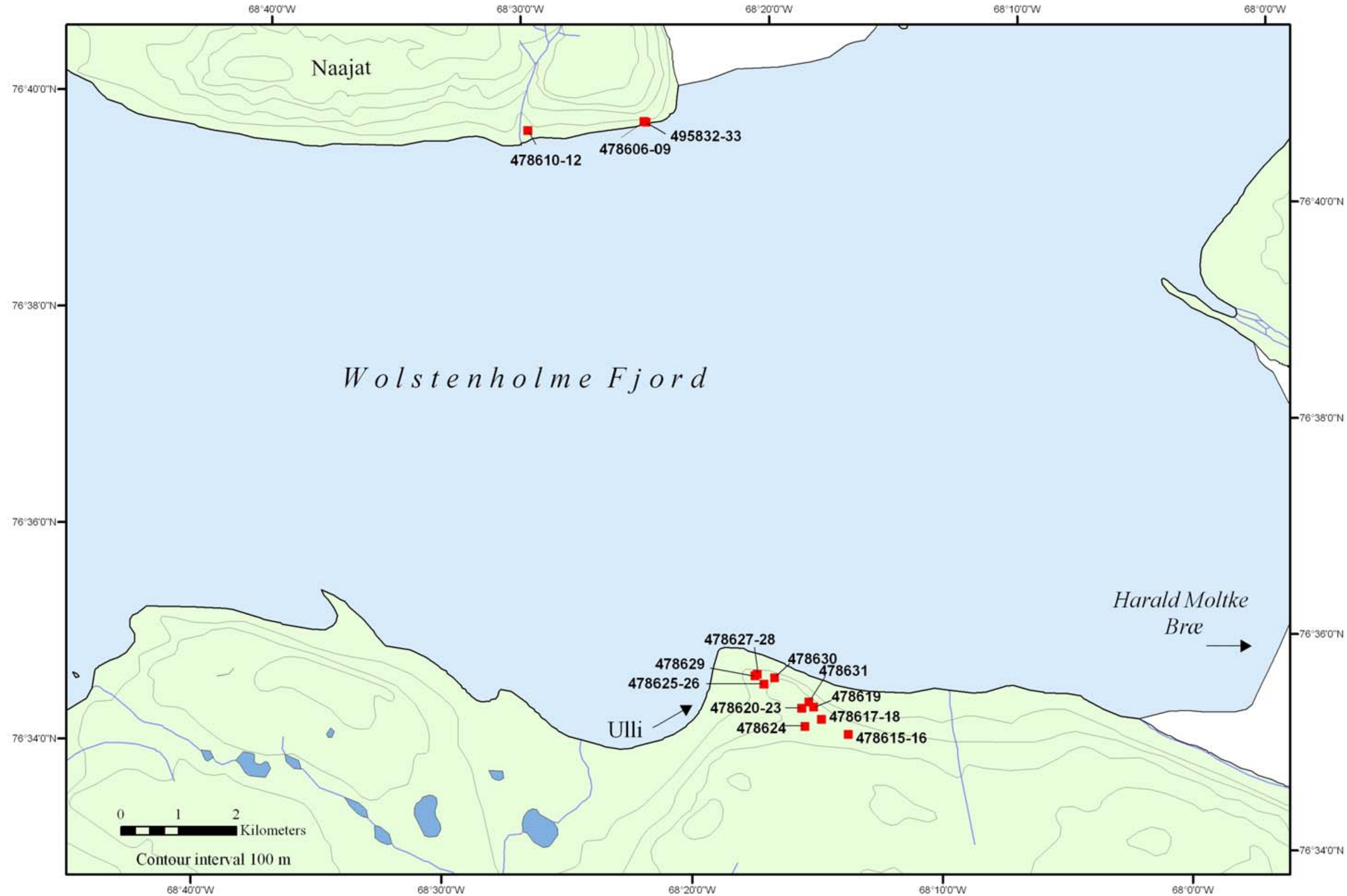
Map 2. *Geological map of the Pituffik region. Simplified from Dawes (1991)*



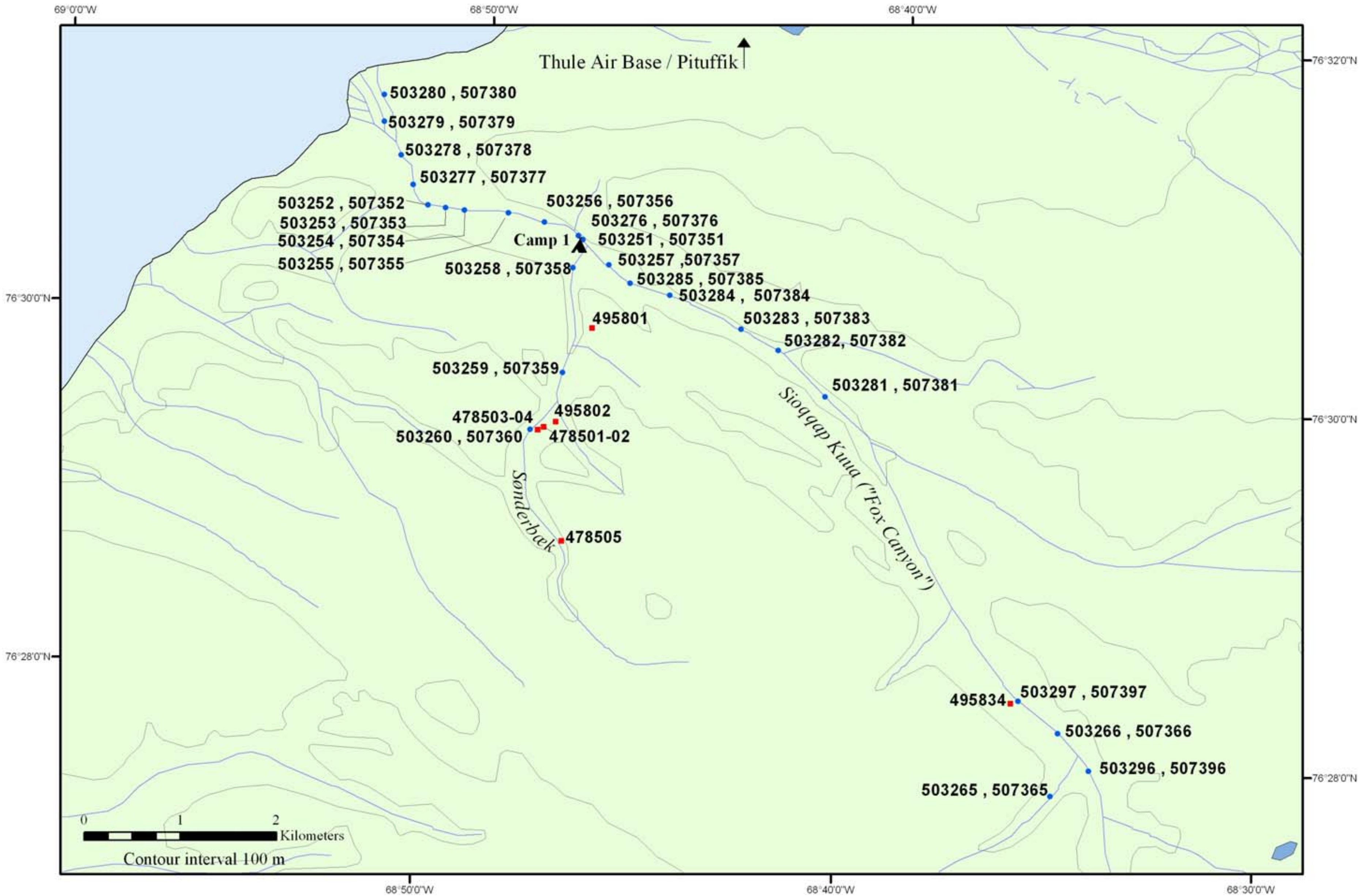
Map 3. *Pre-drift geological reconstruction of western Greenland and NE Canada from Dawes (2009), with stylistic changes including location of the Pituffik region (frame).*



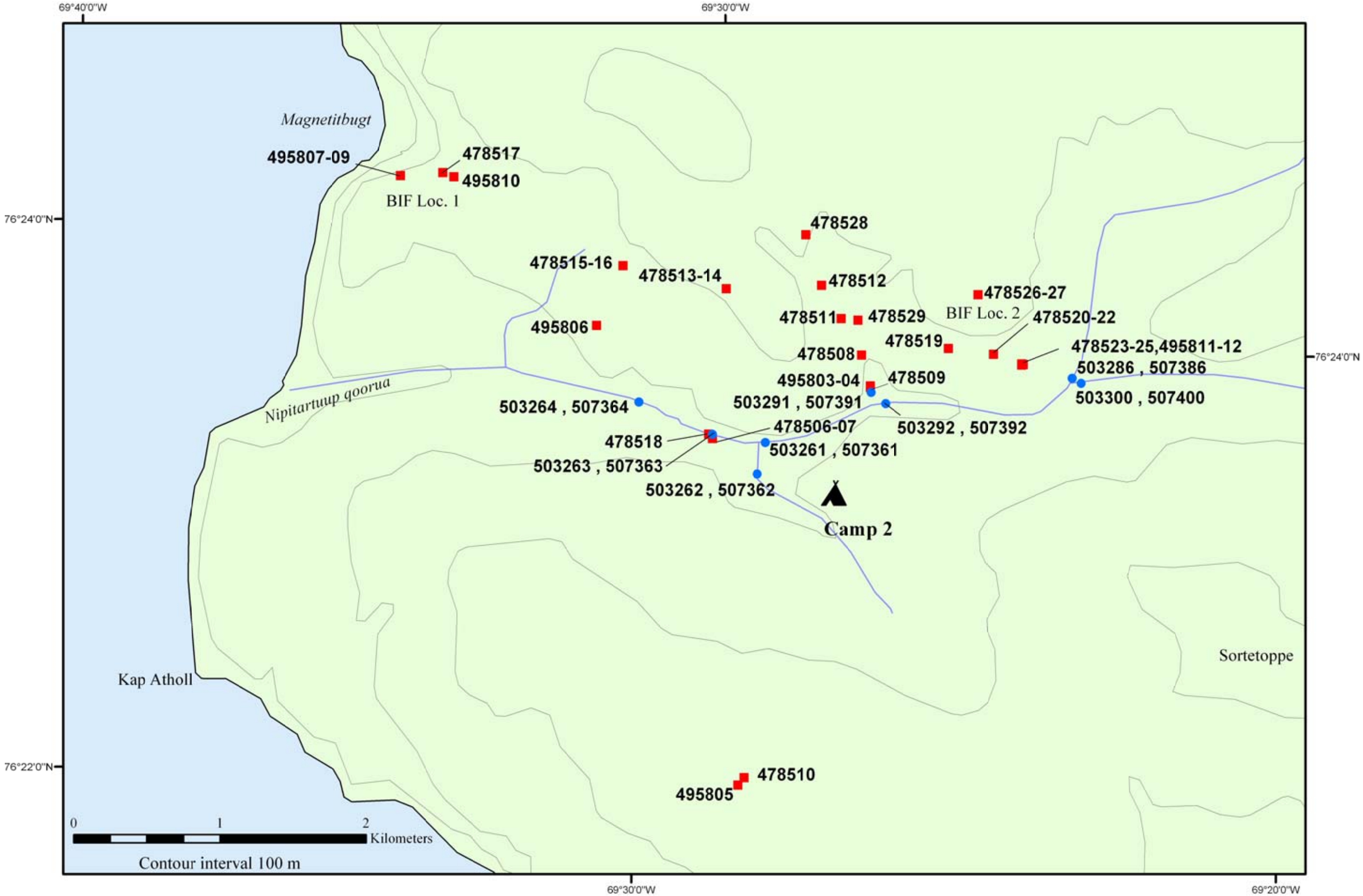
Map 4. *Locality and sample map of the Booth Sund area.*



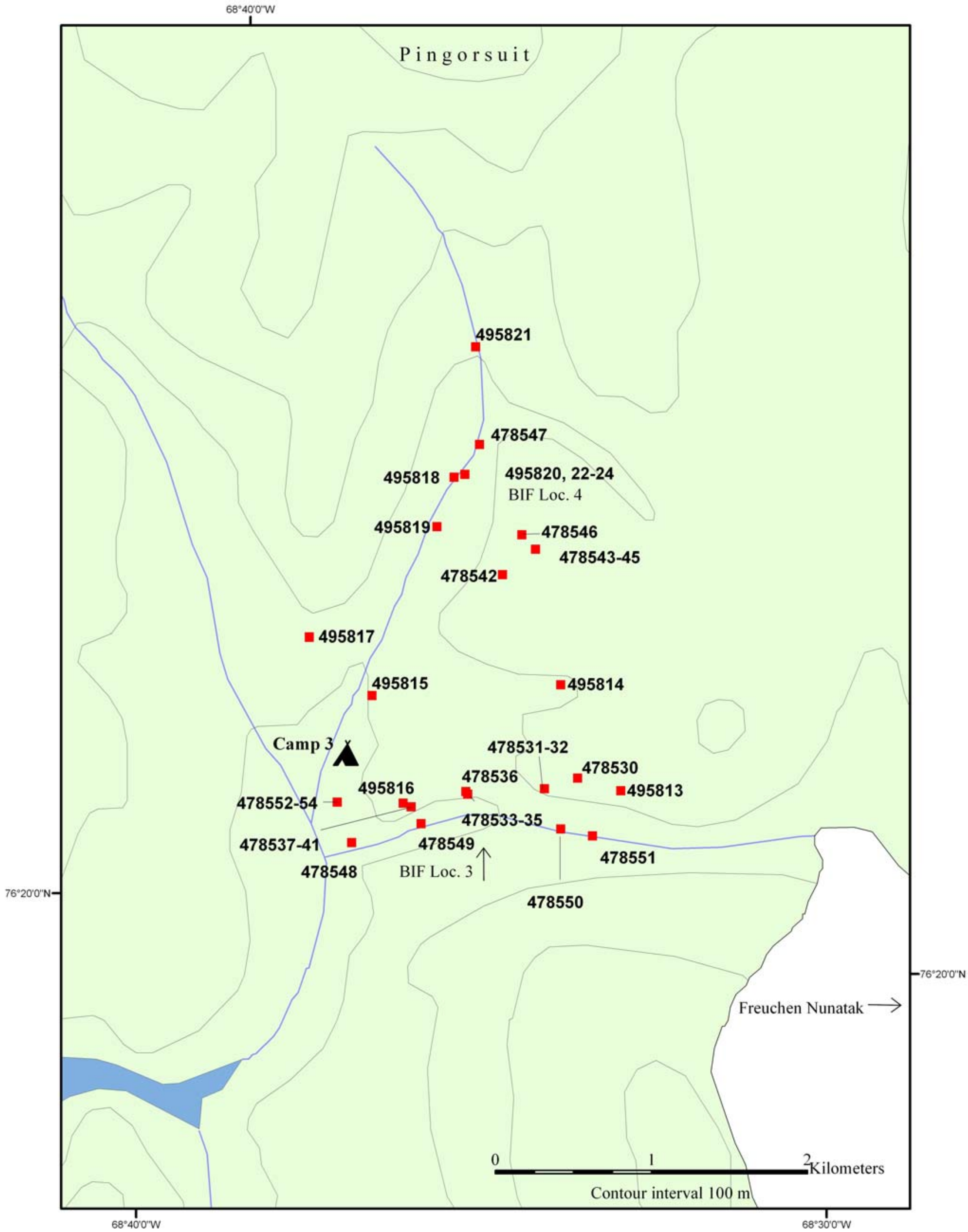
Map 5. *Locality and sample map of the Naajat–Ulli area.*



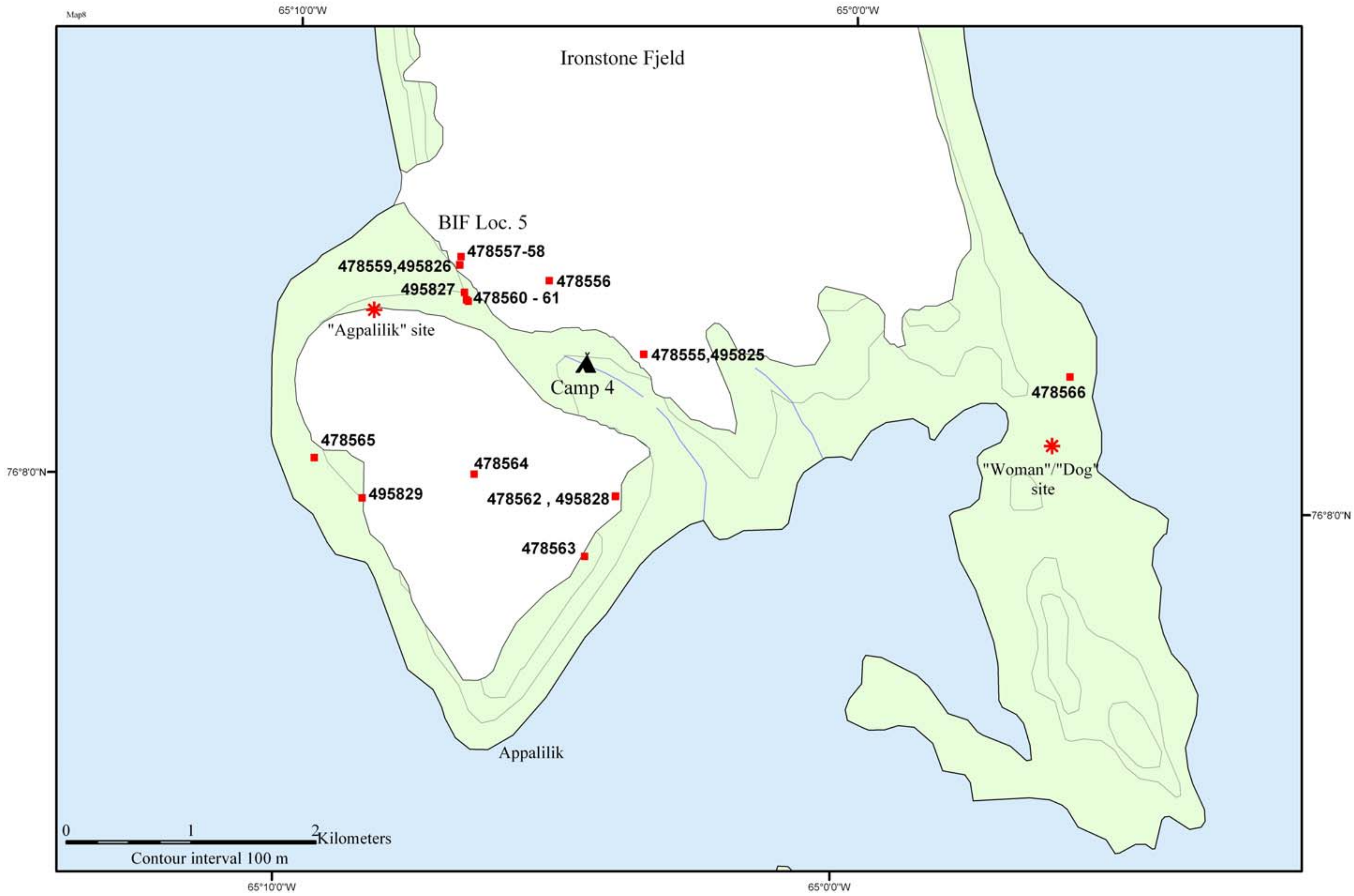
Map 6. *Locality and sample map of the Sioqqap Kuua area.*



Map 7. *Locality and sample map of the Magnetitbugt area.*



Map 8. *Locality and sample map of the Pingorsuit South area.*



Map 9. *Locality and sample map of the Ironstone Fjeld area.*

12. Figures

Figure 1. *Wolstenholme Ø seen from the east. Baffin Bay Group clastic sediments overlying the crystalline shield and faulted to the south against the shield. Sea-cliff summit 550 m a.s.l.*

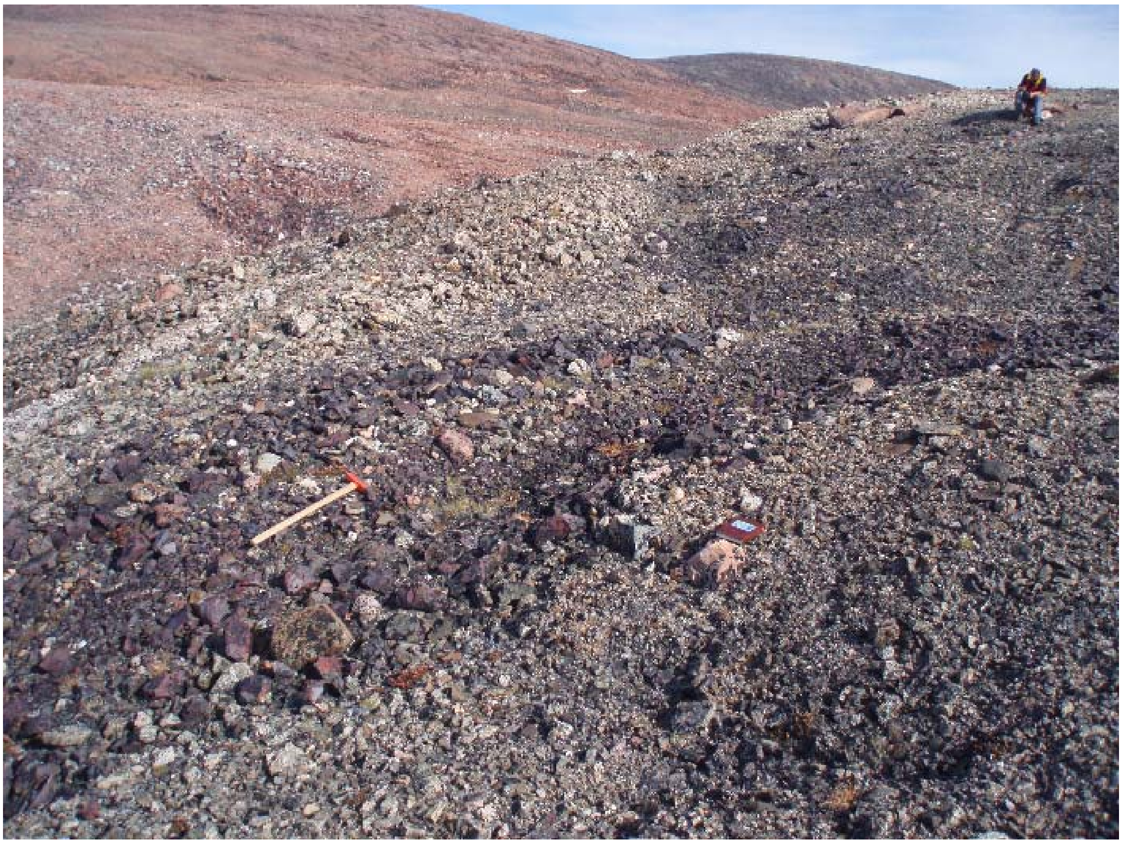


Figure 2. *BIF locality 1, 220 m a.s.l. Sub-outcropping hematitic BIF at hammer (478517). Red clastic sediments of the Baffin Bay Group are seen in the background.*

Figure 3. *BIF locality 1. Cut surface of BIF with 29.4% Fe (495808). Scale in mm. Photo: Jakob Lautrup.*

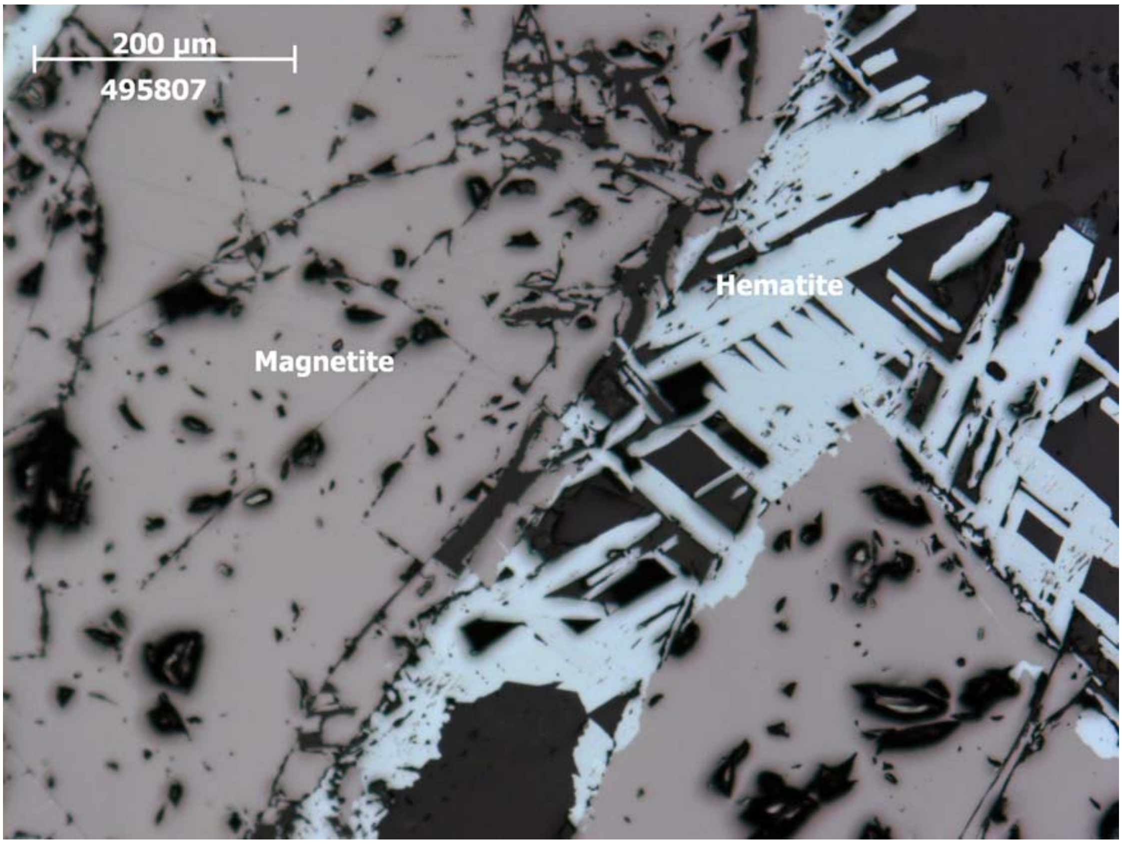


Figure 4. *BIF locality 1. Reflected light photomicrograph of BIF showing microplaty hematite and incipient replacement of magnetite with hematite (martitization).*

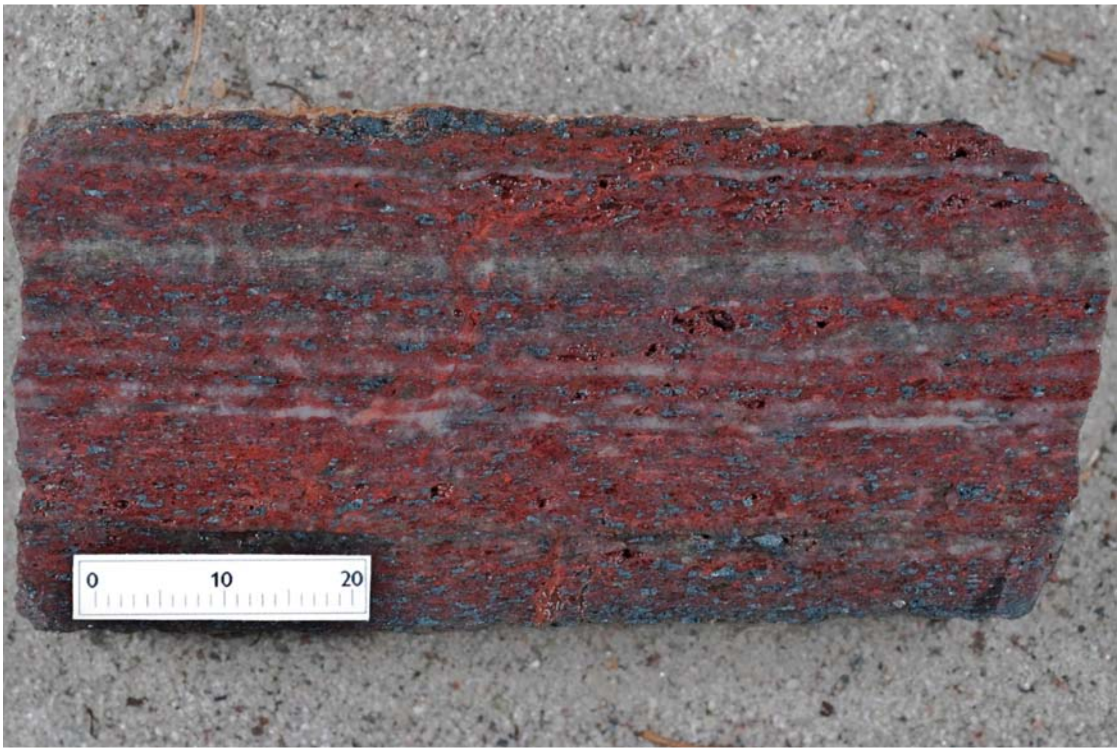


Figure 5. *BIF locality 1. Cut surface of hematitic BIF with 19.4% Fe (478517). Scale in mm. Photo: Jakob Lautrup.*

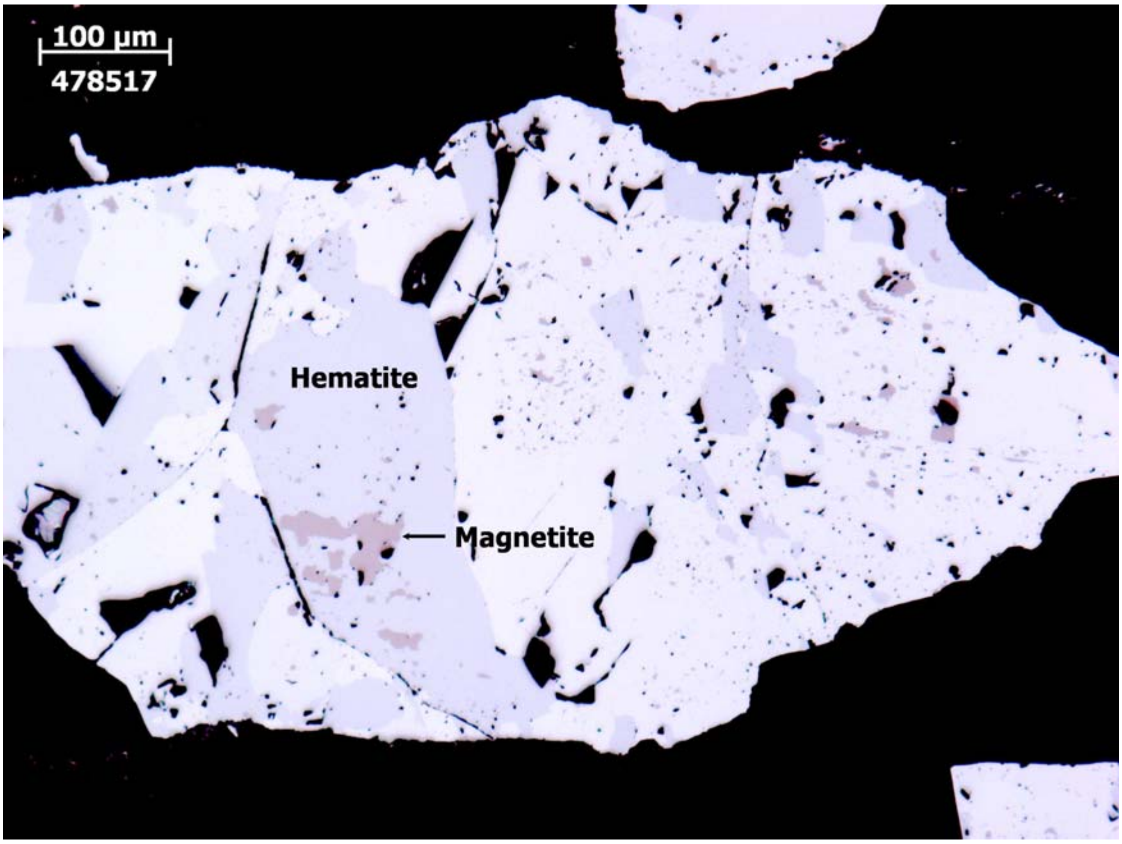


Figure 6. *BIF locality 1. Reflected light photomicrograph of BIF showing near total replacement of magnetite with hematite (martitization).*

Figure 7. *BIF locality 2, main exposure. Collecting of chip sample 495812 with 32.1% Fe. Another BIF sub-outcrop is seen in the background to the left.*

Figure 8. *BIF locality 2, main exposure. Hematitic BIF. Magnet pen is 12 cm.*

Figure 9. *BIF locality 2. Cut surface of hematitic BIF with 23.4% Fe and fragmented vein quartz (478522). Scale in mm. Photo: Jakob Lautrup.*

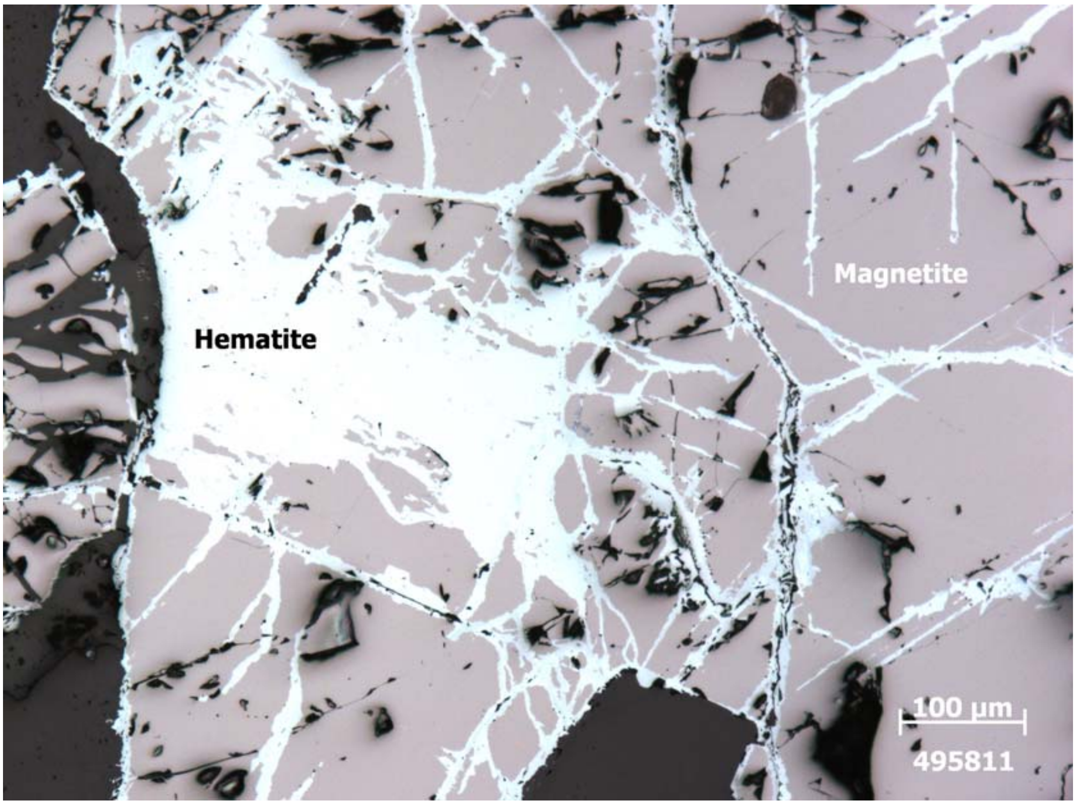


Figure 10. *BIF locality 2. Reflected light photomicrograph showing advanced replacement of magnetite with hematite (martitization).*

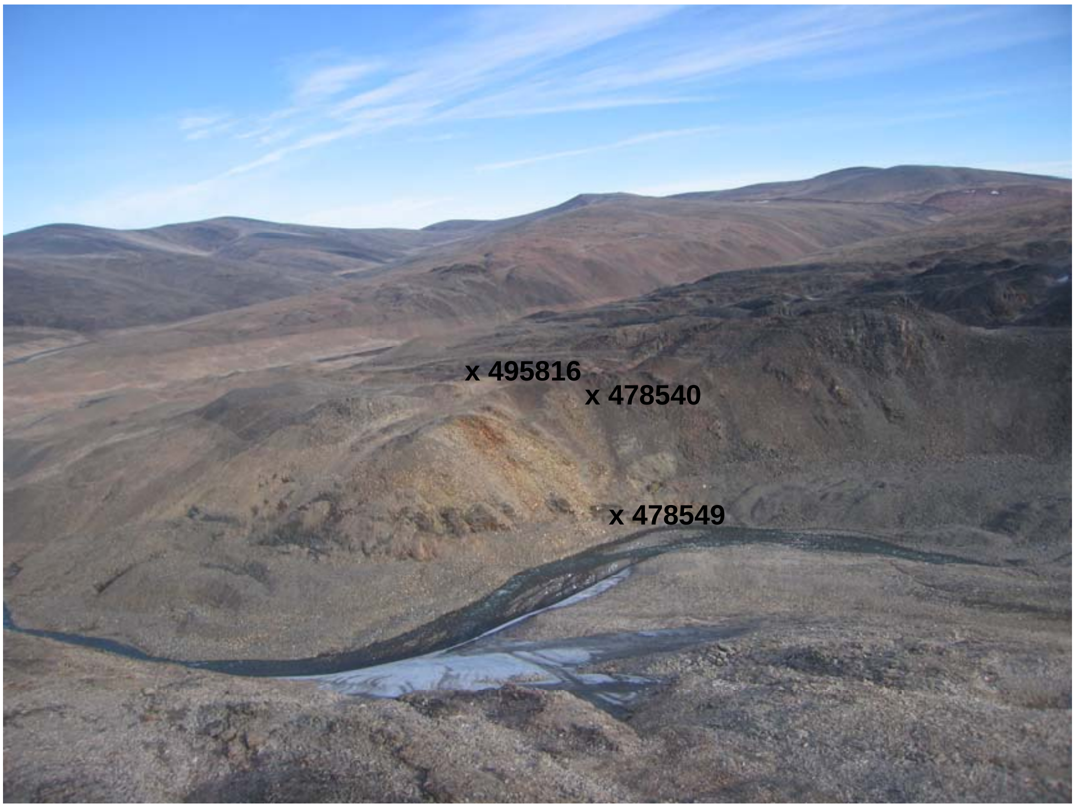


Figure 11. *BIF locality 3. Aerial view from the south. Exposed BIF is indicated by three sample localities.*

Figure 12. *BIF locality 3. 1.5 m thick BIF unit (geologist for scale – 495816) in a sequence of pelitic gneiss (rusty brown) and amphibolite (dark). Lithological detail is seen in Frontispiece.*

Figure 13. *BIF locality 3. Small-scale folding in mesobanded BIF with 29% Fe (478552). Magnet pen is 12 cm long.*

Figure 14. *BIF locality 3. Cut surface of silicified BIF with vein quartz, malachite, chalcopyrite and 845 ppm Cu (478538). Scale in mm. Photo: Jakob Lautrup.*

Figure 15. *BIF locality 4. Semi-outcropping BIF blocks representing a 2–3 m thick bed. A chip sample over 10 m along strike returned 33% Fe (495822).*

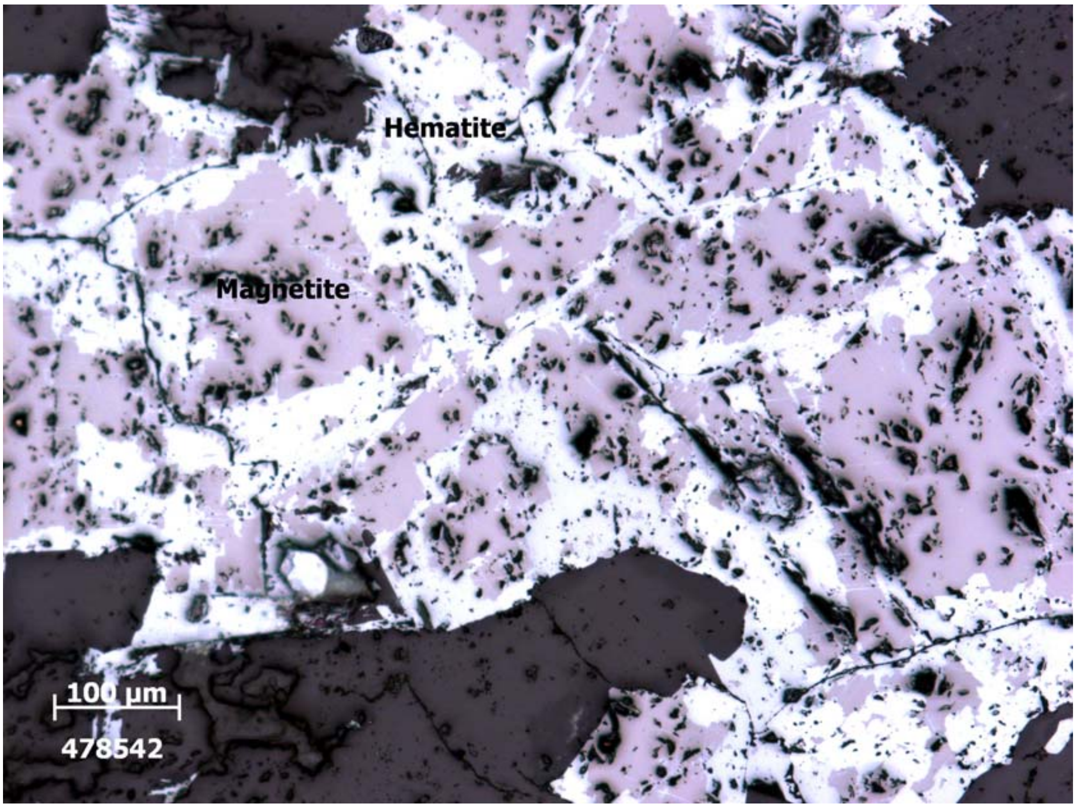


Figure 16. *BIF locality 4. Reflected light photomicrograph showing replacement of magnetite with hematite (martitization).*

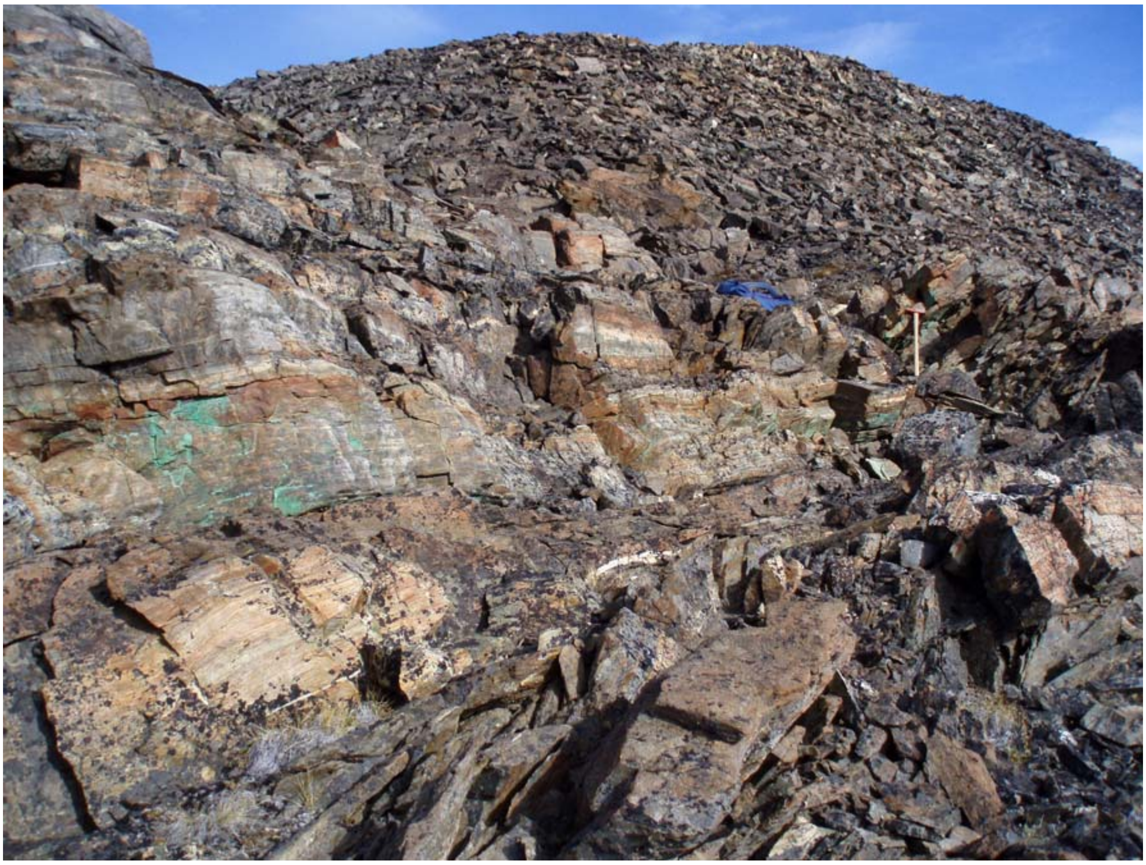


Figure 17. *Malachite-stained, sheared gneiss south of Pingorsuit. Three grab samples returned 644–1670 ppm Cu and 22–397 ppb Au (478533–35).*

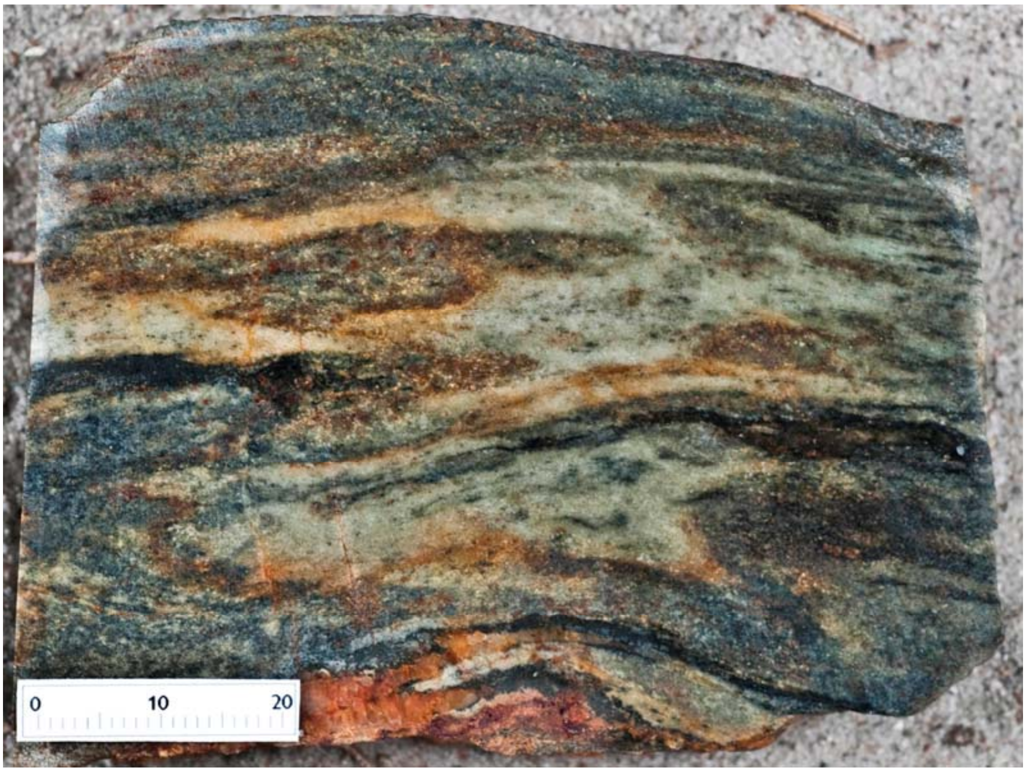


Figure 18. *Cut surface of skarnoid gneiss (478533) with disseminated chalcopyrite (1290 ppm Cu, 397 ppb Au) from the above locality. Scale in mm. Photo: Jakob Lautrup.*

Figure 19. *BIF locality 5. The 250 m high south-west slope of Ironstone Fjeld showing localities of BIF scree samples.*

Figure 20. *BIF locality 5. Cut surface of BIF showing a band of recrystallised amphibole with magnetite-quartz inclusions (495827 – 21.9% Fe). Scale in mm. Photo: Jakob Lautrup.*

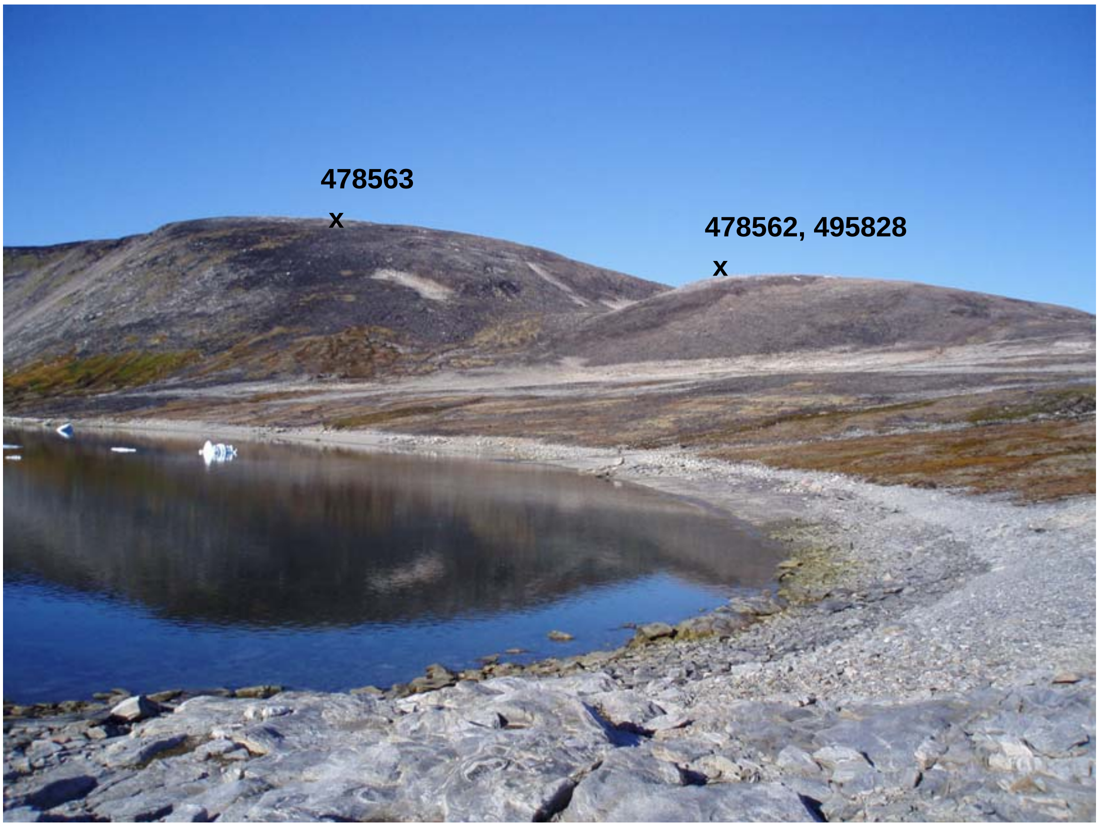


Figure 21. *Sample localities indicate swarms of quartz veins north-east of Appalilik. View from the east of 100–150 m high slopes.*

Figure 22. *Swarm of quartz veins north-east of Appalilik (478562, 495828).*

Figure 23. *Fall site of the 'Agpalilik' meteorite, between fuel drum and geologist, south-west of Ironstone Fjeld. View from the south.*

Figure 24. *General view from the south of the fall site of the 'Woman' and 'Dog' meteorites, south-east of Ironstone Fjeld.*

Figure 25. *Sheeted quartz vein in amphibolite, east of Ulli (478630 – 42 ppb Au).*

Figure 26. *Old pit in pyrite-bearing quartzitic schist east of Ulli. Grab samples 478620–23 returned 13–342 ppb Au. View to the north to Chamberlin Gletscher.*

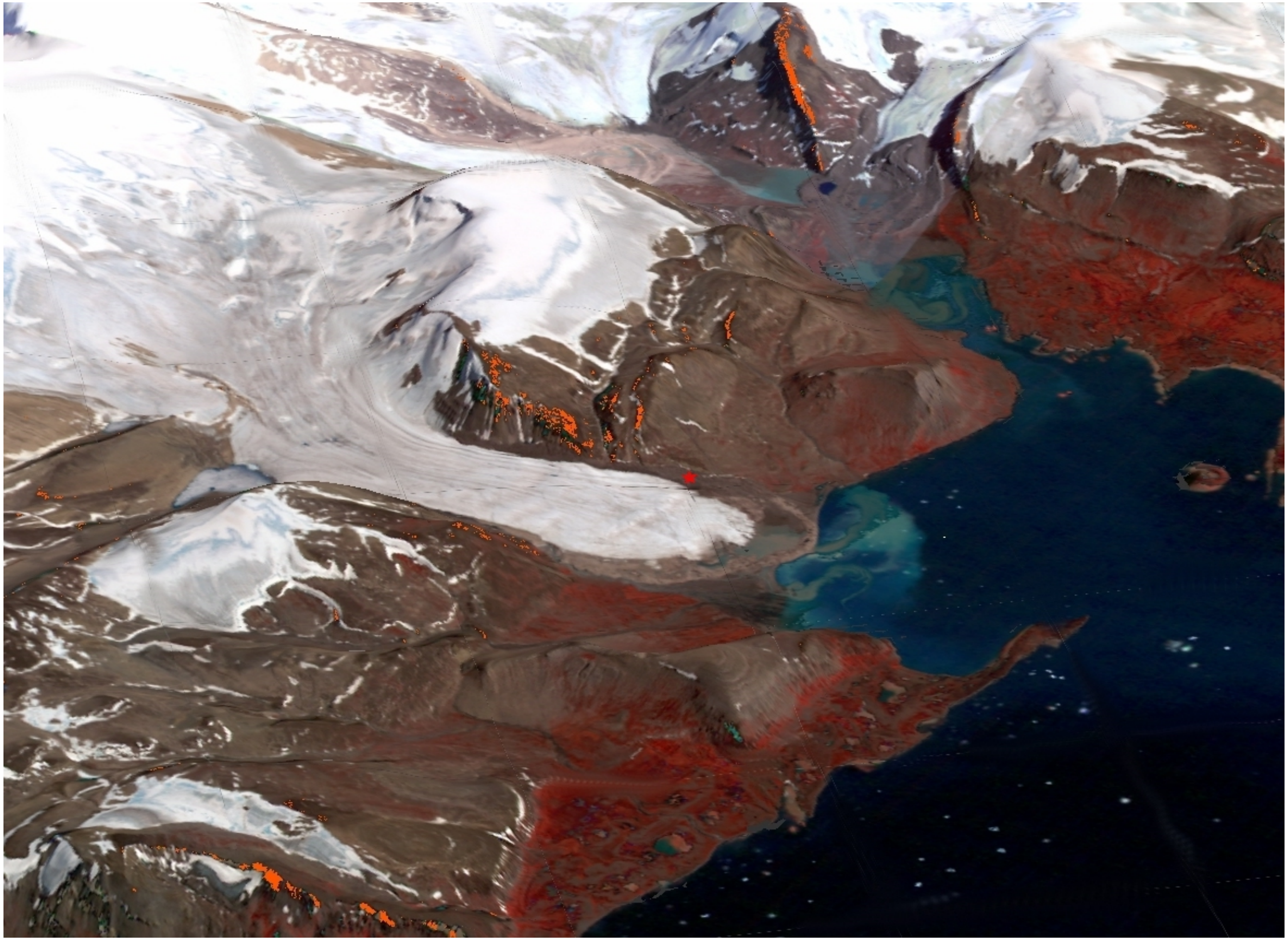


Figure 27. *Perspective view of the Booth Sund area from the south-west. Colour composite of the ASTER data R (band 3), G (band 2) and B (band 1) draped on a digital terrain model. Hues of red = vegetation, grey and brown = exposed rock and rock debris. Orange = gossan-like weathering and hydrothermal alteration occurring along contact zones between mafic intrusions (sills and dykes), and sediments of the Dundas Group. Vertical exaggeration x 1.5. The site of the gold-bearing sample (478590) is indicated by a red star.*

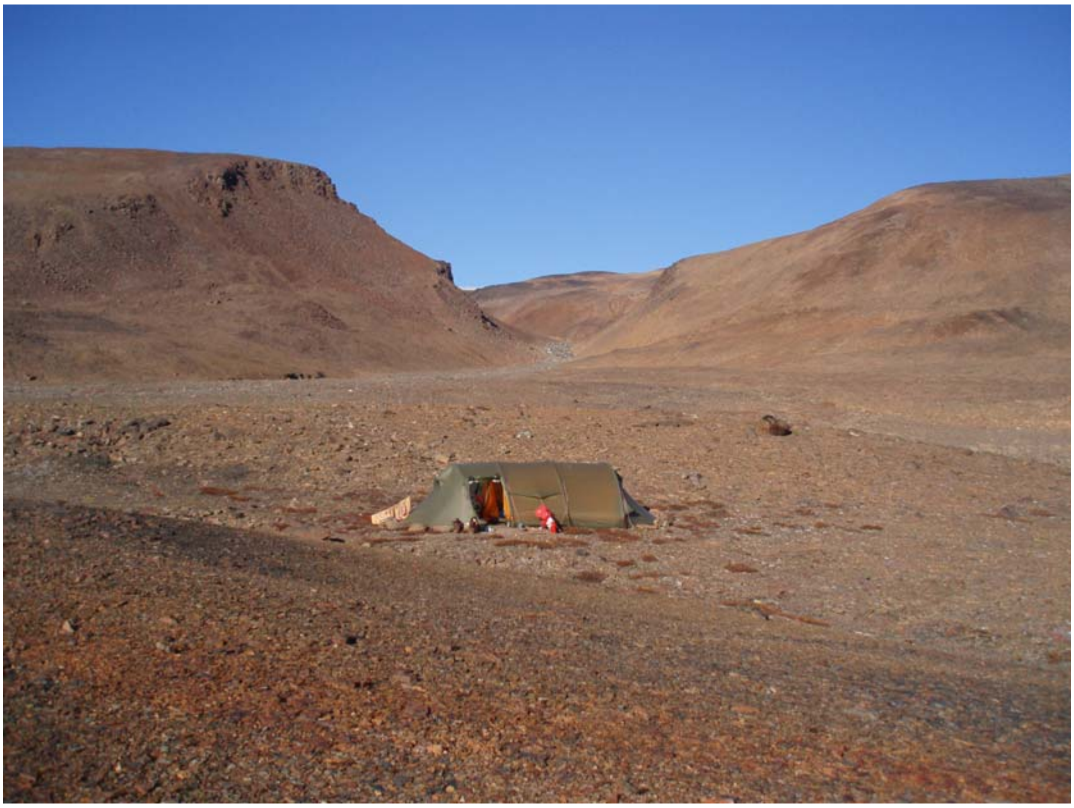


Figure 28. *Typical landscape north of Booth Sund with cliff-forming sills and scree slopes. Rusty sandstone was sampled below the sill to the left (478568–70).*

Figure 29. *Southern outcrop, Sermipaluk. Sharp sill–limestone contact is exposed at hammer. Samples 478592–93.*

Figure 30. *Central outcrop, Sermipaluk. Rusty sandstone and shale below sill (478596–98).*

Figure 31. *Central outcrop, Sermipaluk. Cut surface of sandstone–shale with conformable pyrite (478596). Scale in mm. Photo: Jakob Lautrup.*

Figure 32. *Central outcrop, Sermipaluk. Sulphide-bearing quartz-calcite vein in dolerite with 0.7% Zn, 0.07% Cu and 51 ppb Au (478595). Magnet pen is 12 cm.*

Figure 33. *Northern outcrop, Sermipaluk. Dolerite with pyritiferous pockets and veinlets running 0.07–0.11% Cu and < 2ppb Au (478604–05).*

Figure 34. *Moraine, Sermipaluk. Cut surface of quartz-pyrite-chalcopyrite cemented dolerite breccia with 0.6% Cu and 5.6 ppm Au (478590). Scale in mm. Photo: Jakob Lautrup.*

Figure 35. *East of Sermipaluk. Cut surface of sandstone with chalcopyrite-bearing quartz vein and 0.16% Cu, < 2 ppb Au (478571). Scale in mm. Photo: Jakob Lautrup.*

Figure 36. *Naajat copper showing (Cu) west of Chamberlin Gletscher, seen from Ulli. Plateau is c. 500 m a.s.l.*

Figure 37. *Naajat copper showing seen from the helicopter: malachite-stained Dundas Group shale is cut by dolerite dyke to the left. Width of the picture is c. 100 m.*

Figure 38. *Cut surface of partly silicified dolomitic limestone, Aorfêrneq Formation, Sønder-bæk (485801). Scale in mm. Photo: Jakob Lautrup.*

Figure 39. *Gypsum-cemented limestone-breccia, Aorfêrneq Formation, west of Sønderbæk.*

Figure 40. *Lower Sioqqap Kuua ('Fox Canyon'). Aerial view to the north-west.*

Figure 41. *Sioqqap Kuua ('Fox Canyon'). Sample locality for 503254 and 507354. View to the east.*

13. Tables

Table 1. ***Rock sample list***

GGU no.	Latitude	Longitude	Elev. m	Map	Type	Geol. unit	Field description
478501	76.4925	-68.7973	148	6	o	N	Vuggy limestone
478502	76.4925	-68.7973	148	6	b	N	Vuggy limestone
478503	76.4922	-68.7996	142	6	o	N	Brecciated limestone
478504	76.4922	-68.7996	142	6	o	N	Brecciated limestone
478505	76.4821	-68.7858	164	6	c1.5	N	Rusty limestone breccia
478506	76.3911	-69.4912	148	7	b	L	Quartzite with mag., py.
478507	76.3911	-69.4912	148	7	b	L	Quartzite with mag., hem.
478508	76.3972	-69.4549	220	7	b	L	Amphibolite with qz., mag., py.
478509	76.3952	-69.4517	182	7	b	L	BIF?
478510	76.3707	-69.4733	397	7	o	S	Dolerite with mag.
478511	76.3992	-69.4613	233	7	b	L	BIF? with hem.
478512	76.4011	-69.4673	252	7	o	V	Qz.-calcite cemented breccia
478513	76.4003	-69.4919	254	7	o	L	Hornblende schist with mag.
478514	76.4003	-69.4919	254	7	o	L	Quartzite with mag., py.
478515	76.4010	-69.5193	286	7	o	L	Hornblende schist with mag.
478516	76.4010	-69.5193	286	7	o	L	Serpentinite with mag.
478517	76.4054	-69.5687	254	7	o	L	BIF with hem.
478518	76.3913	-69.4924	167	7	b	L	Quartzite with mag., py.
478519	76.3981	-69.4326	266	7	o	L	BIF
478520	76.3981	-69.4207	274	7	o	L	BIF
478521	76.3981	-69.4207	274	7	o	L	BIF
478522	76.3981	-69.4207	274	7	o	L	BIF
478523	76.3976	-69.4131	252	7	o	L	BIF's footwall: altered gneiss
478524	76.3976	-69.4131	252	7	o	L	BIF's hanging wall: altered amphibolite
478525	76.3976	-69.4131	252	7	o	L	BIF's hanging wall: altered amphibolite
478526	76.4016	-69.4265	330	7	o	V	Vqz., calcite, hem.
478527	76.4016	-69.4265	330	7	o	V	Vqz. with py.
478528	76.4041	-69.4728	280	7	b	V	Vqz. with hem.
478529	76.3993	-69.4569	263	7	b	L	BIF with mag.
478530	76.3428	-68.5698	366	8	o	T	Gneiss with py. from shear zone
478531	76.3420	-68.5776	341	8	o	L	Amphibolite with py. from shear zone
478532	76.3420	-68.5776	341	8	o	L	Amphibolite with minor sulphides + mal.
478533	76.3412	-68.5960	269	8	o	T	Sheared gneiss with cpy., W-end
478534	76.3412	-68.5960	269	8	o	T	Sheared gneiss with mal., center
478535	76.3412	-68.5960	269	8	o	T	Sheared gneiss with cpy., E-end
478536	76.3414	-68.5965	277	8	bc	L	Sheared amphibolite with cpy.
478537	76.3402	-68.6094	259	8	o	L	BIF
478538	76.3402	-68.6094	259	8	o	L	Vqz. with cpy., mal.
478539	76.3402	-68.6094	259	8	o	L	BIF's footwall: mica schist
478540	76.3402	-68.6094	259	8	c1.8	L	BIF
478541	76.3402	-68.6094	259	8	o	L	BIF's hanging wall: mica schist with py.
478542	76.3540	-68.5927	390	8	o	L	BIF
478543	76.3556	-68.5853	381	8	b	L	BIF
478544	76.3556	-68.5853	381	8	b	L	Mica schist with py.
478545	76.3556	-68.5853	381	8	b	L	Mica schist with py.
478546	76.3563	-68.5889	373	8	bc	L	BIF with py.?
478547	76.3613	-68.6012	254	8	b	L	Chlorite schist with py.
478548	76.3378	-68.6230	172	8	b	L	BIF with py.?
478549	76.3393	-68.6066	196	8	o	L	BIF

Table 1. ***Rock Sample list***

GGU no.	Latitude	Longitude	Elev. m	Map	Type	Geol. unit	Field description
478550	76.3394	-68.5726	202	8	o	L	BIF
478551	76.3391	-68.5647	203	8	o	L	Mica schist with py.
478552	76.3401	-68.6274	207	8	o	L	BIF
478553	76.3401	-68.6274	207	8	o	L	Rusty BIF
478554	76.3401	-68.6274	207	8	o	L	BIF: massive mag.
478555	76.1433	-65.0609	227	9	o	M	Breccia with qz., epidote, hem.
478556	76.1483	-65.0900	227	9	o	M	Pegmatite with trace py.
478557	76.1498	-65.1166	210	9	b	L	BIF: massive mag.
478558	76.1498	-65.1166	210	9	b	L	BIF with py.
478559	76.1492	-65.1169	150	9	b	L	BIF with py.
478560	76.1467	-65.1146	116	9	b	L	Rusty gneiss with Fe-sulphides
478561	76.1466	-65.1140	123	9	b	L	Rusty gneiss with Fe-sulphides
478562	76.1330	-65.0679	144	9	o	V	Vqz.
478563	76.1287	-65.0765	211	9	o	V	Vqz. with hem.
478564	76.1343	-65.1104	185	9	b	M	Skarn in amphibolite with trace pyrrh.
478565	76.1351	-65.1585	72	9	o	M	Qz.-hem.-epidot breccia in gneiss
478566	76.1427	-64.9328	25	9	b	L	BIF with hem.
478567	76.9593	-70.7823	179	4	b	D	Sandstone with py.
478568	76.9626	-70.7736	316	4	b	D	Rusty sandstone
478569	76.9626	-70.7736	316	4	b	D	Rusty sandstone with py.
478570	76.9626	-70.7736	316	4	b	D	Rusty sandstone with py.
478571	76.9622	-70.7691	296	4	b	D	Sandstone with vqz., cpy.
478572	76.9638	-70.7642	295	4	b	D	Hornfels with py.
478573	76.9676	-70.7533	403	4	o	S	Dolerite with py.
478574	76.9676	-70.7533	403	4	o	S	Dolerite with vqz., py.
478575	76.9569	-70.7389	405	4	b	S	Dolerite with py.
478576	76.9527	-70.6952	333	4	o	S	Rusty dolerite with py.
478577	76.9562	-70.7032	455	4	o	S	Dolerite with py.
478578	76.9388	-70.7875	424	4	o	D	Mudstone with siderite (?)
478579	76.9598	-70.7791	231	4	b	D	Shale with py.
478580	76.9598	-70.7791	231	4	b	D	Dolerite with py.
478581	76.9625	-70.7669	274	4	b	D	Dolerite with vqz., cpy., ga.
478582	76.9689	-70.7847	428	4	b	D	Sandstone with vqz., cpy.
478583	76.9590	-70.7824	216	4	b	D	Dolerite with py.
478584	76.9606	-70.9074	37	4	b	D?	Sandstone with py. Q.F.?
478585	76.9587	-70.9326	26	4	b	D?	Sandstone with trace cpy. Q.F.?
478586	76.9626	-70.9053	54	4	b	D?	Sandstone (?) with sulphides
478587	76.9626	-70.9053	54	4	b	S?	Brecciated dolerite (?) with sulphides
478588	76.9626	-70.9053	54	4	b	D	Mudstone with vqz.,py.
478589	76.9641	-70.8984	35	4	b	D	Brecciated sandstone with py.
478590	76.9690	-70.8867	55	4	b	S	Dolerite with py., cpy.
478591	76.9685	-70.8793	78	4	b	D	Sandstone with py.
478592	76.9682	-70.8771	73	4	o	D	Limestone with py.
478593	76.9682	-70.8771	73	4	o	S	Dolerite: chilled margin.
478594	76.9682	-70.8771	73	4	b	S	Dolerite with cpy.
478595	76.9704	-70.8751	120	4	o	S	Dolerite with vqz., cpy., ga., sph.
478596	76.9707	-70.8749	123	4	o	D	Sandstone with py.
478597	76.9707	-70.8749	123	4	o	D	Sandstone with py.
478598	76.9707	-70.8749	123	4	o	D	Sandstone with mag., py.
478599	76.9710	-70.8728	129	4	o	D	Shale with py.

Table 1. ***Rock Sample list***

GGU no.	Latitude	Longitude	Elev. m	Map	Type	Geol. unit	Field description
478600	76.9710	-70.8728	129	4	o	D	Sandstone with py.
478601	76.9710	-70.8728	129	4	o	D	Sandstone with py.
478602	76.9738	-70.8700	141	4	b	D	Brecciated shale (?) with sulphides
478603	76.9745	-70.8698	143	4	b	S	Dolerite with sulphides
478604	76.9780	-70.8675	168	4	o	S	Dolerite with py.
478605	76.9780	-70.8675	168	4	o	S	Dolerite with vqz. and sulphides
478606	76.6702	-68.4105	29	5	b	D	Shale with mal. and sulphides
478607	76.6702	-68.4105	29	5	b	D	Black shale with sulphides
478608	76.6702	-68.4105	29	5	b	D	Black shale with sulphides
478609	76.6702	-68.4105	29	5	b	D	Sandstone with mal.
478610	76.6672	-68.4880	35	5	b	D	Sandstone with py.
478611	76.6672	-68.4880	35	5	b	D	Sandstone with py.
478612	76.6672	-68.4880	35	5	o	D	Fe-rich (?) sandstone
478613	76.3546	-61.6798	650	n.a.	o	L	BIF
478614	76.3546	-61.6798	650	n.a.	o	L	BIF: massive magnetite
478615	76.5787	-68.2375	227	5	b	T	Qtz.-hem. vein in chlorite schist
478616	76.5787	-68.2375	227	5	b	T	Amphibolite with sulphides
478617	76.5806	-68.2561	240	5	o	V	Vqz. with cpy.
478618	76.5806	-68.2561	240	5	b	T	Serpentinite
478619	76.5824	-68.2622	221	5	b	V	Vqz. with py.
478620	76.5820	-68.2701	205	5	o	T	Schist with py.
478621	76.5820	-68.2701	205	5	o	T	Siliceous schist with py.
478622	76.5820	-68.2701	205	5	o	V	Vqz. with py.
478623	76.5820	-68.2701	205	5	o	V	Vqz. with semi-massive py.
478624	76.5793	-68.2667	194	5	o	T	Amphibolite with vqz. and sulphides
478625	76.5852	-68.2966	162	5	b	T	Garnet amphibolite with pyrrh.
478626	76.5852	-68.2966	162	5	b	V	Vqz. with sulphides
478627	76.5867	-68.3017	116	5	o	T	Skarn with pyrrh.
478628	76.5867	-68.3017	116	5	o	T	Amphibolite with pyrrh.
478629	76.5864	-68.3031	114	5	o	V	Vqz. with trace sulphides
478630	76.5864	-68.2898	120	5	o	T	Amphibolite with vqz. and sulphides
478631	76.5831	-68.2655	167	5	o	T	Amphibolite with vqz. and sulphides
495801	76.5021	-68.7820	83	6	b	N	Porous, silicified (?) dolomite
495802	76.4931	-68.7928	150	6	b	N	Porous, silicified (?) dolomite
495803	76.3953	-69.4518	219	7	b	T	Quartz-rich pegmatite with py.
495804	76.3953	-69.4518	219	7	o	T	Epidotized amphibolite
495805	76.3702	-69.4747	400	7	o	T	Rusty dolerite
495806	76.3972	-69.5245	224	7	o	T	BIF with py. in amphibolite
495807	76.4050	-69.5796	222	7	o	T	Recrystallised BIF in amphibolite
495808	76.4050	-69.5796	222	7	o	T	BIF, 2.5 m wide
495809	76.4050	-69.5796	222	7	o	T	BIF with disseminated py.
495810	76.4053	-69.5657	277	7	b	T	BIF
495811	76.3977	-69.4127	226	7	b	T	BIF & jasper, outcrop 50m x 20 m
495812	76.3977	-69.4132	241	7	c4.0	T	BIF
495813	76.3423	-68.5591	383	8	o	T	Ultramafic rock from major ultramafic body
495814	76.3480	-68.5761	328	8	b	T	BIF with py.
495815	76.3464	-68.6215	257	8	oc	T	Greenish-grey mica from alteration zone
495816	76.3404	-68.6114	254	8	c1.4	T	BIF with py.
495817	76.3493	-68.6380	294	8	o	T	Ultramafic rock from major ultramafic body

Table 1. *Rock Sample list*

GGU no.	Latitude	Longitude	Elev. m	Map	Type	Geol. unit	Field description
495818	76.3593	-68.6066	282	8	b	T	Rusty, fine grained quartzite rich in py.
495819	76.3563	-68.6096	249	8	b	T	BIF, local concentration of BIF blocks
495820	76.3595	-68.6041	296	8	b	T	BIF with py. and amphiboles
495821	76.3668	-68.6044	321	8	b	T	BIF
495822	76.3595	-68.6041	296	8	c10.0	T	BIF, rich in py.
495823	76.3595	-68.6041	296	8	o	T	Folded BIF with py.
495824	76.3595	-68.6041	296	8	o	T	Vqz. from BIF
495825	76.1433	-65.0608	222	9	o	L	Epidotized fault with vqz. & Fe-Mn oxides
495826	76.1492	-65.1170	146	9	b	L	BIF with disseminated py.
495827	76.1473	-65.1153	124	9	b	L	Recrystallised BIF
495828	76.1331	-65.0677	139	9	o	L	Epidotized and Fe-oxide stained gneiss
495829	76.1323	-65.1437	111	9	b	L	BIF
495830	76.9617	-70.8317	184	4	o	D	Hornfels with Fe-sulphides
495831	76.9617	-70.8317	184	4	o	D	Hornfels with Fe-sulphides
495832	76.6701	-68.4092	109	5	b	D	Sulphide-bearing skarn-carbonate rock
495833	76.6701	-68.4092	109	5	b	D	Limestone with mal. and Fe-sulphides
495834	76.4710	-68.6014	183	6	b	T	BIF
495835	76.4022	-68.6278	642	n.a.	o	T	Ultramafic rock with mag.

Abbreviations

o	=	sample from outcrop
oc	=	composite sample from outcrop
b	=	boulder or scree sample
bc	=	composite sample from boulder or scree
c1.0	=	chip sample over 1.0 m
cpy.	=	chalcopyrite
cc.	=	chalcocite
ga.	=	galena
hem.	=	hematite
mag.	=	magnetite
mal.	=	malachite
py.	=	pyrite
pyrrh.	=	pyrrhotite
sph.	=	sphalerite
vqz.	=	vein quartz
V	=	Quartz vein
S	=	Dolerite sill
N	=	Narssârssuk Group
D	=	Dundas Group
M	=	Melville Bugt orthogneiss complex
L	=	Lauge Koch Kyst supracrustal complex
T	=	Thule mixed-gneiss complex

Table 2. ***Rock samples: analytical results***

Element	Detection limit		Analytical method	Element	Detection limit		Analytical method
Ag	0.3	ppm	ICP	Mo	1	ppm	ICP
Au	2	ppb	INAA	Na	0.01	pct	INAA
Au	2	ppb	FA	Nd	5	ppm	INAA
Al	0.01	pct	INAA	Ni	1	ppm	ICP
As	0.5	ppm	INAA	P	0.001	pct	ICP
Ba	50	ppm	INAA	Pb	3	ppm	ICP
Be	1	ppm	ICP	Pd	4	ppb	FA
Bi	2	ppm	ICP	Pt	5	ppb	FA
Br	0.5	ppm	INAA	Rb	15	ppm	INAA
Ca	0.01	pct	ICP	S	0.001	pct	ICP
Cd	0.3	ppm	ICP	Sb	0.1	ppm	INAA
Ce	3	ppm	INAA	Sc	0.1	ppm	INAA
Co	1	ppm	INAA	Se	3	ppm	INAA
Cr	5	ppm	INAA	Sm	0.1	ppm	INAA
Cs	1	ppm	INAA	Sn	0.01	pct	INAA
Cu	1	ppm	ICP	Sr	0.5	ppm	ICP
Eu	0.2	ppm	INAA	Ta	0.5	ppm	INAA
Fe	0.01	pct	INAA	Tb	0.5	ppm	INAA
Hf	1	ppm	INAA	Th	0.2	ppm	INAA
Hg	1	ppm	INAA	Ti	0.01	pct	ICP
Ir	5	ppb	INAA	U	0.5	ppm	INAA
K	0.01	pct	ICP	V	2	ppm	ICP
La	0.5	ppm	INAA	W	1	ppm	INAA
Lu	0.05	ppm	INAA	Y	1	ppm	ICP
Mg	0.01	pct	ICP	Yb	0.2	ppm	INAA
Mn	1	ppm	ICP	Zn	1	ppm	ICP
Al_2O_3	0.01	pct	FUS-XRF	MgO	0.01	pct	FUS-XRF
CaO	0.01	pct	FUS-XRF	MnO	0.01	pct	FUS-XRF
Cr_2O_3	0.01	pct	FUS-XRF	Na_2O	0.01	pct	FUS-XRF
FeO	0.01	pct	TITR	P_2O_5	0.01	pct	FUS-XRF
Fe_2O_3	0.01	pct	FUS-XRF	SiO_2	0.01	pct	FUS-XRF
K_2O	0.01	pct	FUS-XRF	TiO_2	0.01	pct	FUS-XRF

Analysis by Activation Laboratories Ltd., Ontario, Canada.

Analytical methods:

INAA:	Instrumental neutron activation
ICP:	Inductively coupled plasma emission spectrometry
FA:	Fire assay
FUS-XRF:	Fusion XRF
TITR:	Titration

Table 2. ***Rock samples: analytical results***

GGU no.	Au ppb	**Au**(FA) ppb	Ag ppm	Pt ppb	Pd ppb	Ir ppb	As ppm	Sb ppm	Se ppm	S pct	Hg ppm
478501	< 2		< 0.3			< 5	53.5	0.2	< 3	0.19	< 1
478502	< 2		< 0.3			< 5	32.4	< 0.1	< 3	0.2	< 1
478503	< 2		< 0.3			< 5	28	0.2	< 3	0.15	< 1
478504	< 2		< 0.3			< 5	24.8	< 0.1	< 3	0.07	< 1
478505	< 2		< 0.3			< 5	39.2	0.2	< 3	0.07	< 1
478506	< 2		< 0.3			< 5	15.2	< 0.1	< 3	0.82	< 1
478507	< 2		< 0.3			< 5	7.7	< 0.1	< 3	0.02	< 1
478508	< 2		0.5			< 5	8.5	< 0.1	< 3	0.87	< 1
478509	9		< 0.3			< 5	8.8	< 0.1	< 3	0.04	< 1
478510	< 2		< 0.3			< 5	10.8	< 0.1	< 3	0.05	< 1
478511	< 2		0.5			< 5	10.5	< 0.1	< 3	< 0.01	< 1
478512	< 2	< 2	< 0.3	20	8	11	11.1	< 0.1	< 3	< 0.01	< 1
478513	< 2		0.3			< 5	7.6	0.2	< 3	0.04	< 1
478514	< 2		0.4			< 5	5.7	0.2	< 3	0.67	< 1
478515	< 2	< 2	< 0.3	8	6	< 5	4.5	< 0.1	< 3	0.11	< 1
478516	< 2	< 2	< 0.3	< 1	< 1	< 5	6.1	< 0.1	< 3	< 0.01	< 1
478517	< 2		0.3			< 5	3.6	< 0.1	< 3	< 0.01	< 1
478518	5		0.3			< 5	4	< 0.1	< 3	0.69	< 1
478519	< 2		< 0.3			< 5	3.8	< 0.1	< 3	0.02	< 1
478520	< 2		< 0.3			< 5	5	< 0.1	< 3	< 0.01	< 1
478521	< 2		< 0.3			< 5	5.9	< 0.1	< 3	< 0.01	< 1
478522	< 2		< 0.3			< 5	4.4	< 0.1	< 3	0.02	< 1
478523	< 2		< 0.3			< 5	6.1	< 0.1	< 3	0.02	< 1
478524	< 2	< 2	< 0.3	3	1	9	3.9	< 0.1	< 3	0.03	< 1
478525	< 2		< 0.3			< 5	4.4	< 0.1	< 3	0.03	< 1
478526	< 2		< 0.3			< 5	4	< 0.1	< 3	0.01	< 1
478527	5	4	1.1	< 1	< 1	< 5	4.1	< 0.1	11	4.23	< 1
478528	< 2	< 2	< 0.3	< 1	< 1	< 5	3.4	< 0.1	< 3	0.05	< 1
478529	8		0.5			< 5	4.9	0.2	< 3	0.01	< 1
478530	< 2		0.7			< 5	4.9	< 0.1	< 3	0.92	< 1
478531	< 2		1.6			< 5	< 0.5	0.2	< 3	0.5	< 1
478532	14	5	0.5	< 1	< 1	7	< 0.5	< 0.1	< 3	0.05	< 1
478533	441	397	2.7	< 1	< 1	< 5	1.8	0.5	< 3	0.09	< 1
478534	28	22	0.7	< 1	2	< 5	1.4	0.4	< 3	0.01	< 1
478535	19	24	1.8	< 1	< 1	< 5	< 0.5	< 0.1	< 3	0.13	< 1
478536	44	48	8.9	< 1	< 1	< 5	4.7	0.2	< 3	0.18	< 1
478537	6		0.4			< 5	1.5	< 0.1	< 3	< 0.01	< 1
478538	< 2		0.4			< 5	2.1	0.6	< 3	0.12	< 1
478539	< 2		0.4			< 5	< 0.5	0.2	< 3	< 0.01	< 1
478540	< 2		< 0.3			< 5	5.6	0.8	< 3	0.02	< 1
478541	< 2		0.6			< 5	2.4	0.4	< 3	0.15	< 1
478542	< 2		< 0.3			< 5	< 0.5	< 0.1	< 3	< 0.01	< 1
478543	< 2		< 0.3			< 5	< 0.5	< 0.1	< 3	0.02	< 1
478544	< 2		0.5			< 5	3.1	< 0.1	< 3	2.09	< 1
478545	< 2		0.4			< 5	2.3	< 0.1	< 3	0.95	< 1
478546	< 2		0.4			< 5	5.7	< 0.1	< 3	0.62	< 1
478547	< 2		0.7			< 5	2.5	< 0.1	< 3	5.72	< 1
478548	< 2		0.9			< 5	3.9	0.9	< 3	2.26	< 1

Table 2. ***Rock samples: analytical results***

GGU no.	Au ppb	**Au**(FA) ppb	Ag ppm	Pt ppb	Pd ppb	Ir ppb	As ppm	Sb ppm	Se ppm	S pct	Hg ppm
478549	< 2		< 0.3			< 5	3	0.5	< 3	0.07	< 1
478550	< 2		0.5			< 5	2	0.6	< 3	0.37	< 1
478551	< 2		0.8			< 5	11.7	0.3	< 3	0.29	< 1
478552	< 2		0.4			< 5	1.9	0.6	< 3	0.02	< 1
478553	< 2		0.4			< 5	1.3	0.3	< 3	< 0.01	< 1
478554	< 2		0.5			< 5	6	0.7	< 3	0.01	< 1
478555	< 2		0.8			< 5	1.1	0.3	< 3	< 0.01	< 1
478556	< 2		0.7			< 5	2.1	< 0.1	< 3	0.51	< 1
478557	< 2	7	0.5	< 2	< 2	< 5	164	1.7	< 3	0.02	< 1
478558	< 2		0.5			< 5	5.1	< 0.1	< 3	0.76	< 1
478559	< 2		< 0.3			< 5	1.2	< 0.1	< 3	0.46	< 1
478560	< 2		1.1			< 5	< 0.5	< 0.1	< 3	0.46	< 1
478561	< 2		1.7			< 5	< 0.5	< 0.1	< 3	0.59	< 1
478562	< 2		< 0.3			< 5	0.8	< 0.1	< 3	0.01	< 1
478563	< 2		< 0.3			< 5	0.8	< 0.1	< 3	< 0.01	< 1
478564	< 2		0.7			< 5	10.9	0.4	< 3	0.63	< 1
478565	< 2		0.7			< 5	< 0.5	0.3	< 3	< 0.01	< 1
478566	< 2		< 0.3			< 5	2	< 0.1	< 3	< 0.01	< 1
478567	< 2		0.7			< 5	2.1	0.6	< 3	2.91	< 1
478568	< 2		0.4			< 5	0.8	0.2	< 3	0.21	< 1
478569	< 2		0.6			< 5	3.3	1.2	< 3	0.87	< 1
478570	6		0.6			< 5	2.1	0.4	< 3	0.16	< 1
478571	< 2		1.3			< 5	6.7	0.2	< 3	0.13	< 1
478572	< 2		0.7			< 5	4.3	< 0.1	< 3	2.11	< 1
478573	< 2		0.5			< 5	< 0.5	< 0.1	< 3	2.26	< 1
478574	< 2		< 0.3			< 5	2	< 0.1	< 3	0.52	< 1
478575	< 2		0.7			< 5	2.4	< 0.1	< 3	0.65	< 1
478576	< 2		0.5			< 5	< 0.5	0.4	< 3	3.42	< 1
478577	< 2		< 0.3			< 5	< 0.5	0.7	< 3	0.1	< 1
478578	< 2		0.6			< 5	< 0.5	< 0.1	< 3	0.01	< 1
478579	< 2		0.6			< 5	< 0.5	< 0.1	< 3	2.17	< 1
478580	3		0.7			< 5	2.1	0.6	< 3	1.69	< 1
478581	88	80	0.5	4	3	< 5	39.3	0.5	< 3	0.34	< 1
478582	< 2		0.4			< 5	1.4	< 0.1	< 3	0.01	< 1
478583	< 2		0.4			< 5	< 0.5	1	< 3	0.65	< 1
478584	< 2		0.9			< 5	32.3	2.3	< 3	5.2	< 1
478585	< 2		0.4			< 5	0.8	< 0.1	< 3	0.15	< 1
478586	8		< 0.3			< 5	< 0.5	0.3	< 3	1.08	< 1
478587	< 2		0.5			< 5	1.2	0.2	< 3	0.5	< 1
478588	4		0.4			< 5	< 0.5	4	< 3	4.91	< 1
478589	6		0.4			< 5	10.3	3.3	< 3	1.23	< 1
478590	5390	5160/6040	1.6	5	12	< 5	< 0.5	0.4	< 3	6.82	< 1
478591	31		1.7			< 5	< 0.5	0.6	< 3	10.2	< 1
478592	14	17	< 0.3	< 3	< 3	< 5	0.9	0.8	< 3	1.78	< 1
478593	37	20	< 0.3	6	18	< 5	3.4	0.3	< 3	0.08	< 1
478594	< 2		0.5			< 5	4.5	0.4	< 3	0.12	< 1
478595	51	51	1.4	4	6	< 5	293	5.1	< 3	1.52	< 1
478596	16		0.7			< 5	7	1.9	< 3	10.9	< 1
478597	17		0.6			< 5	9.9	1.2	< 3	3.86	< 1
478598	< 2		0.4			< 5	5	< 0.1	< 3	0.2	< 1

Table 2. ***Rock samples: analytical results***

GGU no.	Au ppb	Au(FA) ppb	Ag ppm	Pt ppb	Pd ppb	Ir ppb	As ppm	Sb ppm	Se ppm	S pct	Hg ppm
478599	< 2		0.5			< 5	2.3	0.4	< 3	1.76	< 1
478600	< 2		0.5			< 5	< 0.5	< 0.1	< 3	1.03	< 1
478601	17	7	0.5	< 3	< 3	< 5	2	0.7	< 3	4.1	< 1
478602	< 2		0.7			< 5	2	1.5	< 3	10.1	< 1
478603	40	36	0.5	6	22	< 5	< 0.5	0.4	< 3	3.47	< 1
478604	< 2		0.6			< 5	< 0.5	< 0.1	< 3	3.02	< 1
478605	< 2		0.6			< 5	< 0.5	< 0.1	< 3	3.74	< 1
478606	< 2		< 0.3			< 5	< 0.5	< 0.1	< 3	0.53	< 1
478607	< 2		< 0.3			< 5	6.3	< 0.1	< 3	0.16	< 1
478608	< 2		0.4			< 5	< 0.5	< 0.1	< 3	0.24	< 1
478609	< 2	6	1.3	3	7	< 5	6	< 0.1	< 3	0.32	< 1
478610	< 2		1.6			< 5	55.3	2.3	< 3	9.06	< 1
478611	< 2		< 0.3			< 5	< 0.5	1.6	< 3	4.72	< 1
478612	< 2	116	< 0.3	< 2	< 2	7	1.8	< 0.1	< 3	0.08	< 1
478613	< 2		0.4			< 5	< 0.5	0.3	< 3	0.01	< 1
478614	< 2		0.7			< 5	2.7	< 0.1	< 3	< 0.01	< 1
478615	< 2		0.5			< 5	< 0.5	0.5	< 3	< 0.01	< 1
478616	108	75	0.6	< 2	< 2	< 5	< 0.5	0.2	< 3	0.73	< 1
478617	7		1.8			< 5	2.4	0.4	< 3	0.17	< 1
478618	< 2	266	< 0.3	< 1	< 1	19	4.2	< 0.1	< 3	0.15	< 1
478619	6		0.6			< 5	8.5	< 0.1	< 3	0.67	< 1
478620	40	78	4.1	6	10	< 5	< 0.5	< 0.1	< 3	1.46	< 1
478621	36	25	2.2	< 3	< 3	< 5	2.9	< 0.1	< 3	4.81	< 1
478622	13		0.4			< 5	29.3	0.2	< 3	3.91	< 1
478623	28	342	1	< 1	< 1	< 5	17.9	< 0.1	< 3	5.37	< 1
478624	391	100	9.3	< 2	< 2	< 5	6.8	0.9	< 3	0.93	< 1
478625	< 2		0.5			< 5	< 0.5	0.7	< 3	0.64	< 1
478626	83	25	1	< 2	< 2	< 5	5.9	0.7	< 3	1.6	< 1
478627	46	33	0.8	< 2	< 2	< 5	4.8	0.3	< 3	3.3	< 1
478628	< 2		0.6			< 5	< 0.5	0.2	< 3	0.12	< 1
478629	8	14	1.8	4	4	< 5	3.6	< 0.1	< 3	1.1	< 1
478630	20	42	< 0.3	11	2	< 5	< 0.5	< 0.1	< 3	0.05	< 1
478631	< 2		0.4			< 5	< 0.5	0.4	< 3	0.07	< 1
495801	< 2		< 0.3			< 5	3.6	< 0.1	< 3	0.05	< 1
495802	< 2		< 0.3			< 5	3.9	0.2	< 3	0.04	< 1
495803	< 2		1.1			< 5	4.7	< 0.1	< 3	4.26	< 1
495804	< 2	< 2	0.9	< 1	< 1	< 5	3.3	< 0.1	< 3	0.04	< 1
495805	< 2		0.4			< 5	1.7	< 0.1	< 3	0.02	< 1
495806	< 2	8	0.9	1	1	< 5	1.9	< 0.1	< 3	0.28	< 1
495807	< 2		0.4			< 5	1.7	< 0.1	< 3	0.02	< 1
495808	< 2		0.4			< 5	2.5	< 0.1	< 3	0.08	< 1
495809	< 2		0.4			< 5	6.6	0.3	< 3	0.8	< 1
495810	< 2		0.4			< 5	< 0.5	< 0.1	< 3	0.01	< 1
495811	< 2		0.5			< 5	2.5	0.2	< 3	< 0.01	< 1
495812	< 2	< 2	< 0.3	6	< 1	< 5	3.2	< 0.1	< 3	< 0.01	< 1
495813	< 2	9	< 0.3	11	2	< 5	0.8	< 0.1	< 3	0.18	< 1
495814	< 2		< 0.3			< 5	9.3	< 0.1	< 3	0.04	< 1
495815	< 2		< 0.3			< 5	3.1	< 0.1	< 3	0.01	< 1
495816	< 2		0.3			< 5	3.3	0.6	< 3	< 0.01	< 1

Table 2. ***Rock samples: analytical results***

GGU no.	Au ppb	Au(FA) ppb	Ag ppm	Pt ppb	Pd ppb	Ir ppb	As ppm	Sb ppm	Se ppm	S pct	Hg ppm
495817	< 2	32	< 0.3	10	6	< 5	1.9	< 0.1	< 3	0.11	< 1
495818	24	248	5.5	< 3	< 3	< 5	12.7	2.4	< 3	7.87	< 1
495819	< 2	30	0.4	< 3	< 3	9	5.2	0.9	< 3	0.03	< 1
495820	< 2		<0,3			< 5	2.6	< 0.1	< 3	0.26	< 1
495821	< 2		0.4			< 5	1	< 0.1	< 3	0.07	< 1
495822	< 2	<2	0.3	<1	<1	< 5	5.2	< 0.1	< 3	0.26	< 1
495823	< 2		0.5			< 5	3.6	< 0.1	< 3	0.37	< 1
495824	< 2		< 0.3			< 5	2.2	0.4	< 3	0.05	< 1
495825	< 2		< 0.3			< 5	< 0.5	< 0.1	< 3	< 0.01	< 1
495826	< 2		< 0.3			< 5	2.4	< 0.1	< 3	0.04	< 1
495827	< 2		< 0.3			< 5	3.8	< 0.1	< 3	0.04	< 1
495828	< 2		0.8			< 5	< 0.5	< 0.1	< 3	< 0.01	< 1
495829	< 2		< 0.3			< 5	2.1	0.3	< 3	0.01	< 1
495830	< 2		0.5			< 5	2.4	1.3	< 3	8.42	< 1
495831	< 2		0.6			< 5	1.8	< 0.1	< 3	0.58	< 1
495832	4	12	< 0.3	< 1	< 1	< 5	5	0.2	< 3	0.25	< 1
495833	< 2		< 0.3			< 5	< 0.5	< 0.1	< 3	0.28	< 1
495834	< 2		< 0.3			< 5	3.7	0.8	< 3	0.02	< 1
495835	4	< 6	< 0.3	5	4	< 5	< 0.5	0.3	< 3	0.05	< 1
Samples	166	166	166	166	166	166	166	166	166	166	166
Minimum	< 2	< 2	< 0.3	< 3	< 3	< 5	< 0.5	< 0.1	< 3	< 0.01	< 1
Maximum	5390	6040	9.3	20	22	19	293	5.1	11	10.9	< 1

Table 2. ***Rock samples: analytical results***

GGU no.	Cu ppm	Pb ppm	Zn ppm	Cd ppm	Bi ppm	Ba ppm	Fe pct	Ti pct	P pct	V ppm	Mn ppm
478501	20	120	62	< 0.3	< 2	< 50	0.85	0.03	0.005	14	121
478502	10	32	27	< 0.3	< 2	140	0.86	0.05	0.007	20	118
478503	6	19	29	< 0.3	< 2	100	0.65	0.02	0.004	15	113
478504	7	9	21	< 0.3	< 2	< 50	0.54	0.01	0.002	14	62
478505	33	12	35	< 0.3	< 2	120	0.93	0.05	0.007	19	189
478506	106	14	44	1.1	< 2	< 50	14.6	0.02	0.011	10	5750
478507	71	19	28	1.7	< 2	< 50	21.3	< 0.01	0.021	16	915
478508	775	7	71	0.8	< 2	< 50	9.45	0.32	0.049	179	1290
478509	56	11	358	1.5	< 2	< 50	13.9	0.08	0.032	58	3440
478510	178	11	70	0.6	< 2	< 50	8.17	0.47	0.039	276	1550
478511	6	11	31	1.6	2	< 50	19	0.01	0.016	23	998
478512	2	6	22	< 0.3	< 2	730	1.82	0.07	0.018	20	660
478513	61	139	302	1.8	< 2	< 50	23.9	0.02	0.086	21	2940
478514	111	26	35	1	< 2	< 50	10.2	< 0.01	0.017	13	1740
478515	136	4	47	0.6	< 2	< 50	6.26	0.17	0.004	98	1350
478516	2	301	37	0.6	< 2	< 50	4.53	0.01	0.002	12	333
478517	12	10	8	1.5	< 2	< 50	19.4	< 0.01	0.08	20	126
478518	126	24	22	2	3	< 50	19.4	0.03	0.031	22	394
478519	8	16	19	2.1	2	< 50	24.8	< 0.01	0.079	15	306
478520	40	6	14	1.8	3	160	16.6	0.02	0.007	19	3300
478521	11	12	11	2.3	< 2	110	30.1	< 0.01	0.063	14	279
478522	43	8	6	1.7	< 2	< 50	23.4	< 0.01	0.031	13	223
478523	3	7	42	0.3	< 2	< 50	2.54	0.1	0.009	45	354
478524	45	< 3	81	0.6	< 2	< 50	7.39	0.37	0.044	136	1450
478525	145	5	85	0.8	< 2	< 50	9.37	0.74	0.118	306	1740
478526	7	< 3	8	< 0.3	< 2	440	0.7	0.02	0.003	12	222
478527	485	76	72	0.3	< 2	290	4.93	0.11	0.021	61	245
478528	12	6	13	< 0.3	< 2	< 50	1.7	0.02	0.005	19	107
478529	33	10	27	1.7	< 2	< 50	21.4	0.06	0.021	34	837
478530	1500	20	59	0.8	< 2	< 50	6.99	1.2	0.183	211	1150
478531	616	20	47	0.3	< 2	700	2.83	0.26	0.028	39	536
478532	74	21	83	0.6	< 2	380	4.71	0.26	0.056	114	884
478533	1290	14	40	0.5	3	240	4.5	0.26	0.036	91	890
478534	644	26	33	0.3	< 2	450	2.81	0.23	0.034	85	511
478535	1670	4	98	0.5	3	290	5.85	0.29	0.018	93	986
478536	1820	11	67	0.8	< 2	460	6.36	0.44	0.064	175	1060
478537	22	5	4	1.7	4	< 50	22.4	0.01	0.054	12	59
478538	845	3	4	< 0.3	< 2	< 50	1.46	< 0.01	0.037	3	65
478539	25	10	62	< 0.3	< 2	320	3.39	0.29	0.029	99	305
478540	98	9	18	1.8	< 2	< 50	17.9	0.01	0.057	15	1180
478541	35	21	28	0.3	< 2	670	3.42	0.19	0.021	43	314
478542	8	< 3	13	2.1	< 2	< 50	28.3	0.01	0.041	11	167
478543	16	< 3	12	2	< 2	< 50	31.5	0.01	0.029	15	1260
478544	49	27	59	0.6	< 2	550	7.3	0.35	0.007	119	1150
478545	41	60	51	0.3	< 2	< 50	3.54	0.08	0.017	31	382
478546	6	13	13	1.6	< 2	< 50	18.9	< 0.01	0.019	9	1190
478547	186	17	52	1.1	3	< 50	14.9	0.26	0.027	109	1060
478548	356	21	35	1.3	2	< 50	17.7	0.03	0.016	29	3510

Table 2. ***Rock samples: analytical results***

GGU no.	Cu ppm	Pb ppm	Zn ppm	Cd ppm	Bi ppm	Ba ppm	Fe pct	Ti pct	P pct	V ppm	Mn ppm
478549	12	4	19	1.8	< 2	< 50	25	< 0.01	0.025	12	690
478550	18	< 3	49	1.4	< 2	< 50	22.5	< 0.01	0.07	12	3100
478551	53	110	80	0.3	< 2	370	4.33	0.29	0.023	85	545
478552	5	5	11	1.8	< 2	< 50	29	0.01	0.035	13	341
478553	1	20	30	1.7	5	70	22.6	< 0.01	0.03	12	532
478554	15	< 3	30	2.2	2	< 50	36.4	0.05	0.065	55	506
478555	4	7	14	0.8	< 2	< 50	9.78	0.33	0.083	95	471
478556	52	104	50	0.3	< 2	650	4.32	0.31	0.094	52	311
478557	2	< 3	37	2.2	< 2	< 50	31	0.07	0.03	32	10500
478558	420	4	114	1.2	< 2	570	15.7	0.29	0.068	197	1240
478559	91	< 3	73	0.9	< 2	< 50	11.6	0.13	0.018	75	1280
478560	345	29	23	< 0.3	< 2	290	2.55	0.11	0.008	33	180
478561	345	19	25	< 0.3	< 2	630	3.22	0.26	0.045	82	242
478562	11	< 3	5	< 0.3	< 2	< 50	0.72	0.03	0.003	7	61
478563	7	< 3	3	< 0.3	< 2	< 50	0.87	< 0.01	0.001	13	64
478564	195	6	56	0.7	< 2	< 50	5.69	0.24	0.01	63	1690
478565	5	14	9	1	< 2	< 50	23.5	0.08	0.042	138	415
478566	1	8	18	< 0.3	4	< 50	0.94	0.01	0.002	7	89
478567	369	6	28	0.9	< 2	200	12.4	0.28	0.023	68	234
478568	14	10	6	0.3	< 2	170	2.98	0.13	0.006	25	55
478569	105	8	107	0.9	< 2	< 50	11.2	0.14	0.048	43	1050
478570	86	4	131	0.8	< 2	< 50	10.2	0.15	0.067	48	279
478571	1550	5	18	0.4	< 2	140	4.72	0.17	0.012	56	129
478572	79	53	85	0.3	< 2	430	4.6	0.53	0.018	130	89
478573	658	22	100	0.8	< 2	310	10.8	0.71	0.174	117	771
478574	211	8	69	0.7	< 2	< 50	9.45	0.45	0.099	113	803
478575	315	17	20	0.5	< 2	590	5.12	0.46	0.024	170	291
478576	178	17	33	0.6	< 2	< 50	8.5	0.63	0.175	65	391
478577	27	13	138	0.8	< 2	< 50	8.17	0.15	0.087	111	805
478578	12	15	23	0.3	< 2	250	3.53	0.26	0.018	49	481
478579	250	7	96	0.9	< 2	500	12.5	0.49	0.046	128	568
478580	270	30	130	1.3	< 2	< 50	11.3	1.09	0.104	234	1280
478581	203	43	266	0.6	7	< 50	5.69	0.42	0.069	132	772
478582	495	3	56	< 0.3	< 2	< 50	1.9	0.1	0.009	19	139
478583	133	4	123	0.6	< 2	< 50	9.01	0.53	0.14	77	640
478584	64	103	15	0.7	< 2	160	10.3	0.04	0.12	14	8220
478585	679	7	7	< 0.3	< 2	220	1.5	0.15	0.018	24	225
478586	362	102	193	0.5	< 2	< 50	6.09	0.57	0.151	60	514
478587	558	13	62	0.7	< 2	180	8.62	0.47	0.085	145	1030
478588	710	33	31	0.5	< 2	230	9.72	0.2	0.012	54	1630
478589	175	25	64	0.4	< 2	50	4.18	0.17	0.012	57	1430
478590	6190	3	56	1	< 2	< 50	15	0.94	0.086	207	411
478591	645	8	112	1.3	< 2	590	21.2	0.2	0.525	59	2250
478592	116	10	19	0.4	< 2	< 50	4.55	0.03	0.019	16	969
478593	194	< 3	125	0.7	< 2	< 50	9.54	0.15	0.084	148	1070
478594	693	< 3	229	0.6	< 2	< 50	6.98	0.16	0.079	85	913
478595	734	372	7300	8.1	6	220	9.45	0.41	0.147	59	1600
478596	551	47	85	1.2	< 2	210	16.3	0.19	0.044	59	421
478597	1090	12	107	0.7	< 2	310	12.1	0.28	0.046	77	448
478598	131	4	322	2.2	< 2	< 50	33.3	0.1	0.172	48	3560

Table 2. ***Rock samples: analytical results***

GGU no.	Cu ppm	Pb ppm	Zn ppm	Cd ppm	Bi ppm	Ba ppm	Fe pct	Ti pct	P pct	V ppm	Mn ppm
478599	64	47	156	1	2	430	11	0.4	0.051	104	1040
478600	21	65	22	0.3	< 2	630	4.56	0.46	0.014	120	232
478601	42	89	184	1.2	< 2	< 50	13.1	0.14	0.528	41	1540
478602	1710	13	69	1.4	< 2	< 50	19.3	0.03	0.015	18	1580
478603	478	3	72	0.9	< 2	< 50	12.6	0.48	0.161	90	684
478604	744	3	53	0.8	< 2	460	11.3	0.44	0.249	36	525
478605	1140	19	182	0.8	< 2	260	9.75	0.56	0.239	72	573
478606	110	5	161	0.4	< 2	< 50	3.79	0.23	0.018	65	935
478607	62	12	60	0.3	< 2	450	4.11	0.2	0.015	66	946
478608	43	< 3	15	0.4	< 2	220	4.79	0.25	0.033	78	596
478609	1790	3	16	< 0.3	< 2	< 50	4.99	1.54	0.153	274	241
478610	141	372	18	0.9	3	< 50	20.2	0.07	0.056	25	3030
478611	10	18	19	0.6	< 2	< 50	9.29	0.12	0.024	29	636
478612	4	6	14	0.5	< 2	< 50	7.45	0.08	0.031	20	1880
478613	1	10	11	1.8	< 2	< 50	27.7	< 0.01	0.004	11	343
478614	1	< 3	19	2.9	7	< 50	55	0.03	0.005	34	302
478615	4	< 3	26	2.4	< 2	< 50	36.6	0.11	0.008	70	180
478616	62	17	114	0.9	< 2	< 50	8.23	0.42	0.021	167	1600
478617	746	4	15	0.3	< 2	< 50	3.05	0.05	0.003	16	184
478618	35	8	35	0.3	< 2	< 50	4.63	0.03	0.004	29	413
478619	98	7	264	0.6	< 2	< 50	6.38	0.29	0.016	82	1000
478620	175	283	382	1.3	< 2	< 50	7.57	0.41	0.025	142	915
478621	379	54	230	1.2	2	< 50	9.98	0.12	0.014	54	599
478622	163	31	48	0.4	< 2	< 50	5.52	0.01	0.001	4	181
478623	97	48	81	1.2	< 2	170	11.8	0.05	0.003	40	2190
478624	476	4230	62	0.9	3	570	5.53	0.39	0.023	202	2340
478625	195	31	216	1.4	4	< 50	17.2	0.46	0.015	240	3570
478626	355	91	22	< 0.3	< 2	360	3.11	0.02	0.006	9	205
478627	48	< 3	42	1.2	3	< 50	18.6	0.18	0.076	53	3480
478628	111	10	294	0.9	< 2	310	1.34	0.1	0.023	12	280
478629	1350	25	3150	9.1	< 2	< 50	8.66	0.43	0.027	219	1690
478630	243	< 3	118	0.6	< 2	470	6.86	0.4	0.017	226	921
478631	74	4	45	0.3	< 2	250	2.78	0.17	0.007	70	591
495801	12	6	16	< 0.3	< 2	< 50	0.52	0.02	0.003	14	119
495802	9	4	10	< 0.3	< 2	< 50	0.71	0.03	0.006	16	239
495803	698	25	26	0.4	3	< 50	5.48	0.02	0.007	6	153
495804	12	13	47	0.4	< 2	< 50	5.83	0.27	0.053	72	829
495805	183	3	74	0.7	< 2	< 50	8.69	0.4	0.033	243	1380
495806	18	75	78	1	< 2	< 50	14.8	0.18	0.016	46	5110
495807	11	6	42	1.7	< 2	< 50	24.6	0.11	0.037	54	452
495808	2	8	17	2	3	< 50	29.4	0.01	0.102	16	905
495809	52	21	69	1.2	< 2	< 50	17.9	0.01	0.046	26	2090
495810	13	7	8	1.7	< 2	< 50	31.2	< 0.01	0.025	10	206
495811	1	< 3	9	2.2	3	< 50	32.5	< 0.01	0.037	17	195
495812	31	14	8	2.4	2	< 50	32.1	< 0.01	0.041	18	405
495813	74	< 3	91	1	3	< 50	9.79	0.09	0.007	49	1150
495814	5	< 3	14	1.2	< 2	130	17.6	0.02	0.034	13	623
495815	4	3	104	0.8	< 2	< 50	7.87	0.19	0.01	107	1690
495816	< 1	14	54	2.1	< 2	< 50	29.1	< 0.01	0.055	12	1810

Table 2. ***Rock samples: analytical results***

GGU no.	Cu ppm	Pb ppm	Zn ppm	Cd ppm	Bi ppm	Ba ppm	Fe pct	Ti pct	P pct	V ppm	Mn ppm
495817	79	< 3	52	0.6	< 2	< 50	10.7	0.08	0.006	35	1370
495818	2210	262	346	0.9	6	< 50	10.1	0.01	0.032	11	524
495819	7	18	8	1.6	6	< 50	34.7	0.01	0.089	14	2430
495820	20	9	8	2.2	< 2	< 50	33.2	<0,01	0.035	11	121
495821	4	< 3	10	1.9	< 2	< 50	23.7	0.01	0.018	13	175
495822	32	14	19	2.2	< 2	< 50	33	0.01	0.046	19	241
495823	11	< 3	11	2	< 2	< 50	28.6	< 0.01	0.035	13	88
495824	16	< 3	3	< 0.3	< 2	< 50	2.02	< 0.01	0.001	3	105
495825	3	7	18	< 0.3	< 2	1150	3.27	0.27	0.12	46	191
495826	20	< 3	81	1.9	3	< 50	23.1	0.15	0.065	62	1390
495827	13	< 3	62	1.5	3	< 50	21.9	0.03	0.033	45	6350
495828	4	5	84	0.9	< 2	690	9.88	0.48	0.394	149	641
495829	4	< 3	19	2	4	< 50	30	0.01	0.031	15	466
495830	48	36	44	1.2	< 2	500	13.9	0.36	0.084	106	253
495831	344	46	234	1.2	< 2	< 50	14.2	0.31	0.134	87	853
495832	75	40	79	0.4	< 2	< 50	5.83	0.11	0.016	36	2070
495833	651	7	10	0.4	< 2	1050	4.91	0.39	0.048	103	203
495834	13	< 3	10	1.5	< 2	< 50	23.5	0.02	0.02	13	178
495835	30	< 3	56	0.7	< 2	< 50	11.1	0.15	0.011	87	918
Samples	166	166	166	166	166	166	166	166	166	166	166
Minimum	< 1	< 3	3	< 0.3	< 2	< 50	0.52	< 0.01	0.001	3	55
Maximum	6190	4230	7300	9.1	7	1150	55	1.54	0.528	306	10500

Table 2. ***Rock samples: analytical results***

GGU no.	Ni ppm	Co ppm	Cr ppm	Mo ppm	W ppm	Sn pct	Ta ppm	Be ppm	Br ppm	Rb ppm
478501	14	4	36	< 1	< 1	< 0.01	< 0.5	< 1	2.5	< 15
478502	7	3	21	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478503	4	2	9	< 1	< 1	< 0.01	< 0.5	< 1	0.7	< 15
478504	4	2	5	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478505	4	4	14	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478506	29	6	27	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478507	8	4	18	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478508	195	41	345	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478509	31	9	44	< 1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478510	76	43	125	< 1	< 1	< 0.01	< 0.5	< 1	3.1	81
478511	11	4	23	< 1	< 1	< 0.01	< 0.5	4	1.8	< 15
478512	17	7	19	< 1	< 1	< 0.01	< 0.5	1	4.6	56
478513	74	11	21	1	< 1	< 0.01	< 0.5	< 1	0.8	< 15
478514	15	5	17	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478515	1720	109	1530	< 1	< 1	< 0.01	< 0.5	< 1	2.6	< 15
478516	2980	73	972	< 1	< 1	< 0.01	< 0.5	< 1	2.8	< 15
478517	25	2	31	< 1	< 1	< 0.01	< 0.5	< 1	2.4	< 15
478518	50	8	36	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478519	8	< 1	19	< 1	< 1	< 0.01	0.7	< 1	< 0.5	< 15
478520	21	3	56	< 1	3	< 0.01	< 0.5	< 1	5	< 15
478521	8	3	18	< 1	< 1	< 0.01	< 0.5	< 1	2.3	< 15
478522	7	3	24	1	< 1	< 0.01	< 0.5	< 1	3.3	< 15
478523	28	11	35	< 1	< 1	< 0.01	1.3	< 1	2.5	31
478524	55	30	90	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	46
478525	46	33	92	< 1	< 1	< 0.01	< 0.5	1	2.1	< 15
478526	5	4	22	< 1	< 1	< 0.01	< 0.5	1	4.9	44
478527	18	30	15	11	< 1	< 0.01	< 0.5	2	2.7	38
478528	8	4	21	< 1	< 1	< 0.01	< 0.5	< 1	1	< 15
478529	25	4	25	1	< 1	< 0.01	< 0.5	1	1.5	< 15
478530	73	106	26	< 1	< 1	< 0.01	< 0.5	3	< 0.5	< 15
478531	23	12	17	1	< 1	< 0.01	1.8	1	2.5	< 15
478532	57	23	116	< 1	< 1	< 0.01	< 0.5	1	< 0.5	46
478533	26	17	47	< 1	< 1	< 0.01	< 0.5	1	< 0.5	25
478534	28	14	55	< 1	< 1	< 0.01	< 0.5	1	3	40
478535	60	43	57	< 1	< 1	< 0.01	< 0.5	1	< 0.5	71
478536	49	29	45	< 1	< 1	< 0.01	< 0.5	1	< 0.5	88
478537	8	28	33	< 1	4	< 0.01	< 0.5	< 1	2.2	< 15
478538	5	8	21	1	< 1	< 0.01	< 0.5	< 1	2.6	< 15
478539	71	18	103	< 1	< 1	< 0.01	< 0.5	3	< 0.5	69
478540	47	8	66	< 1	< 1	< 0.01	< 0.5	< 1	1.4	< 15
478541	17	7	31	3	< 1	< 0.01	1.1	2	0.6	76
478542	4	2	47	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478543	9	3	28	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478544	64	8	216	< 1	6	< 0.01	< 0.5	2	< 0.5	80
478545	33	9	84	1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478546	7	3	68	<1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478547	78	32	116	2	3	< 0.01	2	2	< 0.5	96
478548	56	31	29	1	< 1	< 0.01	< 0.5	1	< 0.5	< 15

Table 2. ***Rock samples: analytical results***

GGU no.	Ni ppm	Co ppm	Cr ppm	Mo ppm	W ppm	Sn pct	Ta ppm	Be ppm	Br ppm	Rb ppm
478549	11	2	31	3	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478550	20	2	13	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478551	63	13	110	1	< 1	< 0.01	< 0.5	2	< 0.5	111
478552	11	2	18	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478553	12	2	26	5	4	< 0.01	< 0.5	< 1	< 0.5	< 15
478554	91	13	241	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478555	21	4	118	1	< 1	< 0.01	< 0.5	1	1.6	< 15
478556	22	24	34	< 1	< 1	< 0.01	< 0.5	2	2.9	163
478557	18	4	45	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478558	45	36	84	< 1	< 1	< 0.01	< 0.5	1	< 0.5	70
478559	14	16	16	4	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478560	47	28	18	2	< 1	< 0.01	< 0.5	4	< 0.5	< 15
478561	12	18	11	3	< 1	< 0.01	< 0.5	2	< 0.5	69
478562	5	2	15	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478563	13	< 1	35	14	< 1	< 0.01	< 0.5	< 1	5.3	< 15
478564	52	24	131	< 1	< 1	< 0.01	3.2	4	< 0.5	< 15
478565	13	4	33	1	21	< 0.01	< 0.5	3	< 0.5	< 15
478566	< 1	< 1	10	< 1	< 1	< 0.01	< 0.5	1	< 0.5	66
478567	38	94	58	4	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478568	4	< 1	25	1	< 1	< 0.01	< 0.5	< 1	< 0.5	28
478569	64	23	27	1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478570	22	7	30	2	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478571	46	17	39	1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478572	104	86	95	2	< 1	< 0.01	1.6	3	< 0.5	100
478573	59	36	37	< 1	< 1	< 0.01	2.7	1	< 0.5	< 15
478574	64	22	55	< 1	< 1	< 0.01	2.1	1	< 0.5	< 15
478575	38	14	132	2	< 1	< 0.01	1.9	3	< 0.5	54
478576	14	28	< 2	< 1	< 1	< 0.01	1.4	1	< 0.5	27
478577	74	22	69	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478578	29	7	46	< 1	< 1	< 0.01	< 0.5	1	< 0.5	41
478579	45	30	83	< 1	< 1	< 0.01	< 0.5	2	< 0.5	135
478580	88	38	105	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478581	58	33	12	1	< 1	< 0.01	1.9	1	< 0.5	< 15
478582	23	9	20	3	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478583	13	22	7	1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478584	33	83	21	4	< 1	< 0.01	< 0.5	< 1	1.4	17
478585	20	7	22	1	< 1	< 0.01	0.6	1	0.7	52
478586	32	32	35	< 1	2	< 0.01	2.8	2	< 0.5	< 15
478587	109	69	87	< 1	< 1	< 0.01	< 0.5	1	< 0.5	61
478588	74	74	52	< 1	3	< 0.01	< 0.5	2	< 0.5	< 15
478589	22	12	48	< 1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478590	104	205	82	< 1	7	< 0.01	< 0.5	< 1	< 0.5	< 15
478591	133	112	40	< 1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478592	17	19	8	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478593	83	42	83	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478594	51	24	23	< 1	< 1	< 0.01	1.5	2	< 0.5	< 15
478595	108	96	31	< 1	< 1	< 0.01	1.9	1	< 0.5	< 15
478596	62	88	42	4	< 1	< 0.01	0.7	1	< 0.5	37
478597	56	107	62	7	< 1	< 0.01	< 0.5	1	< 0.5	74
478598	32	61	26	1	< 1	< 0.01	< 0.5	< 1	10.5	67

Table 2. ***Rock samples: analytical results***

GGU no.	Ni ppm	Co ppm	Cr ppm	Mo ppm	W ppm	Sn pct	Ta ppm	Be ppm	Br ppm	Rb ppm
478599	55	22	75	1	< 1	< 0.01	1.9	2	< 0.5	55
478600	71	20	86	< 1	< 1	< 0.01	1.7	2	< 0.5	142
478601	33	22	32	3	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478602	10	114	17	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478603	17	37	7	1	< 1	< 0.01	1.6	1	< 0.5	< 15
478604	10	65	< 2	< 1	< 1	< 0.01	3.2	1	< 0.5	< 15
478605	24	50	< 2	< 1	< 1	< 0.01	1.7	1	< 0.5	< 15
478606	40	20	48	< 1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478607	43	19	55	1	< 1	< 0.01	< 0.5	3	1.9	39
478608	75	13	142	< 1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478609	115	45	17	1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478610	177	236	23	3	< 1	< 0.01	< 0.5	< 1	4.1	< 15
478611	50	49	32	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478612	17	6	27	< 1	< 1	< 0.01	< 0.5	< 1	1.5	< 15
478613	9	2	25	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478614	12	3	29	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478615	18	9	27	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478616	30	21	41	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478617	27	3	46	10	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478618	2500	89	815	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478619	84	9	120	2	< 1	< 0.01	< 0.5	2	< 0.5	< 15
478620	95	25	181	2	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478621	177	54	91	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478622	118	32	36	6	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478623	149	37	85	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478624	76	34	247	< 1	< 1	< 0.01	< 0.5	1	< 0.5	128
478625	101	36	269	< 1	< 1	< 0.01	< 0.5	< 1	1.4	< 15
478626	35	81	33	3	< 1	< 0.01	3.3	6	< 0.5	< 15
478627	35	13	54	2	< 1	< 0.01	< 0.5	1	< 0.5	< 15
478628	18	7	17	1	< 1	< 0.01	< 0.5	1	2.4	< 15
478629	78	30	207	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478630	76	35	180	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
478631	28	14	78	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
495801	< 1	10	8	< 1	3	< 0.01	< 0.5	< 1	0.8	< 15
495802	4	7	14	< 1	3	< 0.01	< 0.5	< 1	< 0.5	< 15
495803	66	53	13	5	< 1	< 0.01	< 0.5	3	2.9	< 15
495804	46	23	63	< 1	< 1	< 0.01	3	2	< 0.5	< 15
495805	73	47	140	< 1	< 1	< 0.01	1.6	< 1	< 0.5	< 15
495806	112	16	143	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
495807	17	6	21	1	4	< 0.01	< 0.5	< 1	1.4	< 15
495808	6	3	17	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
495809	58	11	25	3	4	< 0.01	< 0.5	1	1.3	< 15
495810	6	3	24	< 1	< 1	< 0.01	< 0.5	< 1	2	< 15
495811	13	5	22	1	< 1	< 0.01	< 0.5	< 1	2.2	< 15
495812	6	2	23	< 1	< 1	< 0.01	< 0.5	< 1	1.7	< 15
495813	2340	110	2570	1	< 1	< 0.01	< 0.5	< 1	1.7	< 15
495814	49	5	72	3	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
495815	611	58	812	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	82
495816	12	< 1	20	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15

Table 2. ***Rock samples: analytical results***

GGU no.	Ni ppm	Co ppm	Cr ppm	Mo ppm	W ppm	Sn pct	Ta ppm	Be ppm	Br ppm	Rb ppm
495817	2290	137	668	< 1	< 1	< 0.01	< 0.5	< 1	1.2	< 15
495818	211	176	21	1	< 1	< 0.01	< 0.5	< 1	1	< 15
495819	9	3	22	1	< 1	< 0.01	< 0.5	1	0.6	< 15
495820	2	2	70	1	< 1	< 0.01	< 0.5	<1	<0,5	< 15
495821	11	< 1	15	1	< 1	< 0.01	< 0.5	< 1	< 0.5	40
495822	13	5	23	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
495823	12	3	15	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
495824	54	< 1	62	19	4	< 0.01	< 0.5	< 1	1.2	< 15
495825	14	3	42	1	< 1	< 0.01	< 0.5	1	< 0.5	114
495826	12	10	18	1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
495827	11	4	20	< 1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
495828	8	25	10	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
495829	9	2	21	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
495830	63	15	83	< 1	< 1	< 0.01	1.6	2	< 0.5	119
495831	33	8	57	< 1	< 1	< 0.01	< 0.5	2	< 0.5	< 15
495832	31	25	29	< 1	< 1	< 0.01	< 0.5	1	< 0.5	< 15
495833	88	20	40	< 1	< 1	< 0.01	4.6	5	< 0.5	< 15
495834	9	3	16	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
495835	1120	74	1800	< 1	< 1	< 0.01	< 0.5	< 1	1.5	< 15
Samples	166	166	166	166	166	166	166	166	166	166
Minimum	< 1	< 1	< 2	< 1	< 1	< 0.01	< 0.5	< 1	< 0.5	< 15
Maximum	2980	236	2570	19	21	< 0.01	4.6	6	10.5	163

Table 2. ***Rock samples: analytical results***

GGU no.	Sr ppm	Sc ppm	Cs ppm	Hf ppm	Y ppm	U ppm	Th ppm	La ppm	Ce ppm	Nd ppm	Sm ppm
478501	46	1.4	< 1	< 1	2	2.1	1.1	3.5	6	< 5	0.4
478502	55	1.6	< 1	< 1	3	2.9	1.7	4.2	8	5	0.6
478503	62	0.9	< 1	< 1	2	4.3	0.8	3.9	8	< 5	0.4
478504	56	0.4	< 1	< 1	1	4.5	0.5	2	5	< 5	< 0.1
478505	68	1	< 1	< 1	4	1.3	1.3	4.2	9	< 5	0.5
478506	9	1.1	< 1	< 1	5	2.3	0.6	2.9	5	< 5	0.3
478507	3	0.8	< 1	< 1	10	5.9	0.6	2.8	< 3	< 5	0.5
478508	70	25.7	< 1	< 1	18	< 0.5	2.1	6.8	17	14	1.8
478509	24	8.2	< 1	2	19	1.5	1.7	6.8	11	< 5	1.7
478510	219	36.5	< 1	2	26	< 0.5	1.1	6.6	14	< 5	2.4
478511	12	0.7	< 1	< 1	15	17.6	< 0.2	5.3	11	< 5	1.2
478512	149	2.8	2	2	11	4.2	6.8	63.3	94	20	4.1
478513	16	1.9	< 1	< 1	12	< 0.5	1.1	5.7	10	< 5	1
478514	3	1	< 1	< 1	3	5.9	0.6	2.1	< 3	< 5	< 0.1
478515	37	15.1	< 1	< 1	8	< 0.5	< 0.2	2	< 3	< 5	0.7
478516	1	3.6	< 1	< 1	< 1	< 0.5	< 0.2	1.8	5	< 5	0.2
478517	12	1.1	< 1	< 1	12	1.3	0.7	6	13	< 5	1.1
478518	4	1.4	< 1	< 1	4	4.8	< 0.2	2.7	6	< 5	0.3
478519	5	0.5	< 1	< 1	8	< 0.5	< 0.2	2.3	5	< 5	0.5
478520	14	1.8	< 1	< 1	37	1.8	0.8	28.7	38	9	4
478521	9	0.4	< 1	< 1	11	< 0.5	< 0.2	4.1	7	< 5	0.7
478522	6	0.4	< 1	< 1	10	< 0.5	0.7	3.7	5	< 5	0.5
478523	5	4.4	< 1	< 1	43	< 0.5	2.3	8.9	19	< 5	2.4
478524	175	25.5	2	3	38	< 0.5	4.1	15.7	29	11	3
478525	313	35.3	< 1	3	44	< 0.5	2.3	18.3	32	12	3.9
478526	44	0.5	< 1	< 1	5	< 0.5	1.4	35.7	66	13	2.2
478527	17	3.9	< 1	< 1	21	1.8	1.5	24.4	35	15	2.8
478528	8	0.5	< 1	< 1	2	< 0.5	0.6	3.5	5	< 5	0.3
478529	10	1.5	< 1	< 1	8	5.4	1.1	5.3	8	< 5	0.8
478530	502	32.3	< 1	4	40	< 0.5	2.8	16.7	36	14	4.9
478531	202	10.9	< 1	8	18	3	10.2	24.6	49	21	3.7
478532	170	23.3	2	2	23	2.2	3.6	11.6	23	10	2.3
478533	135	15	< 1	3	17	5.5	9.6	21.7	39	8	2.7
478534	158	11.2	< 1	3	14	3.7	9.2	34.6	44	13	2.6
478535	105	16.6	< 1	4	15	3	11.9	28.5	51	16	3.2
478536	250	17	< 1	4	22	4.2	15.8	21.8	39	< 5	2.9
478537	6	0.6	< 1	< 1	7	1.6	< 0.2	2.4	8	< 5	0.6
478538	3	0.4	< 1	< 1	4	< 0.5	< 0.2	2.9	6	< 5	0.5
478539	120	14.2	2	4	13	2.8	10.2	20.9	42	14	2.8
478540	9	0.8	< 1	< 1	8	< 0.5	0.5	3.4	5	< 5	0.6
478541	19	5	2	4	9	6.2	15.3	26.5	47	14	2.5
478542	2	0.3	< 1	< 1	3	2.5	< 0.2	2	5	< 5	0.2
478543	3	0.6	< 1	< 1	5	2.2	< 0.2	1.8	4	< 5	0.2
478544	29	17.7	< 1	3	7	3.5	9.7	17.7	34	8	2.2
478545	2	3.6	< 1	< 1	3	2.5	2	5.5	11	6	0.7
478546	6	0.4	< 1	< 1	4	< 0.5	< 0.2	1.9	< 3	< 5	0.3
478547	26	15.3	5	< 1	11	6.5	9	7.3	14	< 5	1.3
478548	19	3.1	< 1	< 1	6	< 0.5	< 0.2	2.2	5	< 5	0.5

Table 2. ***Rock samples: analytical results***

GGU no.	Sr ppm	Sc ppm	Cs ppm	Hf ppm	Y ppm	U ppm	Th ppm	La ppm	Ce ppm	Nd ppm	Sm ppm
478549	8	0.6	< 1	< 1	3	1.4	0.4	1.5	4	< 5	< 0.1
478550	5	0.5	< 1	< 1	6	2.5	< 0.2	3.6	8	< 5	0.6
478551	28	13.8	2	5	11	7.5	26.7	38.1	73	19	4.5
478552	8	0.5	< 1	< 1	6	1.4	< 0.2	2.3	5	< 5	0.4
478553	4	0.3	< 1	< 1	4	1.8	< 0.2	1	< 3	< 5	0.2
478554	9	4.4	< 1	< 1	11	2.6	0.4	8.2	10	< 5	0.8
478555	668	9	2	3	16	5.6	4	29.6	50	15	3.2
478556	273	3.7	4	6	8	7.6	19.9	32.9	64	17	3
478557	9	3	< 1	< 1	16	< 0.5	1.2	3.5	6	< 5	0.8
478558	16	13.2	2	< 1	16	3.8	6.7	9	22	9	2.7
478559	8	4.3	< 1	< 1	15	1	1.5	3	8	8	1.6
478560	312	0.9	< 1	8	2	8.9	38.5	7.7	14	< 5	0.5
478561	423	1	< 1	11	3	3.4	3.7	10.3	24	7	0.9
478562	49	0.5	< 1	< 1	1	1.3	0.9	2.7	6	8	0.2
478563	4	< 0.1	< 1	< 1	< 1	< 0.5	< 0.2	< 0.5	< 3	< 5	< 0.1
478564	472	22.6	< 1	2	14	12.3	5.4	7.1	14	8	1.2
478565	629	3.8	2	2	12	2.4	5.2	38.3	77	19	3.6
478566	42	0.1	< 1	< 1	3	< 0.5	< 0.2	3.3	< 3	< 5	0.5
478567	21	7.5	< 1	9	21	5.3	14.1	37.5	78	26	6.2
478568	13	3.2	< 1	4	6	1.9	5.1	13.4	29	13	1.8
478569	9	5	< 1	5	24	2.5	6.5	17.6	36	18	4.1
478570	23	5.1	< 1	5	14	2.3	7.8	48.8	94	34	8
478571	28	7.4	< 1	3	12	2	7.9	17.4	36	7	2.2
478572	49	18.1	7	3	28	4.4	17.4	59.5	118	48	10.3
478573	164	23.1	< 1	9	51	1.8	2.8	23.1	61	35	9.9
478574	72	21.1	< 1	6	38	< 0.5	2.2	15.3	43	18	6.6
478575	253	14.3	< 1	4	16	1.8	9.8	33.4	60	17	4.4
478576	88	16.3	< 1	8	43	2.1	3.6	27.2	68	41	9.7
478577	248	26.6	< 1	6	51	< 0.5	2.3	18.1	52	29	9.5
478578	43	5.3	< 1	8	16	2.7	9.4	9.7	21	7	2
478579	52	16.2	7	4	31	3.5	19.7	34	68	25	6.2
478580	249	24.8	< 1	5	38	< 0.5	1.8	13	36	20	6.1
478581	256	14.3	2	5	25	1	2.4	19.3	47	28	6.4
478582	11	1.7	< 1	5	6	1.5	2.4	6	15	8	1.2
478583	125	13.5	< 1	9	63	1.3	4.1	33.3	86	39	12.9
478584	13	2.1	< 1	< 1	16	< 0.5	1.9	5.4	16	< 5	2
478585	35	2.9	< 1	7	12	2.1	7.5	19.8	44	16	2.4
478586	86	19.7	< 1	10	60	2.8	7.4	41.8	102	52	14.1
478587	156	28.1	3	5	35	< 0.5	2	11.6	35	19	5.3
478588	139	9.7	< 1	2	39	1.2	10.4	53.2	97	38	8.9
478589	173	8.2	< 1	< 1	13	2	5.7	17.2	32	12	2.4
478590	22	19.6	< 1	4	24	< 0.5	2.1	9.6	26	15	3.8
478591	52	9.4	2	2	41	3.1	8.6	43.7	95	40	17.9
478592	131	1.6	< 1	< 1	15	0.9	1.1	6.1	14	5	2.4
478593	178	27.1	< 1	5	34	< 0.5	2	15.2	41	27	6.5
478594	224	20.7	2	9	49	1.9	3.1	26.7	70	41	11.2
478595	74	13.5	< 1	6	33	1.9	3.6	24.2	58	32	8.2
478596	8	7.4	< 1	5	28	2.7	10	30.8	71	23	4.6
478597	29	10.3	2	5	24	3	14.2	35.7	77	24	5.9
478598	13	6.3	3	< 1	61	2.2	4.7	22.7	58	23	6.8

Table 2. ***Rock samples: analytical results***

GGU no.	Sr ppm	Sc ppm	Cs ppm	Hf ppm	Y ppm	U ppm	Th ppm	La ppm	Ce ppm	Nd ppm	Sm ppm
478599	51	13.8	6	3	30	3	13	37.4	74	35	9.1
478600	38	16.6	3	4	8	3.5	16.8	49.9	95	31	5.5
478601	17	5.8	3	3	47	1.8	5.1	18	37	11	10.4
478602	20	1.1	< 1	< 1	3	< 0.5	1.1	3.4	6	6	0.7
478603	108	21.4	< 1	6	44	< 0.5	2.2	23.1	60	37	9.1
478604	44	17.8	< 1	8	56	1.9	3.2	25.7	69	43	10.8
478605	69	16.7	2	8	62	< 0.5	2.8	28	68	51	10.8
478606	92	8.7	2	2	21	< 0.5	6.6	22.4	40	15	3.6
478607	125	10.8	2	3	18	2.1	10.2	28	53	22	4
478608	85	12	3	2	23	1.7	8.1	30.7	53	21	4.8
478609	43	23.9	< 1	9	92	4	5.6	50	114	62	14.5
478610	14	4.5	< 1	< 1	11	< 0.5	2.4	9.4	29	< 5	2.7
478611	4	6.4	< 1	3	10	1.8	3.7	18.3	44	26	2.9
478612	22	4.8	< 1	2	13	< 0.5	4	18.2	51	24	2.9
478613	1	0.7	< 1	< 1	1	< 0.5	< 0.2	0.9	5	< 5	< 0.1
478614	1	1.7	< 1	2	1	< 0.5	< 0.2	1	< 3	8	0.2
478615	3	12.2	< 1	< 1	5	< 0.5	0.9	1.6	< 3	< 5	1.2
478616	36	15.7	< 1	< 1	23	< 0.5	0.9	3.3	14	14	1.7
478617	3	2	< 1	< 1	8	< 0.5	1.4	6.3	16	16	1.6
478618	2	6	< 1	< 1	2	1	< 0.2	1	5	14	0.2
478619	5	12.7	< 1	2	6	< 0.5	5.3	9.7	24	16	1.8
478620	81	23.6	< 1	5	13	1.9	5.7	17.3	48	< 5	3
478621	3	8.4	< 1	< 1	3	< 0.5	2.6	8.4	19	< 5	1.1
478622	1	0.6	< 1	< 1	2	0.8	< 0.2	1.1	< 3	< 5	0.2
478623	1	10.3	< 1	2	7	< 0.5	3	8.7	22	18	1.7
478624	73	37.8	< 1	3	16	< 0.5	1	4.5	13	< 5	1.9
478625	14	38.9	< 1	2	15	< 0.5	< 0.2	2.3	< 3	< 5	2.3
478626	177	2.1	2	3	50	12.8	20.2	7.4	31	15	2
478627	10	6.8	2	2	12	2.2	2.6	7.6	15	< 5	1.6
478628	126	2.3	< 1	2	4	< 0.5	1.6	9.8	20	< 5	1
478629	98	32.2	< 1	2	18	2.3	1.4	3.5	12	< 5	1.7
478630	78	29.2	2	< 1	16	2.1	1.2	4.1	< 3	13	1.8
478631	27	11.6	< 1	< 1	7	1.2	0.9	2.4	6	< 5	1
495801	56	0.9	< 1	< 1	2	2.1	2.1	2.9	5	< 5	0.4
495802	52	1.3	< 1	< 1	4	2.1	3.9	4.6	15	< 5	0.8
495803	146	0.8	< 1	4	2	12.8	2.4	4.9	8	< 5	0.4
495804	734	13.9	< 1	6	25	5.8	8.7	32.3	81	23	4.4
495805	130	39.6	< 1	3	24	2.3	1.6	7	23	< 5	3.7
495806	28	6.4	< 1	< 1	8	1.8	1.1	4.1	12	< 5	1.2
495807	7	3.7	2	< 1	8	3	13.3	17.3	39	24	2
495808	19	0.8	< 1	< 1	12	1.6	0.5	3.2	11	< 5	0.9
495809	11	1.1	< 1	< 1	8	2.8	0.8	3.5	8	< 5	0.7
495810	4	0.4	< 1	< 1	5	2.1	0.7	2.7	9	< 5	0.5
495811	4	0.3	< 1	< 1	6	1.9	0.8	2.4	< 3	< 5	0.3
495812	5	0.2	< 1	< 1	8	2.2	< 0.2	3	< 3	< 5	0.2
495813	17	7.2	< 1	< 1	4	< 0.5	1.4	4.5	14	< 5	0.7
495814	18	1.3	< 1	< 1	8	< 0.5	2	4.7	10	< 5	0.7
495815	24	22.6	4	< 1	10	< 0.5	3.7	5.5	13	< 5	1.1
495816	6	0.4	< 1	< 1	5	< 0.5	< 0.2	2.8	< 3	< 5	0.3

Table 2. ***Rock samples: analytical results***

GGU no.	Sr ppm	Sc ppm	Cs ppm	Hf ppm	Y ppm	U ppm	Th ppm	La ppm	Ce ppm	Nd ppm	Sm ppm
495817	5	8.3	< 1	< 1	4	< 0.5	1.2	3.3	9	< 5	0.6
495818	4	0.9	< 1	< 1	9	< 0.5	1.3	4.7	11	< 5	1.1
495819	14	0.5	< 1	< 1	11	< 0.5	4.2	4.2	4	< 5	1.1
495820	2	0.4	< 1	< 1	5	< 0.5	0.6	2.5	<3	< 5	0.4
495821	3	0.5	< 1	< 1	5	< 0.5	6.8	6.4	8	< 5	0.7
495822	2	1.1	< 1	< 1	11	5.2	< 0.2	5.6	10	< 5	0.6
495823	2	0.7	< 1	< 1	5	< 0.5	1.8	1.5	< 3	< 5	0.3
495824	1	< 0.1	< 1	< 1	< 1	< 0.5	1.6	< 0.5	< 3	< 5	< 0.1
495825	217	5.1	2	12	26	< 0.5	3.8	47.5	117	63	5.7
495826	7	3.6	2	< 1	11	< 0.5	1.8	3.8	11	< 5	1.7
495827	9	1.2	< 1	< 1	9	1.9	0.9	3.6	9	< 5	0.7
495828	739	12.5	< 1	6	22	4.5	12.1	37.8	98	48	6.4
495829	86	0.8	< 1	< 1	5	1.8	0.9	2.7	< 3	< 5	0.4
495830	45	14.6	< 1	4	39	5.7	15.6	31.2	69	35	7.2
495831	13	10.6	3	4	9	2.7	10.8	18.2	37	16	4.8
495832	50	5	< 1	< 1	20	2.7	3.6	15.2	37	29	3.1
495833	133	17.3	< 1	17	81	6.8	7.8	42.2	119	67	11.6
495834	4	0.4	< 1	< 1	4	< 0.5	< 0.2	1.6	< 3	< 5	0.4
495835	52	15.8	< 1	< 1	6	< 0.5	< 0.2	1.3	< 3	< 5	0.9
Samples	166	166	166	166	166	166	166	166	166	166	166
Minimum	1	< 0.1	< 1	< 1	< 1	< 0.5	< 0.2	< 0.5	< 3	< 5	< 0.1
Maximum	739	39.6	7	17	92	17.6	38.5	63.3	119	67	17.9

Table 2. ***Rock samples: analytical results***

GGU no.	Eu ppm	Tb ppm	Yb ppm	Lu ppm	Al pct	Na pct	K pct	Ca pct	Mg pct	Mass g
478501	< 0.2	< 0.5	< 0.2	< 0.05	0.63	0.11	0.44	21.5	11.4	23.7
478502	< 0.2	< 0.5	0.3	< 0.05	0.92	0.14	0.78	30.5	1.82	21.8
478503	< 0.2	< 0.5	0.3	< 0.05	0.47	0.07	0.28	32.7	2.03	20
478504	< 0.2	< 0.5	< 0.2	< 0.05	0.25	0.04	0.18	33.7	1.14	21.9
478505	< 0.2	< 0.5	0.4	0.13	0.59	0.13	0.33	30.4	3.17	21.5
478506	< 0.2	< 0.5	0.5	0.13	0.32	0.07	0.03	1.93	1.69	21.4
478507	< 0.2	< 0.5	0.9	0.08	0.6	0.04	0.01	0.36	0.85	25.3
478508	0.7	< 0.5	1.8	0.3	5.38	1.12	0.43	6.25	4.54	24.3
478509	1	< 0.5	2.3	0.37	1.91	0.18	0.08	2.45	2.3	27.6
478510	0.8	< 0.5	2.7	0.4	7.19	1.97	0.95	7.27	4.49	25.1
478511	0.4	< 0.5	1.3	0.18	0.8	0.08	0.04	0.22	0.75	26.1
478512	0.8	< 0.5	0.6	0.13	5.33	2	2.14	20	0.89	20.3
478513	0.6	< 0.5	1.3	0.22	0.4	0.11	0.03	4.97	4.54	26.3
478514	< 0.2	< 0.5	< 0.2	< 0.05	0.33	0.05	0.02	0.8	0.96	28.2
478515	< 0.2	< 0.5	0.9	0.14	2.17	0.26	0.06	5.43	16.6	21.2
478516	< 0.2	< 0.5	< 0.2	< 0.05	0.2	0.04	< 0.01	0.12	25.6	23.5
478517	0.4	< 0.5	1	0.12	0.3	0.03	< 0.01	0.36	0.38	32.5
478518	< 0.2	< 0.5	0.4	0.12	0.49	0.03	0.02	0.14	0.64	29.8
478519	0.4	< 0.5	0.6	0.11	0.1	0.03	< 0.01	0.96	1.29	38.1
478520	1.4	1.2	2.1	0.34	0.33	0.05	0.01	10.6	0.43	21.9
478521	< 0.2	< 0.5	0.9	0.13	0.23	0.04	0.01	0.4	0.07	25.9
478522	< 0.2	< 0.5	0.5	0.08	0.09	0.03	0.01	0.87	0.06	30.4
478523	0.8	< 0.5	2.6	0.27	2.6	0.05	0.12	0.17	3.13	17.5
478524	0.9	< 0.5	3.3	0.55	7.12	1.67	0.6	6.26	2.85	26.9
478525	1.3	0.7	3.9	0.68	6.82	0.65	0.34	11.7	2.87	23
478526	0.5	< 0.5	0.5	0.07	2.21	0.11	2.06	6.3	0.16	20.1
478527	0.8	0.5	1.5	0.21	3.61	0.05	1.45	0.59	0.64	18.6
478528	< 0.2	< 0.5	< 0.2	< 0.05	1.2	0.04	0.4	0.11	0.26	23.2
478529	< 0.2	< 0.5	0.5	< 0.05	0.61	0.06	0.18	0.14	0.31	22.1
478530	1.9	1	3.2	0.47	9.04	2.82	0.48	5.97	3.58	23.5
478531	1	< 0.5	3.6	0.51	8.43	2.58	0.58	2.74	0.64	28.3
478532	0.8	< 0.5	2.7	0.3	8.99	2.41	0.74	4.29	2.4	27.4
478533	1	< 0.5	1.8	0.13	10.5	0.51	1.05	7.46	0.56	27.4
478534	1.2	< 0.5	1.2	0.07	11.1	1.83	1.86	4.87	1.17	26.7
478535	0.7	< 0.5	1.6	0.08	11.4	1.06	1.58	6.24	1.84	24.8
478536	< 0.2	< 0.5	2.1	0.35	11.2	1.38	1.97	8.87	2.61	23.9
478537	0.4	< 0.5	0.6	0.11	0.21	0.03	0.02	0.23	0.09	33.4
478538	< 0.2	< 0.5	< 0.2	< 0.05	0.15	0.04	0.01	0.27	0.13	26.4
478539	0.9	< 0.5	1.8	0.35	8.1	0.39	1.66	0.58	2.11	26.3
478540	< 0.2	< 0.5	0.5	0.07	0.21	0.04	0.02	1.38	3	22.6
478541	0.7	< 0.5	1.2	0.23	8.42	0.11	1.9	0.1	1.15	27.3
478542	< 0.2	< 0.5	0.3	< 0.05	0.32	0.02	0.03	0.12	0.15	38.2
478543	< 0.2	< 0.5	0.5	< 0.05	0.18	0.03	0.03	0.24	0.45	35.6
478544	0.8	< 0.5	1.7	0.24	8.9	1.39	1.09	0.5	1.89	23.4
478545	< 0.2	< 0.5	0.4	0.07	2.41	0.03	0.16	0.05	1.15	29.5
478546	< 0.2	< 0.5	0.6	0.09	0.16	0.02	0.02	1.24	1.21	31.3
478547	0.4	< 0.5	1.7	0.29	6.85	0.33	1.42	0.8	1.87	29.7
478548	0.3	< 0.5	0.7	< 0.05	1.32	0.1	0.06	7.31	0.82	26.8

Table 2. ***Rock samples: analytical results***

GGU no.	Eu	Tb	Yb	Lu	Al	Na	K	Ca	Mg	Mass
	ppm	ppm	ppm	ppm	pct	pct	pct	pct	pct	g
478549	< 0.2	< 0.5	0.3	0.11	0.12	0.03	0.02	0.58	1.28	31.5
478550	0.3	< 0.5	0.6	0.15	0.1	0.02	0.02	0.41	1.27	30.1
478551	1	< 0.5	3	0.41	13.5	0.23	2.79	0.14	1.29	29.8
478552	0.3	< 0.5	0.7	0.12	0.25	0.02	0.05	0.27	0.87	34.8
478553	< 0.2	< 0.5	0.5	0.07	0.11	0.02	0.02	0.21	0.95	29.5
478554	0.5	< 0.5	0.9	0.15	1.23	0.07	0.05	1.75	2.72	40.7
478555	1	< 0.5	1.4	0.06	6.99	0.04	0.64	5.93	1.31	34.2
478556	0.8	< 0.5	1.1	0.2	10.8	2.9	3.12	1.2	1.1	26.4
478557	0.6	< 0.5	1.3	0.22	1.95	0.02	0.04	0.49	2.27	42.5
478558	0.8	< 0.5	1.6	0.14	3.11	0.21	1.8	1.53	1.73	25.8
478559	0.6	< 0.5	1.6	0.29	2.07	0.23	0.34	2.72	1.75	29.2
478560	< 0.2	< 0.5	0.8	< 0.05	12	3.75	0.78	3.35	0.45	24.2
478561	0.8	< 0.5	0.8	< 0.05	11.1	4.07	1.29	4.23	0.45	22.5
478562	< 0.2	< 0.5	< 0.2	< 0.05	1.8	0.63	0.04	0.22	0.14	20.3
478563	< 0.2	< 0.5	< 0.2	< 0.05	0.15	0.04	0.01	0.04	0.08	23.4
478564	0.5	< 0.5	1.8	< 0.05	9.21	0.56	0.42	11.6	2.77	31
478565	1.1	< 0.5	0.6	< 0.05	5.27	0.07	0.36	3.57	1.45	31.6
478566	< 0.2	< 0.5	0.5	0.1	14	6.5	4.05	0.33	0.08	29.5
478567	1.4	< 0.5	2.9	0.41	8.37	1.15	0.38	0.12	0.95	25.8
478568	0.4	< 0.5	0.8	0.15	3.61	0.13	0.85	0.1	0.15	20.3
478569	1.3	1.1	2.6	0.44	5.52	0.04	0.15	0.13	0.74	24.7
478570	1.6	0.8	2.5	0.44	5.05	0.05	0.18	0.02	0.52	24.8
478571	0.5	< 0.5	1.3	0.27	6.61	1.47	0.3	0.07	0.91	24.8
478572	2.4	2	4	0.6	15.1	0.48	1.29	0.14	0.62	24.8
478573	3	1.2	4.9	0.38	8.24	1.98	0.24	2.82	2.57	24.6
478574	2.2	0.8	3.6	0.24	6.53	1.16	0.09	2.2	2.98	23
478575	2	< 0.5	1.6	0.19	12.7	3.13	1.73	2.19	1.18	26.9
478576	2.4	1.1	4.4	0.43	8.61	1.65	0.76	3.12	1.46	27.3
478577	2.4	1.3	4.4	0.29	8.36	1.08	0.06	5.24	3.34	25.8
478578	0.6	< 0.5	1.7	0.29	8.02	2.34	0.54	0.17	1.06	27.3
478579	1.9	0.7	3.3	0.6	11.8	0.4	1.93	0.24	0.78	24.6
478580	2	0.8	3.8	0.21	8.74	1.7	0.31	3.36	3.14	26.7
478581	2.1	0.8	2	< 0.05	5.7	1.12	0.29	4.36	1.86	27.8
478582	0.3	< 0.5	0.7	0.12	2.11	0.32	0.09	0.11	0.34	23.3
478583	4.6	1.7	5.2	0.62	9.22	1.7	0.45	2.44	1.14	24.4
478584	0.7	< 0.5	0.7	0.08	0.39	0.03	0.08	0.42	1.78	25.8
478585	0.7	< 0.5	1.3	0.27	3.87	0.06	1.45	0.1	0.45	21.8
478586	3.5	1.7	4.9	0.41	9.81	3.22	0.29	2.18	1.95	25.2
478587	1.7	0.7	3.2	0.12	9.37	0.93	0.7	4.18	2.75	29.8
478588	2.7	1.2	2.9	0.22	6.59	1	0.28	9.23	2.19	26.3
478589	1	< 0.5	1	< 0.05	6.16	0.34	0.05	20.4	2.66	28.3
478590	0.9	< 0.5	2.3	0.14	6.05	0.08	0.49	0.97	2.47	27
478591	4.4	5	6	0.81	2.67	0.23	0.36	1.36	1.06	29.4
478592	1	0.5	0.8	0.14	1.43	0.03	0.03	23	1.28	21.3
478593	2.3	1.1	3	0.1	8.41	1.68	0.22	5.33	3.28	28.3
478594	3.7	1.5	3.9	0.05	8.67	2.04	0.36	5.74	2.11	27.2
478595	3	1	2.5	< 0.05	5.62	0.28	0.31	7.2	3.54	24.5
478596	0.9	0.5	2.9	0.49	5.84	0.09	0.41	0.19	0.78	30.4
478597	1.2	0.5	2.7	0.41	8.8	0.33	1.27	0.34	0.93	19.7
478598	1.9	2.2	3.8	0.64	2.89	0.03	0.66	0.6	1.07	31.2

Table 2. ***Rock samples: analytical results***

GGU no.	Eu ppm	Tb ppm	Yb ppm	Lu ppm	Al pct	Na pct	K pct	Ca pct	Mg pct	Mass g
478599	1.9	1.1	2.6	0.51	11.8	0.42	1.18	0.4	1.59	30.3
478600	1	< 0.5	2.6	0.34	6.79	0.47	0.97	0.11	0.6	25.1
478601	3.3	2.9	2.3	0.34	4.94	0.05	0.24	1.6	1.53	31.6
478602	0.5	< 0.5	< 0.2	0.07	0.71	0.06	0.06	5.2	0.51	26.4
478603	2.9	1.4	4	0.31	7.89	1.32	0.3	1.19	1.81	27.3
478604	2.8	1.5	5	0.77	7.37	0.59	0.57	1.98	1.7	27.5
478605	2.1	1.6	4.6	0.62	7.44	1.14	0.37	1.32	2.05	30.4
478606	0.8	< 0.5	1.6	0.27	7.91	1.55	0.65	7.41	2.59	32.3
478607	1.3	< 0.5	1.6	0.15	10.1	3.61	0.28	2.81	2.96	28.7
478608	1.4	< 0.5	2	0.21	8.81	3.01	0.25	4.16	2.85	27
478609	2.5	3.3	11.6	1.78	6.7	3.6	0.03	1.31	1.86	23.3
478610	0.7	< 0.5	1.1	0.2	1.19	0.08	0.05	0.25	1.38	24.6
478611	1	< 0.5	0.9	0.15	3.36	0.04	0.08	0.1	1.03	23.5
478612	1.1	< 0.5	1.2	0.13	2.49	0.04	0.29	0.14	1.14	23
478613	< 0.2	< 0.5	< 0.2	< 0.05	0.12	0.02	0.01	0.02	0.23	28.3
478614	< 0.2	< 0.5	< 0.2	< 0.05	0.82	0.04	0.07	0.03	0.23	31.7
478615	0.6	< 0.5	1.3	0.17	1.34	0.03	0.06	0.06	0.77	26.4
478616	0.9	< 0.5	2.4	0.38	4.77	0.2	0.6	3.68	3.31	29.7
478617	0.8	< 0.5	0.6	0.09	0.78	0.09	0.03	0.35	0.21	20.9
478618	< 0.2	< 0.5	< 0.2	0.06	1.19	0.04	< 0.01	0.28	20.9	21.4
478619	0.6	< 0.5	1.5	0.31	3.35	0.08	0.76	0.14	1.56	24.2
478620	1.1	< 0.5	2.6	0.37	9.12	1.86	0.74	1	2.65	27.1
478621	< 0.2	< 0.5	0.6	0.09	3.88	0.18	0.04	0.09	1.67	20.9
478622	< 0.2	< 0.5	< 0.2	< 0.05	0.46	0.04	0.03	0.15	0.15	21.8
478623	0.4	< 0.5	1.2	0.16	4.09	0.03	0.04	0.53	1.33	24.2
478624	0.8	< 0.5	2.4	0.46	11.3	1.23	4.75	5.27	2.65	19.8
478625	0.5	< 0.5	2.6	0.44	10.5	0.68	0.16	3.22	4.43	30.1
478626	< 0.2	< 0.5	5.9	0.9	9.21	3.61	0.52	1.26	0.2	21.5
478627	0.6	< 0.5	1.1	0.18	4.77	0.05	0.04	0.55	2.01	26.5
478628	0.5	< 0.5	0.4	< 0.05	8.64	2.3	0.58	2.34	0.51	23.1
478629	0.8	0.8	2.6	0.48	7.83	1.84	0.31	3.1	3.25	27
478630	1	< 0.5	2	0.35	7.36	0.93	0.46	1.66	3.24	23.3
478631	0.4	< 0.5	1.2	0.13	2.91	0.28	0.5	2.51	1.21	21.5
495801	< 0.2	< 0.5	< 0.2	< 0.05	0.37	0.07	0.19	29.3	2.01	20.2
495802	< 0.2	< 0.5	0.3	0.08	0.85	0.08	0.56	29.6	0.63	22.3
495803	< 0.2	< 0.5	0.7	< 0.05	10	3.39	2.05	1.12	0.33	23.5
495804	1.7	1.1	3.1	0.58	11.8	2.88	0.06	5.86	1.7	24.2
495805	1.4	< 0.5	3.3	0.5	9.16	1.56	0.79	7.34	3.44	29.3
495806	0.4	< 0.5	0.8	0.17	1.2	0.14	0.07	2.74	2.68	29.2
495807	< 0.2	1.4	0.7	0.09	1.16	0.03	0.44	0.43	1	34.4
495808	0.7	< 0.5	1.2	0.21	0.15	0.03	0.01	0.4	1.49	33.4
495809	0.5	< 0.5	1	0.18	0.24	0.06	0.02	0.35	2.97	29.8
495810	0.3	< 0.5	0.4	< 0.05	0.09	0.02	0.01	0.65	0.14	31.9
495811	< 0.2	< 0.5	0.5	0.08	0.06	0.02	0.01	0.21	0.05	38.9
495812	< 0.2	< 0.5	< 0.2	0.11	0.13	0.03	0.01	0.59	0.05	27.6
495813	< 0.2	< 0.5	0.3	< 0.05	2.71	0.04	0.01	1.13	16.4	28.9
495814	0.5	< 0.5	0.8	0.13	0.94	0.02	0.01	0.43	0.76	29.2
495815	< 0.2	< 0.5	1.1	0.19	4.59	0.77	1.06	4.16	11.8	20.7
495816	< 0.2	< 0.5	0.6	0.08	0.06	0.04	0.01	0.28	1.39	27.8

Table 2. ***Rock samples: analytical results***

GGU no.	Eu ppm	Tb ppm	Yb ppm	Lu ppm	Al pct	Na pct	K pct	Ca pct	Mg pct	Mass g
495817	0.3	< 0.5	0.5	< 0.05	2.25	0.03	0.01	1.03	15.1	26.8
495818	< 0.2	< 0.5	0.8	0.15	0.54	0.03	0.03	1.19	0.91	24.1
495819	0.8	< 0.5	1.2	0.22	0.09	0.02	0.01	0.37	1.51	29.9
495820	< 0.2	< 0.5	<0,2	0.16	0.07	0.01	0.01	0.2	1.3	36.5
495821	0.4	< 0.5	0.5	<0,05	0.18	< 0.01	0.01	0.18	0.73	29.1
495822	0.4	< 0.5	0.7	0.1	0.3	0.05	0.01	0.23	1.98	21.5
495823	< 0.2	< 0.5	0.5	0.06	0.13	0.02	< 0.01	0.09	1.93	26.1
495824	< 0.2	< 0.5	< 0.2	< 0.05	0.02	0.02	< 0.01	0.01	0.06	26.2
495825	1.9	1.2	2.4	0.43	8.66	3.52	4.73	1.71	1.89	21.5
495826	0.4	< 0.5	1.2	0.18	1.01	0.13	0.2	1.66	1.35	29.1
495827	0.4	< 0.5	0.9	0.19	0.66	0.1	0.08	2.51	2.1	30.9
495828	1.8	< 0.5	1.8	0.35	10.8	1.7	2.32	5.08	2.77	26.2
495829	< 0.2	< 0.5	0.5	0.09	0.2	0.04	0.02	3.48	0.77	27.3
495830	2.9	2.9	4.3	0.61	11.2	0.28	1.8	0.44	1.14	23.4
495831	2.5	2.2	2.5	0.43	3.15	0.09	0.12	0.37	0.85	30.9
495832	1.2	1	1.2	0.28	3.47	0.36	0.17	16.1	6.22	24.4
495833	3.3	2.7	6.5	0.97	10.5	3.78	0.24	1.28	1.6	21.9
495834	< 0.2	< 0.5	0.4	< 0.05	0.2	0.04	0.02	0.15	0.69	30.1
495835	0.5	< 0.5	0.8	0.13	3.11	0.26	0.05	2.85	14.1	24.1
Samples	166	166	166	166	166	166	166	166	166	166
Minimum	< 0.2	< 0.5	< 0.2	< 0.05	0.02	< 0.01	< 0.01	0.01	0.05	17.5
Maximum	4.6	5	11.6	1.78	15.1	6.5	4.75	33.7	25.6	42.5

Table 2. ***Rock samples: analytical results***

GGU no.	**SiO_2 pct**	**FeO pct**	**Fe_2O_3 pct**	**P_2O_5 pct**	**MgO pct**	**MnO pct**	**TiO_2 pct**
478517	63.25	0.62	33.08	0.18	0.38	0.02	0.01
478519	48.83	15.30	31.00	0.20	1.93	0.04	< 0.01
478521	47.89	7.60	43.44	0.15	< 0.01	0.04	< 0.01
478540	63.53	11.4	15.38	0.14	4.09	0.138	0.01
478542	47.52	7.42	44.31	0.12	0.12	0.027	< 0.01
478543	41.05	14.6	42.4	0.07	0.78	0.193	0.01
478549	51.26	18.3	25.63	0.05	2.42	0.102	0.01
478550	54.7	17	22.27	0.2	2.33	0.459	< 0.01
478552	45	16.6	34.1	0.09	1.67	0.052	0.01
478554	18.23	21.6	47.03	0.19	5.31	0.082	0.11
478557	34.15	30.4	25.46	0.07	4.28	1.685	0.13
478558	58.18	11.1	14.58	0.23	3.15	0.174	1.05
478613	49.87	14.4	34.17	< 0.01	0.3	0.047	0.01
478614	4.83	28.1	64.44	< 0.01	0.31	0.047	0.07
495807	51.31	13.1	28.66	0.1	1.86	0.065	0.2
495808	44.97	16.9	32.81	0.31	2.73	0.131	0.01
495810	46.4	4.79	46.58	0.05	0.09	0.025	< 0.01
495811	43.25	16.1	39.04	0.08	< 0.01	0.024	< 0.01
495812	47.01	10.7	40.47	0.11	< 0.01	0.047	< 0.01
495816	54.28	15.50	27.20	0.15	2.02	0.22	0.01
495819	38.64	19.9	37.31	0.24	2.45	0.356	< 0.01
495822	46.60	14.30	32.58	0.12	3.17	0.02	0.03
495823	46.97	15.1	31.58	0.08	3.42	0.014	< 0.01
495826	53.29	13.1	24.9	0.16	2.28	0.195	0.25
495827	54.41	21.1	14.94	0.07	3.65	0.94	0.05
Samples	25	25	25	25	25	25	25
Minimum	4.83	0.62	14.58	< 0.01	< 0.01	0.01	< 0.01
Maximum	63.53	30.40	64.44	0.31	5.31	1.69	1.05

Table 2. ***Rock samples: analytical results***

GGU no.	Cr_2O_3 pct	Al_2O_3 pct	Na_2O pct	K_2O pct	CaO pct	LOI pct	Total pct
478517	0.01	0.46	< 0.01	< 0.01	0.38	0.41	98.73
478519	0.01	0.11	< 0.01	< 0.01	1.31	< 0.01	99.18
478521	0.01	0.01	< 0.01	< 0.01	0.43	< 0.01	99.93
478540	0.01	0.24	0.05	0.02	1.74	1.14	99.17
478542	0.01	0.29	< 0.01	< 0.01	0.13	< 0.01	99.37
478543	0.01	0.1	< 0.01	0.02	0.32	< 0.01	98.78
478549	0.01	< 0.01	< 0.01	< 0.01	0.85	< 0.01	99.36
478550	< 0.01	0.06	< 0.01	< 0.01	0.54	< 0.01	98.53
478552	< 0.01	0.16	< 0.01	0.03	0.37	< 0.01	98.56
478554	0.04	1.98	< 0.01	0.03	2.97	< 0.01	99.06
478557	0.01	3.08	< 0.01	< 0.01	0.71	< 0.01	99.6
478558	0.01	4.59	0.02	1.83	2.24	0.63	99.02
478613	0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	99.04
478614	0.01	1.56	< 0.01	0.05	< 0.01	< 0.01	99.57
495807	0.01	1.73	< 0.01	0.45	0.5	< 0.01	99.29
495808	0.01	0.16	< 0.01	< 0.01	0.53	< 0.01	99.09
495810	< 0.01	0.08	< 0.01	< 0.01	0.86	0.45	99.84
495811	0.01	< 0.01	< 0.01	< 0.01	0.25	< 0.01	99.29
495812	< 0.01	< 0.01	0.06	0.01	0.82	< 0.01	99.85
495816	< 0.01	< 0.01	0.04	0.02	0.38	< 0.01	100.20
495819	< 0.01	< 0.01	< 0.01	< 0.01	0.51	< 0.01	99.37
495822	< 0.01	0.54	0.04	0.02	0.33	< 0.01	99.13
495823	< 0.01	0.08	< 0.01	< 0.01	0.07	< 0.01	98.62
495826	< 0.01	1.43	< 0.01	0.16	2.41	< 0.01	98.84
495827	0.01	0.94	< 0.01	0.06	3.67	< 0.01	99.48
Samples	25	25	25	26	27	28	29
Minimum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	98.53
Maximum	0.04	4.59	0.06	1.83	3.67	1.14	100.20

Table 3. ***Stream sediment sample list***

GGU no.	Latitude	Longitude	Elevation metres	0.1-1.0 mm gramme	-0.1 mm gramme	Analysis of -0.1 mm fraction, gramme
507351	76.5108	-68.7860	57	433	10.5	8.52
507352	76.5116	-68.8543	9	364	59.1	7.91
507353	76.5118	-68.8448	5	544	26.5	7.44
507354	76.5118	-68.8371	13	477	31.8	8.21
507355	76.5116	-68.8207	37	504	57	7.85
507356	76.5120	-68.8043	46	556	37	7.41
507357	76.5086	-68.7766	65	570	25.6	7.72
507358	76.5077	-68.7865	68	253	204.1	8.97
507359	76.4976	-68.7863	117	179	132.9	7.96
507360	76.4922	-68.7994	114	291	197.2	8.53
507361	76.3910	-69.4769	154	368	6.6	4.87
507362	76.3892	-69.4823	144	492	57	7.95
507363	76.3910	-69.4927	138	513	14.5	8.37
507364	76.3925	-69.5114	113	559	19.5	8.03
507365	76.4634	-68.5855	202	574	23.1	7.98
507366	76.4680	-68.5849	183	432	34.1	8.27
507376	76.5111	-68.7879	57	221	24.3	7.79
507377	76.5136	-68.8616	58	277	46	7.97
507378	76.5161	-68.8671	23	154	99	8.47
507379	76.5195	-68.8727	20	140	95.2	8.22
507380	76.5219	-68.8738	5	125	32.2	8.34
507381	76.4982	-68.6854	117	209	6.5	4.82
507382	76.5015	-68.6995	104	173	6.1	4.42
507383	76.5035	-68.7221	91	326	15.9	7.95
507384	76.5059	-68.7525	78	255	14.6	8.01
507385	76.5067	-68.7686	64	257	21.1	7.77
507386	76.3975	-69.4036	218	100	1	0.701
507387	76.9656	-70.7666	318	153	16.9	8.73
507388	76.9633	-70.7639	308	108	21.2	7.97
507389	76.9579	-70.7907	190	141	13.7	8.32
507390	76.9564	-70.7924	170	207	3.3	1.06
507391	76.3950	-69.4518	213	103	2	1.03
507392	76.3948	-69.4478	171	194	1.8	1.23
507393	76.9524	-70.8791	27	212	6.8	5.35
507394	76.9569	-70.8339	109	350	84.1	8.44
507395	76.9568	-70.8166	111	150	28.4	8.13
507396	76.4649	-68.5760	78	192	29.3	8.48
507397	76.4710	-68.6014	183	290	8.6	7.14
507400	76.3972	-69.4019	218	128	0.9	0.394

Table 4. ***Stream sediment samples: analytical results***

Element	Detection limit		Analytical method	Element	Detection limit		Analytical method
Ag	0.3	ppm	ICP	Mn	1.00	ppm	ICP
Au	2.00	ppb	INAA	Mo	1.00	ppm	ICP
Al	0.01	pct	ICP	Na	0.01	pct	INAA
As	0.5	ppm	INAA	Nd	5.00	ppm	INAA
Ba	50.00	ppm	INAA	Ni	1.00	ppm	ICP
Be	1.00	ppm	ICP	P	0.001	pct	ICP
Bi	2.00	ppm	ICP	Pb	3.00	ppm	ICP
Br	0.5	ppm	INAA	Rb	15.00	ppm	INAA
Ca	0.01	pct	ICP	S	0.01	pct	ICP
Cd	0.3	ppm	ICP	Sb	0.1	ppm	INAA
Ce	3.00	ppm	INAA	Sc	0.1	ppm	INAA
Co	1.00	ppm	INAA	Se	3.00	ppm	INAA
Cr	2.00	ppm	INAA	Sm	0.1	ppm	INAA
Cs	1.00	ppm	INAA	Sn	0.01	pct	INAA
Cu	1.00	ppm	ICP	Sr	1.00	ppm	ICP
Eu	0.2	ppm	INAA	Ta	0.5	ppm	INAA
Fe	0.01	pct	INAA	Tb	0.5	ppm	INAA
Hf	1.00	ppm	INAA	Th	0.2	ppm	INAA
Hg	1.00	ppm	INAA	Ti	0.01	pct	ICP
Ir	5.00	ppb	INAA	U	0.5	ppm	INAA
K	0.01	pct	ICP	V	2.00	ppm	ICP
La	0.5	ppm	INAA	W	1.00	ppm	INAA
Lu	0.05	ppm	INAA	Y	1.00	ppm	ICP
Mg	0.01	pct	ICP	Yb	0.2	ppm	INAA
				Zn	1.00	ppm	ICP

The -0.1 mm fraction is analysed.

Analysis by Activation Laboratories Ltd., Ontario, Canada.

Analytical methods:
INAA: Instrumental neutron activation.
ICP: Inductively coupled plasma emission spectrometry, total digestion.

Table 4. ***Stream sediment samples: analytical results***

GGU no.	Au ppb	Ag ppm	Ir ppb	As ppm	Sb ppm	Se ppm	S pct	Cu ppm	Pb ppm	Zn ppm
507351	6	2.3	< 5	1.6	0.2	< 3	0.02	15	20	47
507352	< 2	1.2	< 5	1.2	< 0.1	< 3	0.01	17	16	48
507353	< 2	0.4	9	2.4	< 0.1	< 3	< 0.01	14	23	66
507354	4	0.5	< 5	2.6	0.2	< 3	0.01	20	24	64
507355	< 2	< 0.3	< 5	1.7	< 0.1	< 3	0.01	19	22	56
507356	< 2	0.5	< 5	2.3	< 0.1	< 3	0.02	16	23	58
507357	< 2	3.8	7	2.2	0.2	< 3	0.01	20	29	66
507358	< 2	< 0.3	< 5	2.1	0.2	< 3	0.01	7	9	19
507359	5	< 0.3	< 5	2.3	0.3	< 3	0.01	6	14	17
507360	3	< 0.3	< 5	2.3	0.4	< 3	0.01	6	11	17
507361	< 2	< 0.3	< 5	< 0.5	< 0.1	< 3	0.01	24	30	92
507362	< 2	2.9	< 5	< 0.5	< 0.1	< 3	0.02	17	36	58
507363	< 2	3.3	< 5	< 0.5	< 0.1	< 3	0.01	14	41	91
507364	< 2	1	< 5	< 0.5	< 0.1	< 3	< 0.01	16	40	80
507365	< 2	< 0.3	< 5	1.8	< 0.1	< 3	0.01	13	26	65
507366	< 2	0.4	< 5	6.1	< 0.1	< 3	< 0.01	78	43	112
507376	< 2	1.2	< 5	2.5	< 0.1	< 3	0.02	19	20	49
507377	5	0.5	< 5	1.6	0.2	< 3	0.01	16	21	45
507378	6	< 0.3	< 5	1.8	< 0.1	< 3	0.01	20	20	46
507379	< 2	0.5	< 5	1.9	0.3	< 3	< 0.01	20	23	53
507380	< 2	< 0.3	< 5	2.3	0.2	< 3	0.02	18	16	43
507381	< 2	2.9	< 5	< 0.5	< 0.1	< 3	0.02	19	16	49
507382	< 2	0.9	< 5	2.4	0.3	< 3	0.02	21	21	57
507383	< 2	0.5	< 5	2.1	0.3	< 3	0.01	20	21	59
507384	< 2	0.6	< 5	2	0.2	< 3	0.01	18	22	46
507385	< 2	0.5	< 5	2.3	< 0.1	< 3	0.01	19	23	56
507386	< 2	< 0.3	< 5	< 0.5	0.5	< 3	0.02	38	43	116
507387	5	0.4	< 5	8.4	0.6	< 3	0.08	73	29	127
507388	< 2	< 0.3	< 5	7.3	0.5	< 3	0.07	58	28	74
507389	< 2	< 0.3	< 5	5.8	0.4	< 3	0.05	67	25	89
507390	3	0.6	< 5	3.8	0.6	< 3	0.04	42	15	69
507391	< 2	1	< 5	< 0.5	0.3	< 3	0.02	38	30	99
507392	< 2	0.4	< 5	< 0.5	< 0.1	< 3	0.01	33	34	102
507393	< 2	< 0.3	8	5.3	0.5	< 3	0.05	55	21	89
507394	3	< 0.3	5	4.6	0.5	< 3	0.07	71	19	85
507395	< 2	0.4	< 5	6.6	0.7	< 3	0.07	68	23	94
507396	< 2	1.1	< 5	1.9	< 0.1	< 3	0.01	22	24	63
507397	< 2	0.9	9	5.2	0.4	< 3	< 0.01	42	35	82
507400	< 2	< 0.3	< 5	< 0.5	0.6	< 3	0.01	28	27	94
Samples	39	39	39	39	39	39	39	39	39	39
Minimum	< 2	< 0,3	< 5	< 0,5	< 0,1	< 3	< 0,01	6	9	17
Maximum	6	3.8	9	8.4	0.7	< 3	0.08	78	43	127
Median	< 2	0.6	< 5	2.3	0.3	< 3	0.01	20	23	64

Table 4. ***Stream sediment samples: analytical results***

GGU no.	Cd ppm	Bi ppm	Ba ppm	Fe pct	Ti pct	Ni ppm	Co ppm	Cr ppm	V ppm	Mn ppm
507351	0.5	< 2	380	5.69	1.03	49	12	150	151	766
507352	0.4	< 2	410	4.35	0.3	56	14	133	68	644
507353	0.8	< 2	410	9.18	0.13	70	15	247	55	984
507354	0.7	< 2	380	7.88	0.15	66	14	230	54	928
507355	0.6	< 2	490	5.42	0.2	61	14	178	48	758
507356	0.7	< 2	520	6.65	0.23	59	14	167	60	845
507357	0.7	< 2	530	7.23	0.21	71	15	205	66	933
507358	< 0.3	< 2	270	0.97	0.13	11	4	20	20	165
507359	< 0.3	< 2	440	0.97	0.21	10	5	23	29	143
507360	< 0.3	< 2	360	1.07	0.14	10	5	21	21	139
507361	0.6	< 2	590	7.03	0.25	57	21	124	73	1080
507362	0.4	< 2	430	4.19	0.71	35	12	66	112	740
507363	0.8	< 2	440	7.44	0.61	55	16	113	109	1370
507364	0.7	< 2	510	6.57	0.32	50	16	96	90	1100
507365	0.6	< 2	460	6.78	0.27	39	12	114	63	916
507366	0.4	< 2	530	3.91	0.14	135	24	140	43	694
507376	0.4	< 2	360	4.65	0.26	45	13	123	57	586
507377	< 0.3	< 2	380	3.42	0.19	47	13	105	39	489
507378	0.3	< 2	410	2.74	0.23	53	13	84	42	465
507379	0.3	< 2	480	3.19	0.16	52	13	95	34	509
507380	0.3	< 2	350	3.79	0.16	42	12	95	34	505
507381	0.4	< 2	500	5.36	0.69	47	15	160	107	609
507382	0.4	< 2	410	5.59	0.25	53	15	161	54	635
507383	0.5	< 2	440	6.22	0.14	60	14	179	52	717
507384	0.4	< 2	350	5.77	0.16	49	14	144	48	596
507385	0.5	< 2	410	4.94	0.22	57	13	144	49	634
507386	0.4	< 2	780	5.84	0.2	50	23	113	56	894
507387	0.7	< 2	370	6.45	0.17	38	20	78	44	484
507388	0.5	< 2	330	5.01	0.18	34	10	93	71	217
507389	0.5	< 2	270	5.84	0.2	43	21	82	53	444
507390	0.4	< 2	300	3.95	0.47	35	19	98	94	299
507391	0.4	< 2	800	4.58	0.36	47	19	83	76	778
507392	0.5	< 2	720	6.19	0.21	61	23	130	73	1000
507393	0.5	< 2	400	5.66	0.07	39	19	88	34	396
507394	0.7	< 2	390	5.65	0.14	41	17	83	41	482
507395	0.5	< 2	370	6.24	0.16	41	20	88	45	499
507396	0.6	< 2	470	6.09	0.24	68	16	189	57	749
507397	0.5	< 2	560	5.05	0.24	88	21	161	54	751
507400	0.6	< 2	610	7.28	0.16	62	28	141	42	1090
Samples	39	39	39	39	39	39	39	39	39	39
Minimum	< 0,3	< 2	270	0.97	0.07	10	4	20	20	139
Maximum	0.8	< 2	800	9.18	1.03	135	28	247	151	1370
Median	0.5	< 2	410	5.65	0.21	50	15	114	54	644

Table 4. ***Stream sediment samples: analytical results***

GGU no.	Hg ppm	Mo ppm	W ppm	Ta ppm	Be ppm	Sn pct	Br ppm	Rb ppm	Sr ppm	Sc ppm
507351	< 1	1	< 1	< 0.5	1	< 0.01	1.8	42	154	11.3
507352	< 1	< 1	< 1	< 0.5	1	< 0.01	1.8	< 15	170	10.7
507353	< 1	< 1	< 1	< 0.5	1	< 0.01	1.9	53	162	14.4
507354	< 1	< 1	< 1	< 0.5	1	< 0.01	1.9	48	167	13.7
507355	< 1	< 1	< 1	< 0.5	1	< 0.01	< 0.5	56	180	12.1
507356	< 1	< 1	< 1	< 0.5	1	< 0.01	1.6	52	180	11.5
507357	< 1	< 1	< 1	1.4	1	< 0.01	1.4	< 15	187	15.2
507358	< 1	< 1	< 1	< 0.5	1	< 0.01	4.1	54	80	3
507359	< 1	< 1	< 1	< 0.5	1	< 0.01	3.5	64	89	3.1
507360	< 1	< 1	< 1	< 0.5	1	< 0.01	3.6	73	78	3.2
507361	< 1	< 1	< 1	2.7	2	< 0.01	4.4	92	188	17.9
507362	< 1	< 1	< 1	< 0.5	2	< 0.01	3.2	46	244	10.9
507363	< 1	< 1	5	< 0.5	2	< 0.01	2.5	48	216	15.4
507364	< 1	< 1	< 1	< 0.5	2	< 0.01	2.5	< 15	227	14.2
507365	< 1	< 1	< 1	< 0.5	2	< 0.01	< 0.5	< 15	197	13.8
507366	< 1	< 1	< 1	< 0.5	2	< 0.01	2.4	48	211	12.1
507376	< 1	< 1	< 1	< 0.5	1	< 0.01	3.5	39	157	10.4
507377	< 1	< 1	< 1	< 0.5	1	< 0.01	2	45	161	9
507378	< 1	< 1	< 1	1.7	1	< 0.01	2.5	51	164	8.2
507379	< 1	< 1	2	< 0.5	2	< 0.01	< 0.5	58	182	9.6
507380	< 1	< 1	< 1	< 0.5	1	< 0.01	2.2	48	158	8.7
507381	< 1	< 1	2	< 0.5	1	< 0.01	2.5	< 15	145	11.7
507382	< 1	< 1	< 1	< 0.5	1	< 0.01	2.9	41	160	11.6
507383	< 1	< 1	< 1	< 0.5	1	< 0.01	< 0.5	< 15	163	12.4
507384	< 1	< 1	< 1	< 0.5	1	< 0.01	< 0.5	68	147	10.8
507385	< 1	< 1	< 1	< 0.5	1	< 0.01	< 0.5	41	174	11.3
507386	< 1	< 1	< 1	3.1	2	< 0.01	20.4	125	185	16.1
507387	< 1	< 1	< 1	< 0.5	3	< 0.01	< 0.5	84	79	14.6
507388	< 1	< 1	< 1	1	3	< 0.01	1.4	108	65	16.5
507389	< 1	< 1	< 1	2.3	3	< 0.01	< 0.5	83	80	15.8
507390	< 1	2	5	< 0.5	2	< 0.01	9.1	112	52	14.1
507391	< 1	< 1	< 1	< 0.5	2	< 0.01	10	69	182	14
507392	< 1	< 1	< 1	2.7	2	< 0.01	8.7	97	206	16.5
507393	< 1	< 1	< 1	< 0.5	3	< 0.01	2	91	77	14.9
507394	< 1	< 1	< 1	< 0.5	3	< 0.01	< 0.5	62	85	14
507395	< 1	< 1	< 1	< 0.5	3	< 0.01	< 0.5	75	82	15
507396	< 1	< 1	< 1	< 0.5	1	< 0.01	2	39	179	12.7
507397	< 1	< 1	< 1	< 0.5	2	< 0.01	2.8	69	187	13.1
507400	< 1	< 1	< 1	< 0.5	2	< 0.01	8.5	< 15	215	17.8
Samples	39	39	39	39	39	39	39	39	39	39
Minimum	< 1	< 1	< 1	< 0,5	1	< 0,01	< 0,5	< 15	52	3
Maximum	< 1	2	5	3.1	3	< 0,01	20.4	125	244	17.1
Median	< 1	< 1	< 1	< 0,5	1	< 0,01	2.5	57	164	12.7

Table 4. ***Stream sediment samples: analytical results***

GGU no.	Cs ppm	Hf ppm	Y ppm	U ppm	Th ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Tb ppm	Yb ppm
507351	2	27	24	4.4	20.1	33.2	68	23	5.2	0.6	3.6
507352	< 1	16	24	4.7	14.5	25.9	50	18	4.2	< 0.5	2.8
507353	< 1	48	37	9.1	34	53	102	38	7.7	< 0.5	5.6
507354	< 1	42	39	7.4	29.6	49.9	94	30	7.2	< 0.5	5.2
507355	< 1	23	28	4	17.8	31.9	66	18	5.1	< 0.5	3.5
507356	3	33	34	7	24.4	40	77	25	5.9	< 0.5	4.1
507357	3	30	34	6.6	23.4	38.3	76	26	6.1	< 0.5	4.1
507358	2	3	12	2	5.3	11.2	23	7	1.8	< 0.5	1.2
507359	2	5	14	2.3	6.7	13.8	27	10	2.3	< 0.5	1.5
507360	3	6	14	2.5	6.5	13.9	29	12	2.4	< 0.5	1.6
507361	3	25	40	9.5	28.7	54	108	41	9.4	< 0.5	4.5
507362	4	32	60	16	82.7	161	283	100	19.9	< 0.5	7.4
507363	2	50	84	19.4	88.4	167	297	95	21.7	1.8	9.3
507364	< 1	47	79	19.6	101	189	331	118	23.9	< 0.5	10.1
507365	< 1	34	37	7.9	31.8	50.9	100	31	7.7	1.1	5.2
507366	2	4	17	3.8	8.9	20.1	40	13	3.1	< 0.5	1.6
507376	2	20	26	4.3	17.3	31.5	62	23	4.9	< 0.5	3.2
507377	< 1	11	18	3.9	12	22.6	48	15	3.6	< 0.5	2.3
507378	< 1	5	16	3.3	8.1	18.6	38	12	3.2	< 0.5	1.5
507379	< 1	8	20	2.7	10.1	21.1	44	13	3.5	< 0.5	2
507380	< 1	14	19	4.8	13	25	49	19	4	< 0.5	2.3
507381	2	20	19	4.9	17.2	31	68	23	5	< 0.5	2.8
507382	< 1	23	22	5.1	20.1	34.4	73	24	5.2	< 0.5	3
507383	< 1	27	26	5.2	21	36.4	73	24	5.6	< 0.5	3.8
507384	< 1	26	24	4.9	21.5	36.8	70	26	5.5	< 0.5	3.2
507385	< 1	20	24	4	16.9	29.6	59	18	4.7	< 0.5	3.2
507386	< 1	16	28	3.5	17.5	45	74	25	6.2	< 0.5	2.8
507387	5	6	28	3.9	16.4	39.8	79	32	6.5	0.7	3.5
507388	5	5	24	5.5	20	48.8	98	35	6.9	0.8	3.2
507389	5	5	26	4.9	18.2	44.5	88	32	7.1	0.8	3.5
507390	6	12	16	4.4	17.1	50.9	109	38	7	1.1	3.2
507391	3	14	29	2.2	18.4	54.6	94	29	6.4	< 0.5	2.7
507392	2	24	33	5.4	27.1	53.5	90	32	6.6	< 0.5	3.3
507393	3	7	27	3.4	15.6	41.8	91	32	7	< 0.5	3.5
507394	5	8	30	5	15.4	40	83	34	6.6	0.8	3.4
507395	4	7	29	4.7	15	41.5	88	34	7.1	< 0.5	3.8
507396	2	26	26	6.6	18.3	37.5	76	25	5.7	< 0.5	3.7
507397	3	15	22	3.4	14.9	30.5	62	22	4.9	< 0.5	2.7
507400	< 1	23	27	6.6	25.4	39.8	69	29	6.1	< 0.5	3
Samples	39	39	39	39	39	39	39	39	39	39	39
Minimum	< 1	3	12	2	5.3	11.2	23	7	1.8	< 0,5	1.2
Maximum	6	50	84	19.6	101	189	331	118	23.9	1.8	10.1
Median	3	20	26	4.8	17.8	38.3	74	25	5.9	< 0,5	3.2

Table 4. ***Stream sediment samples: analytical results***

GGU no.	Lu	Eu	Al	K	Na	Ca	Mg	P	Mass
	ppm	ppm	pct	pct	pct	pct	pct	pct	g
507351	0.61	1.1	3.13	1.32	1.37	4.55	1.97	0.084	8.52
507352	0.37	0.9	4.99	1.57	1.61	4.17	2.02	0.056	7.91
507353	0.87	1.4	4.26	1.2	1.4	4.11	1.81	0.029	7.44
507354	0.75	1.4	4.52	1.34	1.47	4.23	1.93	0.039	8.21
507355	0.5	1.1	5.15	1.57	1.55	4.32	2.09	0.032	7.85
507356	0.65	1.3	5.19	1.59	1.45	4.58	2.08	0.037	7.41
507357	0.68	1.3	5.01	1.33	1.51	3.94	1.74	0.051	7.72
507358	0.15	0.4	3.73	2.43	0.76	8.57	4.9	0.028	8.97
507359	0.25	0.4	4.16	2.88	0.92	5.82	3.36	0.034	7.96
507360	0.25	0.4	3.68	2.48	0.94	5.95	3.32	0.032	8.53
507361	0.76	2.1	5.39	1.73	1.76	3.1	1.74	0.096	4.87
507362	1.04	1.8	5	1.76	1.57	2.34	1.03	0.077	7.95
507363	1.36	2.6	4.8	1.49	1.37	3.03	1.35	0.145	8.37
507364	1.46	2.4	4.96	1.57	1.45	2.75	1.24	0.059	8.03
507365	0.79	1.4	5.14	1.47	1.63	2.94	1.11	0.041	7.98
507366	0.22	0.7	6.6	1.83	1.95	2.73	1.84	0.043	8.27
507376	0.48	1.1	4.84	1.6	1.39	5.5	2.92	0.05	7.79
507377	0.32	0.8	4.9	1.7	1.51	4.99	2.54	0.045	7.97
507378	0.23	0.6	5.18	1.8	1.53	4.75	2.6	0.038	8.47
507379	0.29	0.8	5.4	1.75	1.68	3.89	2.01	0.041	8.22
507380	0.3	0.9	4.5	1.61	1.38	6.1	2.9	0.036	8.34
507381	0.48	1.1	4.15	1.32	1.58	5.64	2.86	0.056	4.82
507382	0.54	1.2	4.89	1.52	1.58	5.81	3.08	0.041	4.42
507383	0.58	1.2	4.79	1.41	1.49	4.56	2.32	0.041	7.95
507384	0.52	1.1	4.4	1.43	1.39	5.17	2.72	0.031	8.01
507385	0.46	1	5.05	1.57	1.61	4.55	2.28	0.041	7.77
507386	0.46	1.7	5.9	1.95	1.8	2.45	1.66	0.078	0.70
507387	0.45	1.3	7.45	1.89	0.57	0.8	1.23	0.029	8.73
507388	0.48	1.3	9.15	2.18	0.6	0.15	0.55	0.029	7.97
507389	0.5	1.4	7.59	1.81	0.62	0.64	0.92	0.035	8.32
507390	0.39	1.5	5	1.8	0.61	0.28	0.47	0.024	1.06
507391	0.46	1.8	5.77	2.13	1.81	2.17	1.66	0.111	1.03
507392	0.53	1.6	6.21	1.88	1.77	2.61	1.72	0.064	1.23
507393	0.52	1.4	7.28	1.91	0.64	0.63	0.93	0.03	5.35
507394	0.5	1.3	7.92	2.06	0.58	0.66	0.96	0.034	8.44
507395	0.49	1.4	7.45	1.89	0.6	0.76	1.09	0.033	8.13
507396	0.55	1.2	5.52	1.6	1.69	3.96	2.12	0.046	8.48
507397	0.22	1.1	5.8	1.68	1.75	3.83	2.2	0.051	7.14
507400	0.64	1.7	5.72	1.68	1.95	2.72	1.5	0.076	0.39
Samples	39	39	39	39	39	39	39	39	39
Minimum	0.15	0.4	3.13	1.2	0.57	0.15	0.47	0.024	0.39
Maximum	1.46	2.6	9.15	2.88	1.95	8.57	4.9	0.145	8.97
Median	0.5	1.3	5.05	1.68	1.49	3.94	1.93	0.041	7.96

Table 5. ***Heavy mineral concentrate list***

GGU no.	Latitude	Longitude	Elevation	x Pans	Weight g	Analysis g
503251	76.5108	-68.7860	57	6	64	22
503252	76.5116	-68.8543	9	6	70	38
503253	76.5118	-68.8448	5	5	95	40
503254	76.5118	-68.8371	13	4	122	42
503255	76.5116	-68.8207	37	6	64	19
503256	76.5120	-68.8043	46	4	119	38
503257	76.5086	-68.7766	65	6	114	41
503258	76.5077	-68.7865	68	6	48	21
503259	76.4976	-68.7863	117	6	39	20
503260	76.4922	-68.7994	114	6	47	20
503261	76.3910	-69.4769	154	6	41	22
503262	76.3892	-69.4823	144	5	55	20
503263	76.3910	-69.4927	138	4	81	34
503264	76.3925	-69.5114	113	4	104	38
503265	76.4634	-68.5855	202	5	56	21
503266	76.4680	-68.5849	183	5	93	36
503276	76.5111	-68.7879	57	5	140	45
503277	76.5136	-68.8616	58	5	84	33
503278	76.5161	-68.8671	23	4	131	39
503279	76.5195	-68.8727	20	4	41	24
503280	76.5219	-68.8738	5	6	34	21
503281	76.4982	-68.6854	117	5	134	38
503282	76.5015	-68.6995	104	4	151	45
503283	76.5035	-68.7221	91	4	205	40
503284	76.5059	-68.7525	78	4	208	34
503285	76.5067	-68.7686	64	3	118	48
503286	76.3975	-69.4036	218	5	48	19
503287	76.9656	-70.7666	318	6	18	7
503288	76.9633	-70.7639	308	4	23	4
503289	76.9579	-70.7907	190	5	28	6
503290	76.9564	-70.7924	170	5	31	17
503291	76.3950	-69.4518	213	6	33	24
503292	76.3948	-69.4478	171	5	76	42
503293	76.9524	-70.8791	27	6	54	18
503294	76.9569	-70.8339	109	5	86	22
503295	76.9568	-70.8166	111	5	48	19
503296	76.4649	-68.5760	78	6	90	41
503297	76.4710	-68.6014	183	6	33	22
503300	76.3972	-69.4019	218	5	157	35
507399	76.9583	-70.9239	1	0	171	30

Table 6. ***Heavy mineral concentrates: analytical results***

Element	Detection limit		Analytical method	Element	Detection limit		Analytical method
Ag	0.20	ppm	AR-ICP	Mo	2.00	ppm	AR-ICP
Al_2O_3	0.01	pct	FUS-ICP	Na_2O	0.01	pct	FUS-ICP
Au	5.00	ppb	INAA	Nd	10.00	ppm	INAA
As	2.00	ppm	INAA	Ni	1.00	ppm	AR-ICP
Ba	2.00	ppm	FUS-ICP	P_2O_5	0.01	pct	FUS-ICP
Be	1.00	ppm	FUS-ICP	Pb	2.00	ppm	AR-ICP
Br	5.00	ppm	INAA	Rb	50.00	ppm	INAA
CaO	0.01	pct	FUS-ICP	S	0.01	pct	AR-ICP
Cd	0.50	ppm	AR-ICP	Sb	0.20	ppm	INAA
Ce	3.00	ppm	INAA	Sc	0.10	ppm	INAA
Co	5.00	ppm	INAA	Se	20.00	ppm	INAA
Cr	10.00	ppm	INAA	SiO_2	0.01	pct	FUS-ICP
Cs	2.00	ppm	INAA	Sm	0.10	ppm	INAA
Cu	1.00	ppm	AR-ICP	Sr	2.00	ppm	FUS-ICP
Eu	0.20	ppm	INAA	Ta	1.00	ppm	INAA
Fe	0.02	pct	INAA	Tb	2.00	ppm	INAA
Fe_2O_3	0.01	pct	FUS-ICP	Th	0.50	ppm	INAA
Hf	1.00	ppm	INAA	TiO_2	0.001	pct	FUS-ICP
Hg	5.00	ppm	INAA	U	0.50	ppm	INAA
Ir	50.00	ppb	INAA	V	5.00	ppm	FUS-ICP
K_2O	0.01	pct	FUS-ICP	W	4.00	ppm	INAA
La	1.00	ppm	INAA	Yb	1.00	ppm	FUS-ICP
Lu	0.05	ppm	INAA	Yb	0.20	ppm	INAA
MgO	0.01	pct	FUS-ICP	Zn	1.00	ppm	AR-ICP
Mn	2.00	ppm	AR-ICP	Zr	2.00	ppm	FUS-ICP

Analysis by Activation Laboratories Ltd., Ontario, Canada.

Analytical methods:
INAA: Instrumental neutron activation.
AR-ICP: Inductively coupled plasma emission spectrometry, Aqua Regia digestion.
FUS-ICP: Inductively coupled plasma emission spectrometry, Fusion Technique.

Table 6. ***Heavy mineral concentrates: analytical results***

GGU no.	Au ppb	Ag ppm	Ir ppb	As ppm	Sb ppm	Se ppm	S pct	Cu ppm	Pb ppm	Zn ppm
503251	< 5	< 0.2	< 50	8	< 0.2	< 20	0.05	10	11	96
503252	< 5	< 0.2	< 50	< 2	0.3	< 20	0.02	6	15	86
503253	< 5	< 0.2	< 50	4	0.6	< 20	0.03	6	16	92
503254	< 5	< 0.2	< 50	4	< 0.2	< 20	0.02	2	13	84
503255	< 5	0.2	< 50	< 2	< 0.2	< 20	0.03	4	10	89
503256	< 5	0.2	< 50	< 2	0.6	< 20	0.02	1	16	72
503257	< 5	0.2	< 50	4	< 0.2	< 20	0.03	5	9	80
503258	1200	< 0.2	< 50	< 2	< 0.2	< 20	0.04	6	11	98
503259	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.03	6	8	102
503260	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.04	7	9	86
503261	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.05	8	14	103
503262	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.02	7	34	45
503263	30	< 0.2	< 50	< 2	< 0.2	< 20	0.04	8	17	89
503264	243	< 0.2	< 50	< 2	< 0.2	< 20	0.03	7	14	81
503265	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.01	3	11	77
503266	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.02	4	13	66
503276	< 5	0.2	< 50	< 2	< 0.2	< 20	0.04	16	10	112
503277	< 5	0.3	< 50	3	< 0.2	< 20	0.03	12	10	107
503278	< 5	< 0.2	< 50	< 2	0.6	< 20	0.03	7	9	103
503279	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.03	13	12	97
503280	32	0.3	< 50	6	< 0.2	< 20	0.03	6	14	96
503281	< 5	< 0.2	< 50	3	1	< 20	0.03	7	10	97
503282	30	< 0.2	< 50	< 2	< 0.2	< 20	0.03	5	11	87
503283	1110	0.2	< 50	< 2	< 0.2	< 20	0.03	5	10	85
503284	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.03	6	11	87
503285	< 5	< 0.2	< 50	< 2	0.6	< 20	0.03	5	12	87
503286	< 5	< 0.2	< 50	< 2	< 0.2	< 20	< 0.01	12	15	116
503287	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.71	144	25	192
503288	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.16	102	25	143
503289	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.23	117	17	164
503290	< 5	< 0.2	< 50	7	< 0.2	< 20	0.04	83	26	144
503291	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.02	11	11	78
503292	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.04	10	12	132
503293	< 5	< 0.2	< 50	< 2	1	< 20	0.1	106	18	158
503294	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.17	118	17	154
503295	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.19	132	18	160
503296	< 5	1.8	< 50	5	< 0.2	< 20	0.03	8	10	97
503297	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.03	9	14	96
503300	< 5	< 0.2	< 50	< 2	< 0.2	< 20	< 0.01	8	7	155
507399	< 5	< 0.2	< 50	7	< 0.2	< 20	0.08	123	30	157
Samples	40	40	40	40	40	40	40	40	40	40
Minimum	< 5	< 0.2	< 50	< 2	< 0.2	< 20	< 0.01	1	7	45
Maximum	1200	1.8	< 50	8	1	< 20	0.71	144	34	192
Median	< 5	< 0.2	< 50	< 2	< 0.2	< 20	0.03	8	13	97

Table 6. ***Heavy mineral concentrates: analytical results***

GGU no.	Cd ppm	Ba ppm	Fe pct	Ni ppm	Co ppm	Cr ppm	V ppm	Mn ppm	Hg ppm	Mo ppm	W ppm
503251	< 0.5	154	44.3	321	42	420	1046	716	< 5	< 2	< 4
503252	< 0.5	66	48.7	47	41	420	1115	561	< 5	< 2	< 4
503253	< 0.5	88	43.8	57	40	340	1115	584	< 5	< 2	< 4
503254	< 0.5	69	42.7	51	38	380	1150	554	< 5	< 2	< 4
503255	< 0.5	84	51.9	51	39	410	1128	630	< 5	< 2	< 4
503256	< 0.5	57	53.6	46	39	430	1106	568	< 5	< 2	9
503257	< 0.5	77	41.3	58	30	340	1032	573	< 5	< 2	< 4
503258	< 0.5	239	38.9	61	33	320	1064	601	< 5	< 2	< 4
503259	< 0.5	466	36.1	52	38	310	959	615	< 5	< 2	< 4
503260	< 0.5	526	33.6	51	32	310	808	614	< 5	< 2	< 4
503261	< 0.5	46	40.8	50	70	290	1612	527	< 5	< 2	9
503262	< 0.5	47	42.3	36	29	290	957	424	< 5	< 2	19
503263	< 0.5	44	37.7	48	49	260	1406	476	< 5	< 2	10
503264	< 0.5	50	38.7	47	51	270	1431	488	< 5	< 2	12
503265	< 0.5	91	43.1	42	32	300	997	615	< 5	< 2	< 4
503266	< 0.5	91	42.5	45	30	360	986	547	< 5	< 2	< 4
503276	< 0.5	124	37.7	60	40	340	1127	622	< 5	< 2	< 4
503277	< 0.5	89	40.4	54	41	360	1167	620	< 5	< 2	< 4
503278	< 0.5	74	39.8	51	31	320	1141	585	< 5	< 2	< 4
503279	< 0.5	88	45.7	58	42	380	1125	672	< 5	< 2	< 4
503280	< 0.5	91	52.1	56	47	440	1170	629	< 5	< 2	< 4
503281	< 0.5	96	47.5	57	43	410	1107	657	< 5	< 2	< 4
503282	< 0.5	83	45.8	50	39	330	1102	594	< 5	< 2	7
503283	< 0.5	81	47.2	56	37	360	1123	617	< 5	< 2	< 4
503284	< 0.5	76	48	55	37	380	1109	606	< 5	< 2	< 4
503285	< 0.5	77	42	50	37	330	1107	562	< 5	< 2	< 4
503286	< 0.5	78	36.9	62	60	320	1441	609	< 5	< 2	< 4
503287	< 0.5	232	8.73	56	32	110	527	389	< 5	< 2	< 4
503288	< 0.5	294	8.89	43	23	110	280	370	< 5	< 2	< 4
503289	< 0.5	192	17.1	69	50	170	878	436	< 5	< 2	< 4
503290	< 0.5	313	8.74	56	37	120	238	897	< 5	< 2	< 4
503291	< 0.5	81	43.1	44	61	330	1321	506	< 5	< 2	< 4
503292	< 0.5	70	36.1	64	59	320	1663	641	< 5	< 2	< 4
503293	< 0.5	269	13.2	64	38	150	525	659	< 5	< 2	< 4
503294	< 0.5	241	14.8	63	41	170	616	459	< 5	< 2	< 4
503295	< 0.5	214	14.9	59	37	160	674	449	< 5	< 2	< 4
503296	< 0.5	108	39.2	66	31	290	1015	651	< 5	< 2	< 4
503297	< 0.5	98	53	52	45	370	1079	755	< 5	< 2	< 4
503300	< 0.5	58	39	67	57	320	1667	725	< 5	< 2	< 4
507399	< 0.5	606	15.6	72	54	240	751	1790	< 5	< 2	< 4
Samples	40	40	41	42	43	44	45	46	40	40	40
Minimum	< 0.5	44	8.73	36	23	110	238	370	< 5	< 2	< 4
Maximum	< 0.5	606	53.6	321	70	440	1667	1790	< 5	< 2	10
Median	< 0.5	89	40.6	56	39	320	1107	604	< 5	< 2	< 4

Table 6. ***Heavy mineral concentrates: analytical results***

GGU no.	Ta ppm	Be ppm	Br ppm	Rb ppm	Sr ppm	Sc ppm	Cs ppm	Zr ppm	Hf ppm	Y ppm	U ppm	Th ppm
503251	< 1	3	< 5	< 50	72	18.5	< 2	1104	27	57	7.8	39
503252	< 1	3	< 5	< 50	40	11.8	< 2	1650	32	47	7.9	55.6
503253	< 1	3	< 5	< 50	50	13.2	< 2	1357	28	58	6.1	42.1
503254	5	3	< 5	< 50	34	10.3	< 2	1976	31	49	7.3	52
503255	< 1	3	< 5	< 50	42	13	< 2	1065	25	46	4.8	39.6
503256	< 1	3	< 5	< 50	26	8.8	< 2	1240	30	39	10.1	49.2
503257	< 1	3	< 5	< 50	44	11	< 2	1409	25	45	5.5	39.2
503258	< 1	3	< 5	< 50	85	12.8	< 2	618	14	38	6.5	30.1
503259	4	3	< 5	< 50	103	17.3	< 2	621	16	55	< 0.5	30.6
503260	< 1	3	< 5	< 50	111	19.3	< 2	716	20	43	< 0.5	31.7
503261	6	5	< 5	< 50	32	20.2	< 2	1084	21	53	10.6	33.8
503262	< 1	3	< 5	< 50	46	16.4	< 2	842	24	525	75.9	566
503263	10	4	< 5	< 50	39	16.6	< 2	1112	22	149	21	134
503264	< 1	4	< 5	< 50	38	14.6	< 2	825	15	114	19.1	118
503265	< 1	3	< 5	< 50	43	11.8	< 2	956	22	63	14.5	72.9
503266	< 1	3	< 5	< 50	44	10	< 2	1440	26	64	8	64.5
503276	4	3	< 5	< 50	68	17.4	< 2	1790	31	59	6.6	41.8
503277	4	3	< 5	< 50	65	18.1	< 2	2075	40	78	13.1	52.4
503278	3	3	< 5	80	57	12.9	< 2	1763	30	53	8.1	43.9
503279	< 1	3	< 5	< 50	58	14.9	6	2367	49	59	7.8	62.6
503280	< 1	3	< 5	< 50	46	15.2	< 2	2264	50	54	11.1	70.8
503281	< 1	3	< 5	< 50	50	16.8	< 2	1696	36	64	13.1	55.2
503282	3	3	< 5	< 50	42	12.9	< 2	1462	27	50	9	86.9
503283	< 1	3	< 5	< 50	39	11.2	< 2	1002	20	45	6.2	82.4
503284	< 1	3	< 5	< 50	39	12.4	< 2	1078	26	45	9	89.2
503285	2	3	< 5	80	41	11.7	< 2	1760	29	64	7.7	84.9
503286	6	5	< 5	< 50	67	23.6	< 2	686	14	29	5.9	31.4
503287	< 1	4	< 5	< 50	73	16	< 2	387	6	45	4.8	6.2
503288	< 1	3	< 5	< 50	63	19.8	5	193	< 1	62	< 0.5	16.1
503289	< 1	5	< 5	< 50	77	28.7	< 2	414	10	56	< 0.5	8.9
503290	< 1	3	< 5	< 50	70	19.4	6	263	7	38	5.2	24.8
503291	9	4	< 5	< 50	58	22.2	< 2	1027	24	37	9.1	32.8
503292	2	5	< 5	< 50	49	20.5	< 2	729	14	41	7.4	40.8
503293	< 1	4	< 5	< 50	85	21.3	6	309	8	35	< 0.5	9
503294	< 1	4	< 5	< 50	89	25.5	< 2	308	9	35	6.7	12
503295	< 1	4	< 5	< 50	78	23	< 2	379	9	42	< 0.5	12
503296	< 1	3	< 5	< 50	68	14.3	< 2	1739	29	53	8.3	31.5
503297	< 1	3	< 5	< 50	51	19.6	< 2	1186	33	74	11.4	53.3
503300	4	5	< 5	< 50	35	20.5	< 2	438	10	27	6.7	9.8
507399	< 1	4	9	< 50	110	35.7	< 2	377	7	65	< 0.5	3.2
Samples	40	40	40	40	40	40	40	40	40	40	40	40
Minimum	< 1	3	< 5	< 50	26	8.8	< 2	193	< 1	3.2	< 0.5	3.2
Maximum	10	5	9	80	111	35.7	6	2367	50	525	75.9	566
Median	< 1	3	< 5	< 50	51	16.5	< 2	1072	24	53	7.9	41.3

Table 6. ***Heavy mineral concentrates: analytical results***

GGU no.	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm
503251	78	128	40	8.3	1.2	< 2	5.4	1.03
503252	105	156	40	8.8	< 0.2	< 2	3.9	0.74
503253	85	123	40	7.4	0.9	< 2	4.4	0.32
503254	95	130	40	7.4	1.3	< 2	3.9	0.23
503255	74	127	30	7.3	< 0.2	< 2	3.9	0.91
503256	100	149	40	7.9	1.1	< 2	3.3	0.35
503257	74	101	20	6.2	< 0.2	< 2	3.1	0.77
503258	57	92	20	5.6	< 0.2	< 2	2.9	0.15
503259	62	105	< 10	6.8	< 0.2	< 2	5.1	1.06
503260	68	124	50	7.7	1.3	< 2	4.4	0.9
503261	77	117	20	8	0.9	< 2	4.7	0.87
503262	1180	1750	510	109	6.1	17	26	3.95
503263	267	397	90	24.1	2.1	< 2	7.6	0.46
503264	231	345	110	21.3	1.5	< 2	7	0.21
503265	115	179	40	10.8	1.2	< 2	4.7	0.59
503266	99	149	30	8.4	1.1	< 2	3.6	0.74
503276	70	103	30	6.3	1.1	< 2	4.6	0.97
503277	81	134	10	7.6	1.6	< 2	6	0.46
503278	71	108	30	6.1	1.3	< 2	3.6	0.2
503279	99	160	40	10.3	1.5	< 2	5.5	0.84
503280	110	173	30	10.4	1.8	< 2	5.3	0.45
503281	85	125	40	7.7	< 0.2	< 2	5.3	0.4
503282	81	125	40	6.7	< 0.2	2	4.6	0.51
503283	73	115	20	6.3	0.9	< 2	4.1	0.27
503284	82	113	10	6.8	1	< 2	3.2	0.81
503285	81	118	20	6.5	0.8	< 2	4	0.8
503286	33	59	< 10	4.2	1.1	< 2	3.2	0.49
503287	29	56	40	6	1.6	< 2	2.7	0.39
503288	49	95	< 10	7.8	2.4	< 2	2.9	0.58
503289	37	75	60	7.9	2.8	< 2	4.5	0.48
503290	51	91	20	6.7	1.6	< 2	3	0.52
503291	33	65	30	4.9	< 0.2	< 2	4.2	0.71
503292	48	71	10	5	0.9	< 2	2.9	< 0.05
503293	39	76	< 10	6.7	2	< 2	2.4	0.6
503294	38	83	40	7.2	1.8	< 2	2.7	0.6
503295	37	78	30	6.3	1.4	< 2	3	0.6
503296	61	111	30	6	1.6	< 2	4.6	1
503297	94	179	50	9.9	< 0.2	< 2	7.7	1
503300	20	40	< 10	2.6	< 0.2	< 2	2	0.5
507399	18	40	< 10	6.5	2.2	3	3.5	< 0.05
Samples	40	40	40	40	40	40	40	40
Minimum	18	40	< 10	2	< 0.2	< 2	1.15	< 0.05
Maximum	1180	1750	510	109	6.1	17	26	3.95
Median	74	116	35	7.3	1.4	< 2	4.1	0.6

Table 6. ***Heavy mineral concentrates: analytical results***

GGU no.	SiO_2 pct	Al_2O_3 pct	K_2O pct	Na_2O pct	CaO pct	Fe_2O_3 pct	TiO_2 pct	MgO pct	P_2O_5 pct	Mass g
503251	14.62	3.68	0.27	0.56	2.04	72.47	5.896	1.49	0.09	21.7
503252	7.24	1.84	0.11	0.21	0.91	85.6	5.806	0.65	0.07	38.3
503253	9.26	2.29	0.15	0.26	1.15	81.38	5.831	0.83	0.08	40
503254	5.15	1.55	0.05	0.15	0.69	87.57	6.21	0.52	0.07	41.8
503255	7.28	1.93	0.14	0.21	0.95	85.38	5.181	0.7	0.07	19.2
503256	3.75	1.15	0.07	0.11	0.5	91.45	4.569	0.37	0.06	38.3
503257	8.24	2.14	0.58	0.19	1.02	81.82	5.361	0.72	0.07	40.5
503258	18.51	3.19	0.34	0.54	3.05	66.01	4.962	1.88	0.07	21.3
503259	24.72	4.34	0.54	0.8	3.98	55.61	5.441	2.25	0.08	20.2
503260	30.28	4.96	0.79	0.88	3.99	48.78	4.964	2.23	0.09	19.6
503261	7.75	1.97	0.15	0.24	1.18	71.44	17.21	1.21	0.11	22
503262	8.67	1.91	0.15	0.27	1.06	75.84	11.91	0.88	0.42	19.6
503263	8.48	2.05	0.14	0.26	1.27	72.04	14.47	1.18	0.2	34.1
503264	8.19	1.99	0.16	0.28	1.15	76.78	12.74	1.06	0.16	38.4
503265	10.06	2.37	0.16	0.3	1.16	81.74	4.834	0.91	0.09	21.1
503266	10.99	2.35	0.17	0.36	1.05	81.48	4.229	0.76	0.08	35.8
503276	11.2	3.09	0.14	0.28	2.21	75.01	7.071	1.43	0.14	45
503277	9.91	2.88	0.1	0.22	1.98	77.39	7.934	1.24	0.14	32.6
503278	8.38	2.3	0.11	0.22	1.42	80.76	6.724	0.89	0.11	38.6
503279	8.15	2.22	0.08	0.21	1.42	80.3	7.431	0.91	0.11	24.1
503280	6.22	1.82	0.09	0.17	1.05	83.7	7.88	0.69	0.09	20.6
503281	7.39	2.32	0.1	0.18	1.45	80.37	6.451	0.94	0.12	38.4
503282	6.62	1.99	0.09	0.17	1.18	85.81	5.318	0.81	0.09	44.9
503283	5.43	1.71	0.07	0.14	0.94	88.15	4.892	0.65	0.08	39.9
503284	5.5	1.75	0.07	0.15	0.97	86.54	5.394	0.67	0.08	33.7
503285	6.32	1.95	0.09	0.17	1.1	84.52	5.702	0.71	0.1	48.1
503286	16.07	3.36	0.25	0.5	2.56	61.2	13.87	2.16	0.1	18.8
503287	43.16	14.52	2.1	0.73	1.78	22.53	7.81	2.38	0.18	7.19
503288	50.16	18.89	2.49	0.77	0.43	14.57	2.522	1.26	0.15	4.4
503289	38.53	10.77	1.57	0.66	3.05	28.55	10.57	3.54	0.2	5.57
503290	55.72	17.14	2.71	0.74	0.72	13.24	2.074	1.61	0.15	16.7
503291	13.68	3.05	0.48	0.44	2.25	67.26	12.17	1.78	0.18	23.5
503292	10.4	3.02	0.2	0.38	1.89	69.44	13.92	2.01	0.1	41.9
503293	45.76	14.72	2.08	0.86	1.95	20.14	5.165	2.62	0.16	17.8
503294	43.36	13.48	1.91	0.81	2.64	21.99	6.768	3.11	0.21	21.7
503295	41.59	12.83	1.86	0.72	2.38	23.85	8.452	2.96	0.2	19.3
503296	14.67	3.42	0.24	0.46	1.79	74.11	5.274	1.11	0.12	41.4
503297	10.36	2.93	0.14	0.28	1.74	78.94	5.949	1.28	0.11	21.7
503300	12.91	2.86	0.2	0.33	1.84	67.52	12.61	2.42	0.1	34.7
507399	37.68	6.68	0.72	0.72	7.95	28.57	8.097	7.66	0.26	30.4
Samples	40	40	40	40	40	40	40	40	40	40
Minimum	3.75	1.15	0.05	0.11	0.43	13.24	2.074	0.37	0.06	4.4
Maximum	55.72	18.89	2.71	0.88	7.95	91.45	17.21	7.66	0.42	48.1
Median	10.21	2.62	0.16	0.28	1.42	75.43	6.08	1.2	0.11	27.3

Table 7. ***Summary of typical BIF samples: averages and ranges in per cent***

	BIF loc. 1	**BIF loc. 2**	**BIF loc. 3**	**BIF loc. 4**	**BIF loc. 5**	**BIF loc. 6**	**BIF loc. 1–5**
Samples	4	4	6	5	3	2	22
Fe	26.2 19.4–31.2	29.9 24.8–32.5	26.7 17.9–36.4	31.2 28.3–34.7	25.3 21.9–31.0	41.4 27.7–55.0	27.9 17.9–36.4
FeO	8.9 0.6–16.9	12.4 7.6–16.1	16.7 11.4–21.6	14.3 7.4–19.9	21.5 13.1–30.4	21.3 14.4–28.1	14.8 0.6–30.4
Fe_2O_3	35.3 28.7–46.6	38.5 31.0–43.4	28.6 15.4–47.0	37.6 31.6–44.3	21.8 14.9–25.5	49.3 34.2–64.4	32.4 14.9–46.6
SiO_2	51.5 45.0–63.3	46.7 43.3–48.8	47.8 18.2–63.5	44.2 38.6–47.5	47.3 34.2–54.4	27.4 4.8–49.9	47.5 18.2–63.5

Loc. 1. 478517; 495807, 08, 10.
Loc. 2. 478519, 21; 495811, 12.
Loc. 3. 478540, 49, 50, 52, 54; 495816.
Loc. 4. 478542, 43; 495819, 22, 23.
Loc. 5. 478557; 495826, 27.
Loc. 6. 478613, 14.

Table 8. ***BIF chip samples: metal concentrations in per cent***

	BIF loc. 2 495812	**BIF loc. 3** 478540	**BIF loc. 3** 495816	**BIF loc. 4** 495822	**BIF loc. 2–4** average
Thickness m	*c.* 1.5	1.8	1.4	*c.* 2.0	1.8
Fe	32.10	17.90	29.10	33.00	28.03
FeO	10.70	11.40	15.50	14.30	12.98
Fe_2O_3	40.47	15.38	27.20	32.58	28.91
SiO_2	47.01	63.53	54.28	46.60	52.86
Al_2O_3	< 0.01	0.24	< 0.01	0.54	0.20
CaO	0.82	1.74	0.38	0.33	0.82
MgO	< 0.01	4.09	2.02	3.17	2.32
MnO	0.05	0.14	0.22	0.02	0.11
TiO_2	< 0.01	0.01	0.01	0.03	0.01
P_2O_5	0.11	0.14	0.15	0.12	0.13
S	< 0.01	0.02	< 0.01	0.26	0.07

Table 9. ***Summary of stream sediment geochemistry: medians and ranges***

	Magnetitbugt Map 7	**Booth Sund** Map 4	**Fox Canyon** Map 6	**Total** Maps 4, 6, 7	**Central Steensby Land**[1]
Number	8	7	24	39	22
Au ppb	< 2 < 2	< 2 < 2–5	< 2 < 2–6	< 2 < 2–6	< 2 < 2–5
Cu ppm	26 14–38	67 42–73	19 6–78	20 6–78	49 18–132
Pb ppm	35 27–43	23 15–29	22 9–43	23 9–43	10 5–19
Zn ppm	93 58–116	89 69–127	56 17–112	63 17–127	60 27–104
Ti pct	0.29 0.16–0.71	0.17 0.07–0.47	0.21 0.13–1.03	0.21 0.07–1.03	1.01 0.39–4.24
U ppm	9.5 2.2–19.6	4.7 3.9–5.5	4.7 2.0–9.1	4.7 2.0–19.6	3.2 0.5–5.3
Th ppm	28.7 17.5–101	16.4 15.0–20.0	17.3 5.3–34.0	17.8 5.3–101	11.0 7.7–17.2

[1] from Steenfelt (2002).

Table 10. ***Summary of heavy mineral concentrate geochemistry: medians and ranges***

	Magnetitbugt Map 7	**Booth Sund** Map 4	**Fox Canyon** Map 6	**Total** Maps 4, 6, 7	**Ujarassiorit**[1]
Number	8	7	24	39	15
Au ppb	< 5 < 5–243	< 5 < 5	< 5 < 5–1200	< 5 < 5–1200	< 5 < 5–2710
Cu ppm	8 7–12	117 83–144	6 1–16	7 1–144	24 10–74
Pb ppm	14 7–34	18 17–26	11 8–16	12 7–34	14 3–27
Zn ppm	96 34–155	158 143–192	92 66–112	96 34–192	44 8–239
Ti pct.	8.0 7.1–10.3	4.1 1.2–6.3	3.4 2.5–4.7	3.6 3.4–8.0	n.a.
U ppm	10.6 5.9–75.9	<5 < 5–6.7	7.9 < 5–15.5	7.8 < 5–75.9	2.1 < 0.5–14.0
Th ppm	40.8 9.8–566,0	12.0 6.2–24.8	52.4 30.1–89.2	42.1 6.2–566.0	8.6 1.2–78.0

[1] Steensby Land and south of Pituffik (Ujarassiorit 1993).