

# A COMPETENT PERSON'S REPORT ON THE ASSETS OF AEX GOLD, SOUTH GREENLAND



Prepared for  
**AEX Gold Inc**

Report prepared by



SRK Exploration Services Ltd  
ES 7863  
June 2020

**Head Office**

12 St Andrew's Crescent  
Cardiff  
CF10 3DD  
United Kingdom

UK: +44 (0) 2920 233 233  
Russia: +7 (0) 4955 454 413  
South Africa: +27 (0) 11 441 1111



Email: [enquiries@srkexploration.com](mailto:enquiries@srkexploration.com)

Web: [www.srkexploration.com](http://www.srkexploration.com)

<b>SRK ES Legal Entity:</b>	SRK Exploration Services Ltd
<b>SRK ES Registered Address</b>	21 Gold Tops Newport NP20 4PG
<b>SRK ES Office Address:</b>	12 St Andrew's Crescent Cardiff CF10 3DD
<b>Date:</b>	26/06/2020
<b>Project Number:</b>	ES 7863
<b>SRK ES Project Manager:</b>	James Gilbertson, Managing Director
<b>Client Legal Entity:</b>	AEX Gold Inc 123 Front Street W, Suite 905. Toronto, M5J 2M2, Canada
<b>Client Nominated Adviser</b>	Stifel Nicolaus Europe Limited, 150 Cheapside, London, EC2V 6ET, United Kingdom

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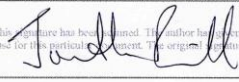
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Patrick Johnson  
Senior Exploration Geologist  
SRK Exploration Services Ltd  
Date: 03/02/2020

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Jon Russill  
Principal Exploration Geologist  
SRK Exploration Services Ltd  
Date: 26/06/2020

Peer reviewed by:

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---

James Gilbertson  
Principal Exploration Geologist  
Managing Director  
SRK Exploration Services Ltd  
Date: 26/06/2020

The Directors  
AEX Gold Inc.  
123 Front Street W,  
Suite 905.  
Toronto,  
M5J 2M2,  
Canada

Stifel Nicolaus Europe Limited  
150 Cheapside  
London  
EC2V 6ET

## **A COMPETENT PERSON'S REPORT ON THE ASSETS OF AEX GOLD, SOUTH GREENLAND**

### **EXECUTIVE SUMMARY**

#### **INTRODUCTION**

SRK Exploration Services Ltd (SRK ES) was requested by AEX Gold Inc ((AEX) hereinafter also referred to as the Company or the Client) to prepare a Competent Persons Report (CPR or the Report) on the Mineral Assets of the Company comprising its key projects in Southern Greenland. SRK ES is part of the global SRK Consulting Group (the SRK Group).

This CPR is addressed to the Company's proposed Nominated Adviser, Stifel Nicolaus Europe Ltd. (Stifel), and the Directors of AEX. SRK ES understands that this CPR will be published by AEX on its website and as part of an admission document to be published in connection with the Company's proposed admission to trading on the AIM Market of the London Stock Exchange. Successful admission will result in a dual-listing of the Company which is currently listed on the TSX Venture Exchange, part of the Toronto Stock Exchange (TSX), under the ticker code TSX:AEX.V.

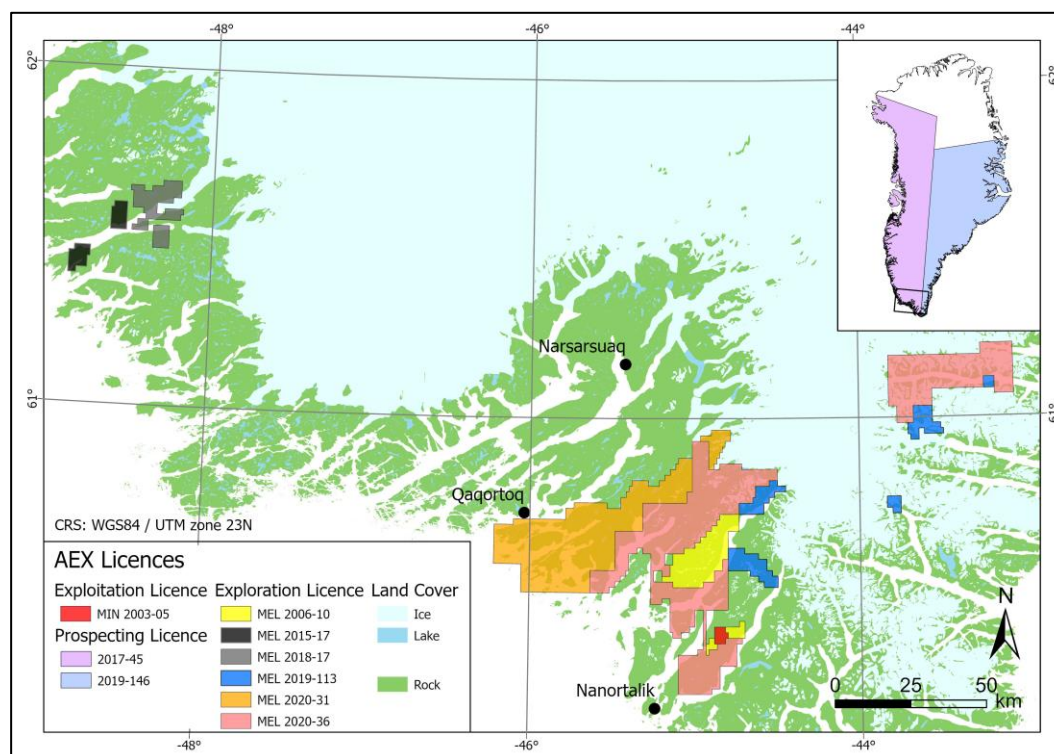
The material assets described herein include four mineral exploration licences in south and southeast Greenland that cover several early-stage gold prospects and one exploitation licence that covers AEX's principal asset, the former Nalunaq gold mine. All of the mineral licences are held by Nalunaq A/S which is a wholly-owned subsidiary of AEX. Nalunaq A/S also owns two exploration licences on the southwest coast of Greenland which are also prospective for gold mineralisation but are not considered material for the purposes of this CPR. Furthermore, Nalunaq A/S owns two non-exclusive prospecting licences that cover eastern and western Greenland apart from the far northern parts of the country. Again, these are not considered to be material assets.

This CPR contains the outcomes of SRK ES' review of historical and recent data for the assets, discussions with AEX's technical staff and visits to some of the properties. It also includes a Mineral Resource Estimate (MRE) for the Nalunaq project. This MRE was first described in a 2016 report that was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1 before AEX listed on the TSX. The Mineral Resource statement was prepared in conformity with generally accepted CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*. This CPR includes an updated MRE that includes data and new interpretations from AEX's exploration

work since 2016 that was prepared following the same guidelines.

## MINERAL ASSETS

AEX’s mineral licences cover most of the best-known gold occurrences in Southern Greenland. The locations of their licences are shown in Figure 1.



**Figure 1: Locations of AEX Gold Inc’s mineral licences in southern Greenland**

### Exploitation Licence 2003-05 – Nalunaq

The Nalunaq property is located in South Greenland in the Municipality of Kujalleq. The property includes a former underground gold mine (closed in 2013) and is situated about 6 km inland in the Kirkespirdalen valley, about 33 km northeast of the town of Nanortalik.

The licence covers an area of 22 km<sup>2</sup> and was first granted to Crew Gold Corporation in April 2003 and is valid until April 24, 2033. Angel Mining PLC purchased the project in 2009 and operated until closure of the mine in 2013. Despite closure, the licence remained in force and its transfer to Nalunaq A/S was approved, with amendments, by the Government of Greenland in March 2016. The Exploitation Licence grants Nalunaq A/S the exclusive right to undertake mineral exploration and exploitation within the licence area, subject to approval by the Government. The current terms of the licence under Addendum 5 dictate that Nalunaq A/S must commence exploitation by 1 January 2023. In this regard, a Social Impact Assessment and Environmental Impact Assessment must be submitted by 31 December 2022 and that an Impact Benefit Agreement shall be negotiated and concluded by 31 December 2022.

All surface infrastructure was removed when the mine closed, apart from a jetty at the coast and the gravel road between this and the mine. The area is in mountainous terrain and has a sub-Arctic climate. The fjords in the area remain unfrozen all year.

### Mining History

Following surface exploration and development of exploration drives and raises on the

mineralised structure, Crew Gold commenced mining at Nalunaq in 2004 using longhole open stoping methods. Broken ore was shipped offshore to existing processing plants, firstly in Spain and then in Newfoundland. Between these two plants, 352,307 oz of gold (10,957 kg) were produced from 654,755 t of milled ore in the period from 2004 to 2009 when the mine was sold, indicating a recovered gold grade of 16.7 g/t Au.

Following their acquisition of the project, Angel Mining constructed an underground direct-leach processing plant with the intention that only gold doré would leave the mine, with tailings and waste rock stored in mined out areas. The target production was 24,000 oz (746 kg) of gold per year, but this was never reached; Angel Mining produced a total of 14,823 oz (461 kg) of gold between 2011 and 2013, largely from remnant material, stockpiles and minor amounts of new development. Financial difficulties forced the cessation of operations in 2013 and implementation of the mine closure plan which was completed in 2014.

### **Geology and Mineralisation**

The Nalunaq project lies within the 'Psammite Zone' in South Greenland that hosts the so-called Nanortalik Gold Belt. This zone is part of the Paleoproterozoic Ketilidian Mobile Belt which evolved during subduction of an oceanic plate under the southern margin of the Archaean North Atlantic Craton.

The local geology at Nalunaq is dominated by a package of fine- to medium-grained tholeiitic basalt flows and locally coarser, sub-concordant doleritic sills, all metamorphosed to amphibolite facies. This package is part of the Nanortalik Nappe and has been thrust over metasediments, and later intruded by granites and aplite dykes.

Gold mineralisation is hosted in quartz veining developed along a structure known as the Main Vein (MV) which crosscuts the stratigraphy at a very low angle and varies in true thickness from 0.1 m to 2.0 m. Mineralisation is typical of a high grade, high nugget effect, narrow-vein orogenic gold deposit. The hosting structure strikes northeast and dips at about 36° southeast and is thought to have originally been a shear that has undergone subsequent deformation. It shows continuity for over 1,000 m along strike and at least 2,000 m up- and down-dip although, within this, the MV is locally discontinuous; it bifurcates, pinches and swells over short distances, and has sometimes been intruded by aplite dykes.

Footwall lithologies are dominated by fine-grained meta-volcanics whilst the hanging wall rocks are more commonly coarser-grained meta-dolerites. Distinctive calc-silicate alteration occurs alongside the MV, extending for 0.2-1.0 m from the vein. The alteration assemblage contains pyrite, pyrrhotite, arsenopyrite and lollingite but is not gold-bearing.

Gold mostly occurs in the native form with particles ranging from a few microns up to 8 mm in size. Coarse visible gold is common in high-grade areas where most of the gold may be in the >100 µm size fraction. Locally, it is found in maldonite (a gold-bismuth alloy) and may also be associated with arsenopyrite and lollingite. Gold grades are high but very erratic. Typically, head grades are in the order of 15 g/t gold, although sampling has reported extreme high grades of up to 5,240 g/t gold over 0.8 m.

Previous operators defined three main areas of mineralisation, namely the South, Target and Mountain Blocks. These were thought to represent plunging high grade ore shoots within the MV. Small-scale post-mineralisation faulting has disrupted the MV. The largest fault is the Pegmatite Fault which separates the South and Target Blocks and has a vertical offset of around 80 m. Previous operators also recognised the Clay and Your Faults that cause offsets of a few metres in the Target Block. Faulting may be more extensive than previously thought

and several new faults at the peripheries of the mining blocks that may have resulted in the MV being lost during previous mining.

### **Exploration Status**

Nalunaq is best described as an advanced exploration project with good resource potential benefiting from a recent mining history. Exploration and mining operations have provided a large quantity of data and records to aid the understanding of geology and mineralisation. The data has arisen from 38,369 m of surface drilling (of which 7,891 m has been drilled by AEX), 5,572 m of underground drilling, over 500 surface samples and 7,519 underground samples. This understanding (plus new interpretations) can be applied to new exploration, allowing informed decisions to be made in targeting. The project has the additional benefit of current underground access meaning that the form of the deposit can be viewed in three dimensions.

The future of the project depends on the identification of new resources that extend beyond the former mine. This process is at an early stage, but continuity of the mineralised structure has been identified up-dip and along strike by surface sampling on the north, west and upper-southwest faces of the mountain. This has outlined an exploration area that extends for about 800 m up-dip from the former mine. Furthermore, historical and recent drilling indicates continuity down-dip and along-strike from the South Block.

Continuation of mineralisation along strike is also supported by the interpretation that underground drives have deviated from the MV as a result of faulting, possibly with only small offsets, meaning that the MV may continue, un-sampled, beyond the drives in certain areas, particularly areas that should contain continuities of the identified ore shoots.

A Mineral Resource Estimate (MRE) was reported for the Nalunaq project by SRK ES in 2020. This has been based on data and the understanding of the geological model currently available and is tailored to the model of high-grade plunging ore shoots. The compiled Mineral Resource statement is split between Inferred Mineral Resources in the area surrounding the current mine layout (the "Mine Area"), and Inferred Mineral Resources for in-situ remaining stope material within the mine that could practically and safely be mined as part of a larger exploration or mining operation.

Conversion of the Inferred Mineral Resources to Indicated or higher resource categories in the "Mine Area" requires new underground development and detailed sampling. Furthermore, the distribution of these resources would require exploration development from many different parts of the mine and the economic viability of this is currently unclear as there has been no formal economic analysis or detailed mining study yet conducted. This is one reason why SRK ES considers that the future of the Nalunaq project requires the identification of substantial new resources in the wider area surrounding the mine. AEX's exploration work continues to support the possibility of this potential.



**Table 1: Nalunaq 2020 Diluted Mineral Resource**

Zone	Classification	Gross			Net Attributable			Operator
		Tonnes (t)	Grade (g/t Au)	Contained Gold (oz)	Tonnes (t)	Grade (g/t Au)	Contained Gold (oz)	
Remaining Stopes	Inferred	26,690	20.8	17,890	26,690	20.8	17,890	Nalunaq A/S
Mine Area	Inferred	396,080	18.3	233,080	396,080	18.3	233,080	Nalunaq A/S
<b>Total Inferred</b>		<b>422,770</b>	<b>18.5</b>	<b>250,970</b>	<b>422,770</b>	<b>18.5</b>	<b>250,970</b>	<b>Nalunaq A/S</b>

**Notes:**

1. Remaining Stopes reported at a cut off of 6.0g/t Au
2. Mine Area reported at a cut-off grade of 6.0g/t Au
3. Diluted to 1.2m true thickness at 0.0g/t Au
4. Gold price of US\$1,500
5. Total refining, transportation and royalties costs of US\$57
6. Total operating costs of US\$254/t.
7. All figures are rounded to reflect the relative accuracy of the estimate
8. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability
9. 100% of the Mineral Resource is attributable to Nalunaq A/S

## Conclusions and Recommendations

The vast majority of (non-compliant) reserves previously reported for Nalunaq have been mined out and, whilst there is a modest tonnage of material remaining in the mine, the focus of future work should be on the exploration potential and the identification of additional resources.

AEX has proposed the following as the major components of the next two years of exploration:

- Surface drilling to confirm continuity of the MV structure around and below South Block and to plan underground development. About 3,000 m in 20-30 holes is proposed;
- Dewater South Block and conduct geological mapping and sampling therein;
- New underground development on the MV structure to test its continuity and develop towards mineralised intersections in adjacent drill holes. A total of 2,000 m of development with drives of 3.0 x 3.5 m (to be optimised) is planned. The areas of focus will be:
  - Target Block west from Level 600 and above;
  - South Block west towards the 2017-2018 drilling area towards Level 130; and/or
  - Target Block east of Level 600 heading towards Mountain Block.
- Underground drilling for identification of the MV structure in key areas, such as the Upper Target Block. AEX suggests a total of 5,000 m in locations that are yet to be decided. This would make use, where possible, of existing drives, ramps, or crosscuts, but AEX is also planning for the development of short footwall crosscuts from existing infrastructure to create four drilling stations;
- Continuation of underground geological mapping throughout the mine with a focus on understanding lithological controls on mineralisation and structural offsets to the MV.

AEX has estimated a budget of CAD 11.5 million to undertake the above over two years.

## Exploration Licence 2006-10

This comprises three separate sub-areas known as Niaqornaarusuk, Nalunaq East, and Nalunaq West. The latter two sub-areas are contiguous to the Nalunaq exploitation licence, whilst Niaqornaarusuk lies about 25 km to the north. These cover an official combined area of 292 km<sup>2</sup> and have been held by Nalunaq A/S since 2017. The licence is due to expire on 31 December 2021.

Niaqornaarusuk is the largest most developed area in this licence. The geology is dominated by granodiorites at the southern margin of the Julianehåb Batholith where it meets the Psammite Zone. Extensive historical geochemical sampling identified several anomalous areas for gold one of which, Amphibolite Ridge, was drilled by NunaMinerals (the former licensee) following identification of high-grade gold-quartz veins. Gold mineralisation was also identified in structurally controlled alteration zones in the granodiorite. Examples of the erratic and high gold grades found at Amphibolite Ridge include 8 m at 25 g/t Au in a channel sample by NunaOil, later resampled by NunaMinerals who reported 8 m at 106 g/t Au.

Nalunaq East, also referred to as Ship Mountain, has similar geology to Nalunaq although may be stratigraphically higher. It is of interest because it could host continuation of the mineralisation at Nalunaq. Surface sampling by AEX and others has identified some quartz veining with moderate gold grades and similarities to the MV, but no significant continuity has been confirmed yet. There are no existing records of gold mineralisation in the Nalunaq West sub-area.

The principal recommendations for the next phases of exploration in this licence include:

- Analysis of remote sensing data on all sub-areas of the licence or performing hyperspectral surveys (particularly on the Niaqornaarsuk Peninsula) to highlight extensions or new areas of alteration that may be associated with mineralisation;
- An airborne and radiometric survey over the Niaqornaarsuk Peninsula to improve the understanding of the area's structural geology and how mineralisation relates to it;
- Diamond drilling on the valley floors either side of Amphibolite Ridge to establish whether the gold-mineralised veins and alteration zones that were drilled on the ridge by NunaMinerals extend along strike into areas of less extreme topography; and
- Scree sediment sampling in under-explored areas.

SRK ES has been informed that AEX intends to allocate funds of CAD 6,000,000 over 2021-2022 to support exploration in this licence. This includes an allowance for 10,000 m of diamond drilling.

## Exploration Licence 2019-113

This licence was granted to Nalunaq A/S in September 2019 and has an official area of 266 km<sup>2</sup> which is divided between five sub-areas named Ippatit, Kangerluluk, Jokum's Shear and Sorte Nunatak and Nørrearm. Each of these were selected by AEX to cover known gold occurrences or areas of prospective geology. These areas, except for Søndre Sermilik, have previously been covered by exploration licences held by NunaOil A/S, Crew Gold, or NunaMinerals A/S. They lie within the Psammite Zone of the Ketilidian Mobile Belt and gold mineralisation is associated to supracrustal rocks, usually amphibolites which may include metamorphosed gabbros/diorites, volcanics and pelites.

The Søndre Sermilik sub-area is a continuation of the Niaqornaarusuk sub-area and has seen

very little previous exploration but may have potential along the same regional shear structures that cross into it, as well as small occurrences of amphibolites. The Ippatit sub-area lies to the east and includes a relatively large volume of amphibolites and several anomalies in historical geochemical data. Some gold-bearing quartz veins have been identified by previous workers, but none yet with substantial continuity. There are several similarities to the geological setting of Nalunaq.

The Jokum's Shear and Sorte Nunatak prospects show prospective geology and some gold grades of interest within a large shear zone and along an unconformity between amphibolites and granodiorites respectively. They are both early-stage prospects in very remote areas and severe terrain but form an important part of the understanding of the region as a gold belt. Indeed, the Jokum's Shear structure may extend for 25 km to AEX's Kangerluluk prospect in the northern-most and perhaps the highest priority sub-area of this licence. Here, a large shear zone has been relatively well-defined by previous exploration and hosts gold grades of interest. A new work programme should include structural mapping and channel sampling to determine whether there is good continuity of gold mineralisation across the structure and along strike.

AEX has proposed a total budget of CAD 766,000 over 2021-2022 for this exploration licence to allow for remote sensing analysis, prospecting and sampling as well as geophysical surveys and diamond drilling if suitable targets are defined.

### **Exploration Licences 2015-17 and 2018-17**

These licences cover the Archaean Tartoq greenstone belt in southwest Greenland and are 78 km<sup>2</sup> and 170 km<sup>2</sup> in area respectively. The greenstone belt has been explored sporadically since the 1980s, including a channel sampling programme conducted by AEX in 2017 on the Nuuluk prospect in licence 2015-17. Gold is found in quartz veins, and at lower grades in small massive sulphide bodies. Although gold grades are sometimes high and occur along trends that can be several kilometres long, mineralised veins are often very small and a coherent target that shows good continuity is yet to be identified. This is not considered a material asset for the purpose of this CPR, but SRK ES has been informed that AEX will allocate CAD 130,000 to the licence in 2020-2021 for the purposes of remote sensing and prospecting.

### **Exploration Licence 2020-31**

This licence covers an area of 818 km<sup>2</sup> and is predominantly underlain by granitoid rocks of the Julianehåb Batholith, with several enclaves of metavolcanic and appinitic rocks. The principal feature of interest is the large, crustal-scale Saarloq Shear Zone that runs through the licence in a north-easterly direction. The shear zone and its subsidiary features represent prospective settings for structurally controlled gold mineralisation, especially in areas where brittle (rather than ductile) deformation has occurred. The licence area has only been explored previously at a reconnaissance level and there are not yet any published gold occurrences. However, elevated gold grades are noted in historical rock sampling data published by GEUS and a geochemical sampling programme by a former licence owner, Rare Earth Minerals PLC, resulted in some weak anomalies that should be investigated further.

As the next phase of work, AEX proposes a programme of remote sensing analysis, geophysical surveys and prospecting over 2021-2022, with a budget of CAD 918,000.

### **Exploration Licence 2020-36**

The Anoritoq licence covers an area of 1,710 km<sup>2</sup> and is AEX's largest exploration licence. It is divided into two sub-areas: a main area that covered several peninsulas to the northeast and

north of Nanortalik and one on the southeast coast of Greenland that follows the inner parts of Kangerluluk Fjord and Igutsaat Fjord.

The geology of the main sub-area is quite varied, comprising Julianehåb granites in its northern part and Ketilidian metasediments, metavolcanics and rapakivi granites in its southern part. The prospect that has seen most exploration is Lake 410 on the Nanortalik Peninsula, a short distance to the northeast of Nanortalik. This shows several geological similarities to Nalunaq and is part of the same nappe. Crew Gold conducted several seasons of exploration here including diamond drilling. This identified a mineralised structure that showed reasonable continuity but with low gold grades; the best intersection was 2.12 ppm gold over 2 m in amphibolites. It is not yet known if the low grades are representative of the in-situ geology or are a consequence of high nugget-effect mineralisation. In addition to Lake 410, a mineralised shear zone is recorded in the northern part of the sub-area in the Isortup Qoorua valley. The shear zone is several kilometres long and historical exploration has identified modest gold grades (e.g. 0.1 ppm gold over 5.9 m in chip sampling) that require further investigation.

The Kangerluluk sub-area is mostly underlain by granites with some enclaves of metavolcanic rocks. This remote area has seen little exploration although there are two published mineral occurrences. One at the head of Kangerluluk Fjord includes quartz veining with elevated tungsten, molybdenum and copper associated with gold, with grades of up to 1.2 % copper and 0.228 ppm gold. Lead-zinc mineralisation is also found related to later shear zones and carbonatisation. The carbonate zones contain grades of up to 2.2% lead, 4% zinc, 0.223 ppm gold and 114 ppm copper. There are also several sulphide-bearing rust zones and aplite sills that required further assessment.

AEX intends to conduct remote sensing analysis, prospecting work and geophysical surveys in this licence over 2021-2022. Work at Lake 410 may include mineralogical studies to determine the nature of gold mineralisation and whether the low grades are a consequence of erratic gold distributions. The Company's budget for this area is CAD 1,784,000.

During fieldwork in 1994 for the SUPRASYS programme, a copper/gold-bearing sample (0.6 ppm gold and 0.4% copper) was collected at the head of Kangerluluk Fjord. Further analyses of grab and chip samples from the quartz vein show elevated tungsten, molybdenum and copper associated with gold, with grades of up to 1.2 % copper and 0.228 ppm gold (Stendal, 1997). Lead-zinc mineralisation can also be found in granodiorites, related to later shearing and carbonatisation. The carbonate zones show grades of up to 2.2% Pb, 4% Zn, 223 ppb gold and 114 ppm Cu (GEUS, unpublished).

On the northern side of Igutsaat Fjord, at least four distinct east-west striking rust zones are exposed in the granodiorite. Iron sulphide is disseminated in the zone and occurs in hairline fractures and veinlets. The amount of sulphide does not exceed a few percent of the rock volume. Analysed samples have only shown traces of gold (Stendal 1997).

A major, east-west striking, 5-8 m thick rusty aplite sill is exposed on the southern side of Igusaat Fjord. The sill strikes approximately 060° and dips 20° southeast. The aplite is enclosed in mafic sill rock, 0.5-1 m thick. Earlier mafic dykes are displaced several metres dextrally along the sill plane and the aplite appears to have been emplaced into a sub-horizontal shear zone in an earlier mafic sill. The rusty aplite contains 1-2 vol.% pyrite, both disseminated and in veinlets with grab samples returning grades of up to 1.39 ppm gold (Stendal 1997).

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# A COMPETENT PERSON'S REPORT ON THE ASSETS OF AEX GOLD, SOUTH GREENLAND

## 1 INTRODUCTION

### 1.1 Background

SRK Exploration Services Ltd (SRK ES) was requested by AEX Gold Inc ((AEX) hereinafter also referred to as the Company or the Client) to prepare a Competent Persons Report (CPR or the Report) on the Mineral Assets of the Company comprising its key projects in Southern Greenland. SRK ES is part of the global SRK Consulting Group (the SRK Group).

This CPR is addressed to AEX's proposed Nominated Adviser, Stifel Nicolaus Europe Ltd. (Stifel), and the Directors of AEX. SRK ES understands that this CPR will be published by AEX on its website and as part of an admission document proposed to be published in connection with the Company's proposed admission to trading on the London Stock Exchange's AIM market (the Admission Document). Successful admission will result in a dual-listing of the Company which is currently listed on the TSX Venture Exchange, part of the Toronto Stock Exchange, under the ticker code TSX:AEX.V.

For the purposes of the AIM Rules for Companies, SRK ES will accept responsibility for this report as part of the admission document and declares that it has taken all reasonable care to ensure that the information contained in this CPR is, to the best of its knowledge, in accordance with the facts and contains no omission likely to affect its import.

This CPR is intended to properly inform readers about the status and exploration potential of AEX's main assets in South Greenland, provide an overview of the assets and the liabilities associated with them (including the physical, operating, regulatory, and fiscal environment in which it is located), and to provide commentary on the Company's proposed future exploration and development programs.

All units of measurements, abbreviations, and technical terms are defined in the glossary of this CPR. Unless otherwise explicitly stated, all quantitative data as reported in this CPR are reported on a 100% basis. Grades of gold are reported as both grams per ton (g/t Au) and parts per million (ppm), 1g/t Au=1ppm.

Unless indicated otherwise, all the coordinates stated in this report are in Universal Transverse Mercator projection Zone 23N and the 1984 World Geodetic System datum (WGS84 UTM Zone 23N).

### 1.2 Requirement, Structure, and Compliance

This CPR has been prepared in accordance with the AIM Rules for Companies (including the annexures and the "AIM Note for Mining and Oil & Gas Companies - June 2009") (the Requirements).

The CPR is issued by SRK ES, and accordingly SRK ES assumes responsibility for the CPR and confirms that, to the best of its knowledge and belief, having taken all reasonable care to ensure that such is the case, the information contained is true and accurate as of the Publication Date (as defined below)..

This CPR includes technical sections covering mineral tenure, regional geology and mineralisation, mineral assets (including geographical setting, geological setting and mineralisation, exploration

history and results, summary, and recommendations for each property or sub-area), and concluding remarks.

It has been prepared under the direction of a Competent Person (CP). The CPR and the Mineral Resource Estimate herein follows the best practice guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM).

### 1.2.1 Reliance on SRK ES

This CPR is addressed to and may be relied upon by the Directors of the Company and Stifel, specifically in respect of compliance with the Requirements, the Reporting Standard and other regulatory requirements.

SRK ES is responsible for this CPR and for all technical information that has been directly extracted from this CPR.

SRK ES declares that it has taken all reasonable care to ensure that the information contained in this CPR is, to the best of its knowledge, in accordance with the facts and contains no omission likely to affect its import.

SRK ES cautions that its opinion must be considered as a whole and that selecting portions of the analysis or factors considered by it, without considering all factors and analyses together, could create a misleading view of the process underlying the opinions presented in this CPR. The preparation of a CPR is a complex process and does not lend itself to partial analysis or summary.

SRK ES has no obligation or undertaking to advise any person of any development in relation to AEX's South Greenland assets which comes to its attention after the Publication Date (as defined below), or to review, revise, or update this CPR or opinion in respect of any such development occurring after the Publication Date (as defined below) and its "no material change" statement.

### 1.3 Base Technical Information, Effective Date, and Publication Date

This CPR presents the following base Technical Information for the AEX South Greenland assets as at the effective date of 26 June 2020 (the Effective Date):

- Overview of the geological setting
- Project geology
- Outline of the historical exploration work
- SRK ES's opinion on the mineralisation styles and regional prospectivity
- SRK ES's opinion on the appropriateness of AEX's budgeted work program.

As at the publication date of this CPR, this being on or around 26 June 2020 (the Publication Date), SRK ES is not aware that any material change has occurred since the Effective Date. This includes, amongst others, material changes to the Technical Information as reported in this CPR.

### 1.4 Verification and Validation

This CPR is dependent upon technical, financial, and legal input. In respect of the Technical Information as provided by the Company and taken in good faith by SRK ES, and other than where expressly stated, any figures presented have not been independently verified by means of re-calculation.

SRK ES has, however, conducted a detailed review and assessment of all material technical issues likely to influence the Technical Information included in this CPR, which included the following:

- an assessment of the historical data made available by the Company in respect of AEX's South Greenland assets; and

- an assessment of the key technical risks and opportunities as they relate to the Technical Information reported herein.

SRK ES has also assessed the rationality of the commodity price assumptions as currently assumed in the projections for inclusion in the Technical Information reported herein.

Accordingly, AEX has provided Technical Information (geological information, assay information, exploration programs) to SRK ES for the purpose of this review and inclusion in this CPR. SRK ES has satisfied itself that such technical information is both appropriate and valid for evaluation as reported herein. SRK ES also confirms that it has performed all necessary validation and verification procedures deemed necessary and/or appropriate by SRK ES in order to place an appropriate level of reliance on such Technical Information.

SRK ES considers that, with respect to all material technical-economic matters, it has undertaken sufficient investigation, both in terms of level of investigation and level of disclosure to satisfy the reporting requirements of the best practice guidelines of the CIM.

## 1.5 Previous work by SRK ES at AEX's South Greenland Assets

SRK ES' previous work for AEX on their assets in South Greenland has included the following:

- 2015: Site visit to Nalunaq including surface sampling and underground inspections. Production of independent technical report;
- 2016: Site visit to Nalunaq including underground reconnaissance, metallurgical sampling, and inspections by mining engineer and geotechnical engineer. Production of a new MRE for Nalunaq to NI 43-101 guidelines and independent technical report in support of AEX's listing on the TSX-V exchange;
- 2017: Provision of geologists to conduct surface sampling at the Tartoq project, and diamond drilling and surface sampling at Nalunaq;
- 2018: Provision of geologists to conduct surface sampling at the Tartoq project, and diamond drilling and surface sampling at Nalunaq.

## 1.6 Limitations, Reliance on Information, Declaration, Consent, and Cautionary Statements

### 1.6.1 Limitations

The Technical Information relies on assumptions regarding certain forward-looking statements. These forward-looking statements are estimates and involve a number of risks and uncertainties that could cause actual results to differ materially. The projections as presented and discussed herein have been proposed by AEX's management and cannot be assured; they are necessarily based on economic assumptions, many of which are beyond the control of the Company. Future cashflows and profits derived from such forecasts are inherently uncertain and actual results may be significantly more or less favourable. Unless otherwise expressly stated, all the opinions and conclusions expressed in this CPR are those of SRK ES.

### 1.6.2 Reliance on Information

SRK ES has relied upon the accuracy and completeness of technical, financial, and legal information and data furnished by or through AEX.

AEX has confirmed to SRK ES that, to its knowledge, the information provided by it was complete and not incorrect or misleading in any material respect. SRK ES has no reason to believe that any material facts have been withheld. Whilst SRK ES has exercised all due care in reviewing the supplied information, SRK ES does not accept responsibility for finding any errors or omissions contained therein and disclaims liability for any consequences of such errors or omissions.



SRK ES has not undertaken any accounting, financial, or legal due diligence of the Mineral Assets or the associated company structures. The comments and opinions contained in this report are restricted to technical and economic aspects associated with AEX's South Greenland assets. Where aspects of legal issues, marketing, commercial and financing matters, insurance, land titles and usage agreements, and any other agreements and/ or contracts AEX may have entered into are covered in this CPR, SRK ES has relied on information provided by the Company.

This CPR includes technical information, which requires subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations may involve a degree of rounding and consequently introduce an error. Where such errors occur, SRK ES does not consider them to be material.

### **1.6.3 Technical reliance**

SRK ES is satisfied that, as far as reasonably practical, sufficient checks have been conducted to demonstrate that all technical information provided to SRK ES as at the Effective Date (defined in Section 1.3) is both valid and accurate for the purposes of compiling the CPR.

### **1.6.4 Financial Reliance**

AEX has provided SRK ES with their estimates for exploration or other project development expenditure for the next two years. These cover technical and infrastructure expenditures only, and some are based on assumptions or plans that are still under review. SRK ES has not carried out a detailed review of the estimates or quotations from third parties that make up the total figures provided by AEX.

### **1.6.5 Legal Reliance**

In consideration of the legal aspects relating to AEX's South Greenland assets, SRK ES has placed reliance on the representations of the Company that the following are correct as of the Effective Date (defined in Section 1.3) and remain correct until the Publication Date (defined in Section 1.3):

- The Board of Directors of the Company are not aware of any legal proceedings that may have any influence on the rights to explore, develop, and mine the minerals present within and associated with AEX's South Greenland assets.
- AEX are the legal owners of all mineral and surface rights of the assets mentioned in this CPR.
- No significant legal issue exists which would affect the likely viability of the exploration and production licences as reported herein.

The United Kingdom legal representative of the Company is K&L Gates LLP, 1 New Change, London EC4M 9AF, United Kingdom.

### **1.6.6 Declaration**

SRK ES will receive a fee for the preparation of this Report in accordance with normal professional consulting practice. This fee is not dependent on the findings of this CPR nor the success of the proposed listing and SRK ES will receive no other benefit for the preparation of this CPR. Neither SRK ES nor any of the authors have any pecuniary or other interests that could reasonably be regarded as capable of affecting its ability to provide an unbiased opinion in relation to the Mineral Assets opined upon by SRK ES and reported herein.

At the date of this CPR, neither SRK ES nor the Competent Persons (as identified under Section 1.8) who are responsible for authoring this CPR, nor any Directors of SRK ES have had, within the previous two years, any shareholding in the Company or Stifel or any other economic or beneficial interest (present or contingent) in the Project. SRK ES is not a group, holding, or associated company either of the Company or Stifel. None of SRK ES's partners or officers are

officers or proposed officers of any group, holding, or associated company of either the Company or Stifel.

Further, no Competent Person involved in the preparation of this CPR is an officer, employee, or proposed officer of the Company or Stifel or any group, holding, or associated company of the Company or Stifel. Consequently, SRK ES, the Competent Persons, and the Directors of SRK ES consider themselves to be independent of the Company, its directors, senior management and Stifel.

In this CPR, SRK ES provides assurances to the Board of Directors of the Company and Stifel in compliance with CIM best practice, that the Mineral Resources and exploration potential of the Mineral Assets as provided to SRK ES by AEX and reviewed and, where appropriate, modified by SRK ES, are reasonable, given the information currently available.

### **1.6.7 Consent**

SRK ES consents to the issuing of this CPR.

Neither the whole nor any part of this report nor any reference thereto may be included in any other document without the prior written consent of SRK ES regarding the form and context in which it appears.

## **1.7 Disclaimers and Cautionary Statements for US Investors**

The CPR uses the terms “Mineral Resource”, “Measured Mineral Resource”, “Indicated Mineral Resource” and “Inferred Mineral Resource”. U.S. investors and shareholders in the Company are advised that while such terms are recognised and permitted under the CIM Code and the Requirements, the U.S. Securities and Exchange Commission (SEC) does not recognise them and strictly prohibits companies from including such terms in SEC filings.

Accordingly, U.S. investors and shareholders in the Company are cautioned not to assume that any unmodified part of the Mineral Resources in these categories will ever be converted into Ore Reserves as such term is used in the CPR.

## **1.8 Qualifications of Consultants and Competent Persons**

This CPR has been prepared based on a technical review by a team of consultants sourced from SRK ES' offices in the United Kingdom. These consultants have extensive experience in the mining and metals sector and are members in good standing of appropriate professional institutions. The consultants comprise specialists in the fields of geology and resource estimation (hereinafter the Technical Disciplines).

The Competent Person who has overall responsibility for this CPR is Mr James Gilbertson, CGeol, Managing Director and Principal Geologist, a full-time employee at SRK ES in the United Kingdom. Mr Gilbertson has 19 years' experience in the mining and metals industry and has been involved in the preparation of Competent Persons' Reports comprising technical evaluations of various mineral assets internationally. Over the past ten years these technical evaluations are relevant to his qualification as a Competent Person as defined by the internationally-recognised Mineral Resource and Reserve reporting codes (the CRIRSCO Codes). Mr Gilbertson has sufficient experience of CIM best practice and reporting standards and is considered a CP as defined by the CIM Mineral Resources and Mineral Reserves Committee.

The field visit component and related reporting was completed by both James Gilbertson and Mr William Kellaway, MAusIMM, Chairman and Principal Geologist, a full-time employee at SRK ES in the United Kingdom. Mr Kellaway has 38 years' experience in the mining and metals industry. Both Mr Gilbertson and Mr Kellaway have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code (2012) and a Specialist Practitioner

as defined in the VALMIN Code (2015). Messrs Gilbertson and Kellaway have visited the Nalunaq Project and Mr Kellaway has also visited the Niaqornaarsuk and Nalunaq East sub-areas.

SRK ES note that Mr Kellaway was seconded to AEX from 2016 to 2018 and acted as the Vice President of Exploration for the company during this time. Mr Kellaway remained an employee of SRK ES during this time and did not and has never had any pecuniary or other interests in AEX or any of the Company's assets. SRK ES is comfortable that this secondment does not impact on the independence of the CPR.

The designated Competent Persons and last site visit to the Company's assets in South Greenland are shown below in Table 1-1.

**Table 1-1: Competent Persons and responsibilities**

Competent Person	Position/ Company	Responsibility	Independent of AEX	Date of last site visit	Professional designation
James Gilbertson	Managing Direction and Principal Geologist/SRK Exploration Services Limited	Authoring and Overall CP	Yes	August 2015	CGeol
Bill Kellaway	Chairman and Principal Geologist/SRK Exploration Services Limited	Field visits	Yes	August 2018	MAusIMM

## 2 AEX GOLD INC

### 2.1 Company Description

AEX Gold Inc. has a headquarters and registered address 3400 One First Canadian Place, PO Box 130, Toronto, ON, M5X 1A4, Canada. It is currently listed on the TSX Venture Exchange in Canada and trades with the ticker AEX. The TSX Venture Exchange is a stock exchange in Canada.

Through its wholly owned Greenlandic subsidiary, Nalunaq A/S, AEX has interests in multiple areas. These include an exploitation licence at a Nalunaq property at an advanced exploration stage, including the previously operating Nalunaq Gold Mine, and six exploration licences at properties in South Greenland at the early exploration stage. Four of these licences are considered material assets and are described in detail in this CPR. Furthermore, Nalunaq A/S owns two non-exclusive prospecting licences that cover much of East and West Greenland.

### 2.2 Members of the Board

The following persons currently comprise the Board of Directors of AEX Gold Inc.

- Graham Stewart: Chairman
- George Fowlie: CFO and Director
- Georgia Quenby: Director
- Robert Menard: Director
- Eldur Olafsson: CEO and Director

### 2.3 Company Strategy

AEX's main focus is its Nalunaq property which hosts a high-grade NI 43-101 compliant Inferred

Mineral Resource estimate of 251 koz Au in 442,770 t at 18.5 g/t Au and a number of regional exploration targets. Work over the last three years has resulted in an updated geological model and an extension of the MV strike length up to 1 km. The focused exploration area has a larger footprint than the existing mine workings. Previous owners invested heavily in infrastructure which includes a pier, 9 km access road with bridge river crossings, and the foundations for the mine camp, mine workshops, and processing plant. Environmental studies have been well maintained since 2014 when the Mine closure programme was concluded.

AEX’s goal is to explore and develop their assets in order to expand the existing resources at Nalunaq whilst simultaneously exploring other known gold occurrences in South Greenland. Some of these are close to Nalunaq and may be similar in mineralisation style. It is envisaged that some of these properties will form a “pipeline” of projects at different levels of development that will deliver the company a sustainable supply of resources for exploitation.

### 3 PROPERTY DESCRIPTIONS AND LOCATIONS

The material Mineral Assets which form the basis of this report consist of one exploitation licence, four exploration licences (containing sub-areas), and two regional prospecting licences. The licences are held through the Company’s wholly owned Greenlandic subsidiary, Nalunaq A/S.

Two additional groups of exploration licences which constitute the Tartoq project (MEL 2015-17 & MEL 2018-17) are part of the Company’s assets but are not considered material in the case of this CPR and are therefore not detailed further apart from their location and status shown in Figure 3-1 and Table 3-1 below. Furthermore, the Company owns two non-exclusive prospecting licences that cover large parts of eastern and western Greenland apart from northern areas, as shown in the inset in Figure 3-1.

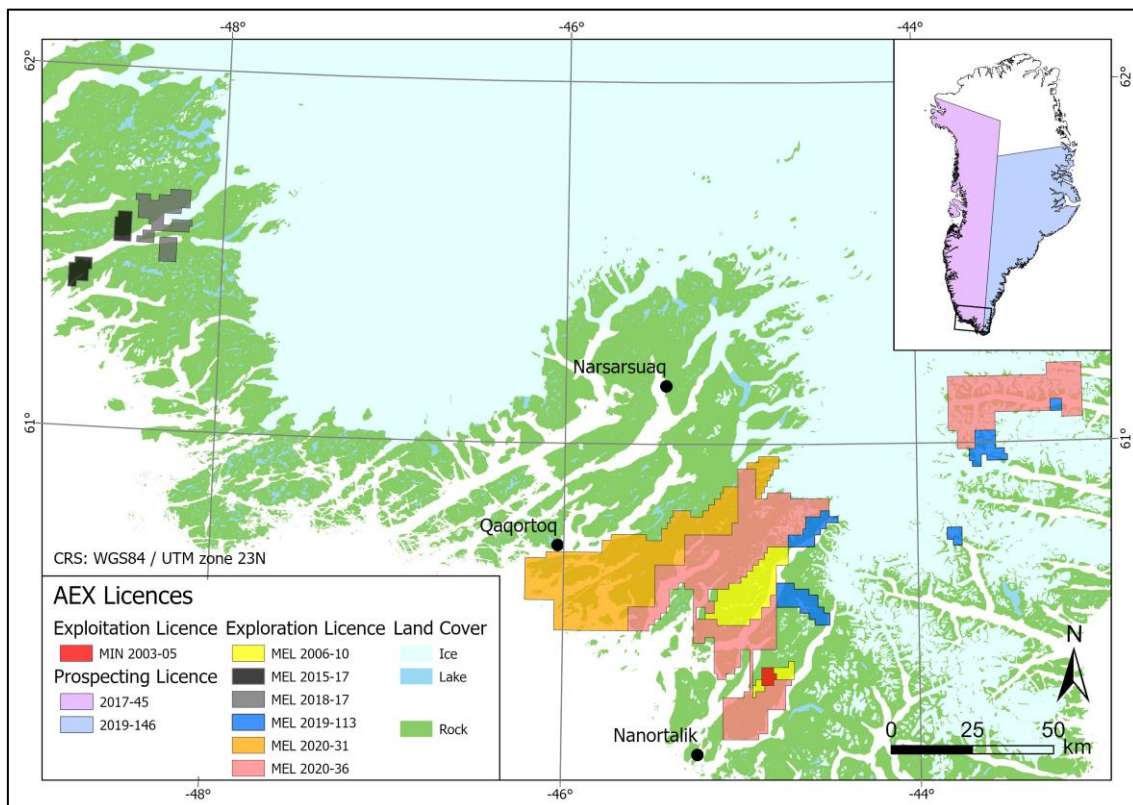


Figure 3-1: Location of AEX’s mineral assets in South Greenland

Table 3-1: Mineral assets held by AEX

Asset	Asset Name	Holder	Interest	Status	Licence expiry date	Licence area (km <sup>2</sup> )	Comments
MIN 2003-05	Nalunaq	Nalunaq A/S	100%	Development	24-Apr-33	22	Historical production and ongoing drilling
MEL 2006-10	Vagar	Nalunaq A/S	100%	Exploration	31-Dec-21	292	Historical drilling and ongoing exploration
MEL 2019-113	Nuna Nutaaq	Nalunaq A/S	100%	Exploration	31-Dec-23	266	Historical and ongoing exploration
MEL 2015-17	Tartoq	Nalunaq A/S	100%	Exploration	31-Dec-24	78	Historical exploration
MEL 2018-17	Tartoq NP	Nalunaq A/S	100%	Exploration	31-Dec-22	170	Historical exploration
MEL 2020-31	Saarloq	Nalunaq A/S	100%	Exploration	31-Dec-24	818	Historical exploration
MEL 2020-36	Anoritooq	Nalunaq A/S	100%	Exploration	31-Dec-24	1,710	Historical exploration

### 3.1 Exploitation Licence

#### 3.1.1 MIN 2003-05

Exploitation licence MIN 2003-05, known as Nalunaq, hosts the historical Nalunaq Gold Mine located in Southern Greenland at 60°21'N latitude and 44°50'W longitude in the Municipality of Kujalleq. The property is located on the northern side of the Kirkespirdalen Valley, about 33 km northeast of the town of Nanortalik.

The former mine is located in the centre of the licence which covers an area of 22 km<sup>2</sup>. The licence was granted to Crew Gold Corporation (Crew Gold) in April 2003 and is valid until 24 April 2033. Angel Mining PLC, through their wholly owned Greenlandic subsidiary, Angel Mining Gold A/S (Angel Mining), purchased the project from Crew Gold in 2009 and thereafter the mine was operated by Arctic Mining Ltd., a wholly-owned subsidiary of Angel Mining PLC.

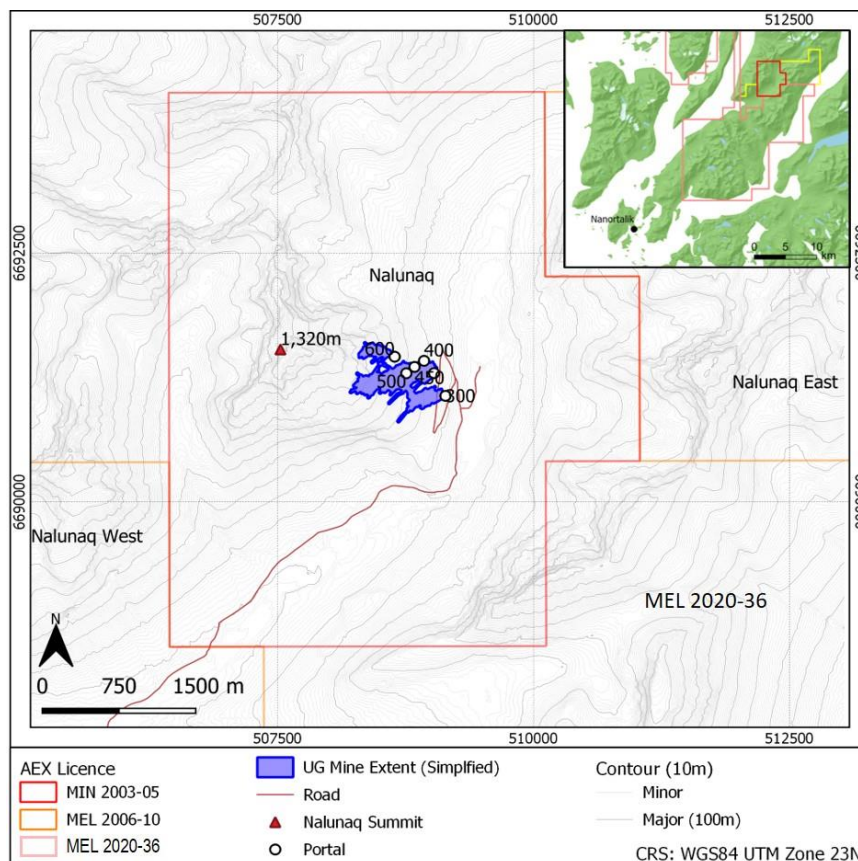


Figure 3-2: Location of MIN 2003-05, Nalunaq

The management of Angel Mining was taken up by FBC Mining (Holdings) Limited (FBC) after Angel Mining went into administration, during which the exploitation licence remained valid. A decision in early 2015 by FBC to seek corporate partners on the project resulted in Arctic Resource Capital (ARC) becoming the managers of the project. This followed a meeting in June 2015 where approval was given to the Joint Venture by the Greenland Government and the agreement was signed on 17<sup>th</sup> July 2015. A Collaboration Agreement between the parties was signed on 17 July 2015 giving ARC 66.66% and FBC Mining (Nalunaq) Ltd, a wholly owned subsidiary of FBC, 33.33% ownership in the project through a newly incorporated Greenlandic Joint Venture company, Nalunaq A/S. A Sale and Purchase Agreement was signed between Angel Mining and Nalunaq A/S on 15 October 2015 for the Nalunaq exploitation licence and all associated assets, and the Greenland Government formally transferred the licence to Nalunaq A/S in March 2016. Prior to issuance of a Prospectus dated 29 June 2017 in respect of an IPO on the Canadian TSX-V, ARC, FBC Mining (Nalunaq) Ltd, and AEX completed a Pre-IPO Reorganisation. Pursuant to the Pre-IPO Reorganisation, ARC's shareholders and FBC Mining (Nalunaq) Ltd transferred all their respective shares of Nalunaq A/S to AEX.

The exploitation licence grants AEX the exclusive right to undertake mineral exploration and exploitation within the licence area, subject to approval.

### ***Underlying Agreements***

The mine was officially closed in 2014; this closure was approved by the Government of Greenland, but the exploitation licence remained in force. In order that exploration and eventually mining operations could resume under the tenure of Nalunaq A/S, a Licence Addendum was agreed with the Government of Greenland. This allowed exploration to be conducted for the definition of new Mineral Resources and stated that mineral production must commence by 1 January 2021. Since then, there have been several other addendums and a fifth has recently been approved by the Government of Greenland. This Addendum extends the time limits dictated by the licence such that the Environmental Impact Assessment (EIA), Social Impact Assessment (SIA) and Impact Benefit Agreement (IBA) must be submitted by 31 December 2022 and the latest date by which exploitation should commence will be 1 January 2023.

## **3.2 Exploration Licences**

### **3.2.1 MEL 2006-10**

Exploration Licence MEL 2006-10 is comprised of three separate sub-areas known as Niaqornaarsuk, Nalunaq East, and Nalunaq West (Figure 3-3). These cover an official combined area of 292 km<sup>2</sup> and have been held by AEX through Nalunaq A/S since 2017.

#### ***Niaqornaarsuk***

This sub-area is historically known as Vagar and covers steep, mountainous terrain along the Niaqornaarsuk Peninsular. It has been explored for gold mineralisation since it was first discovered within the drainage system of this area in the 1980s.

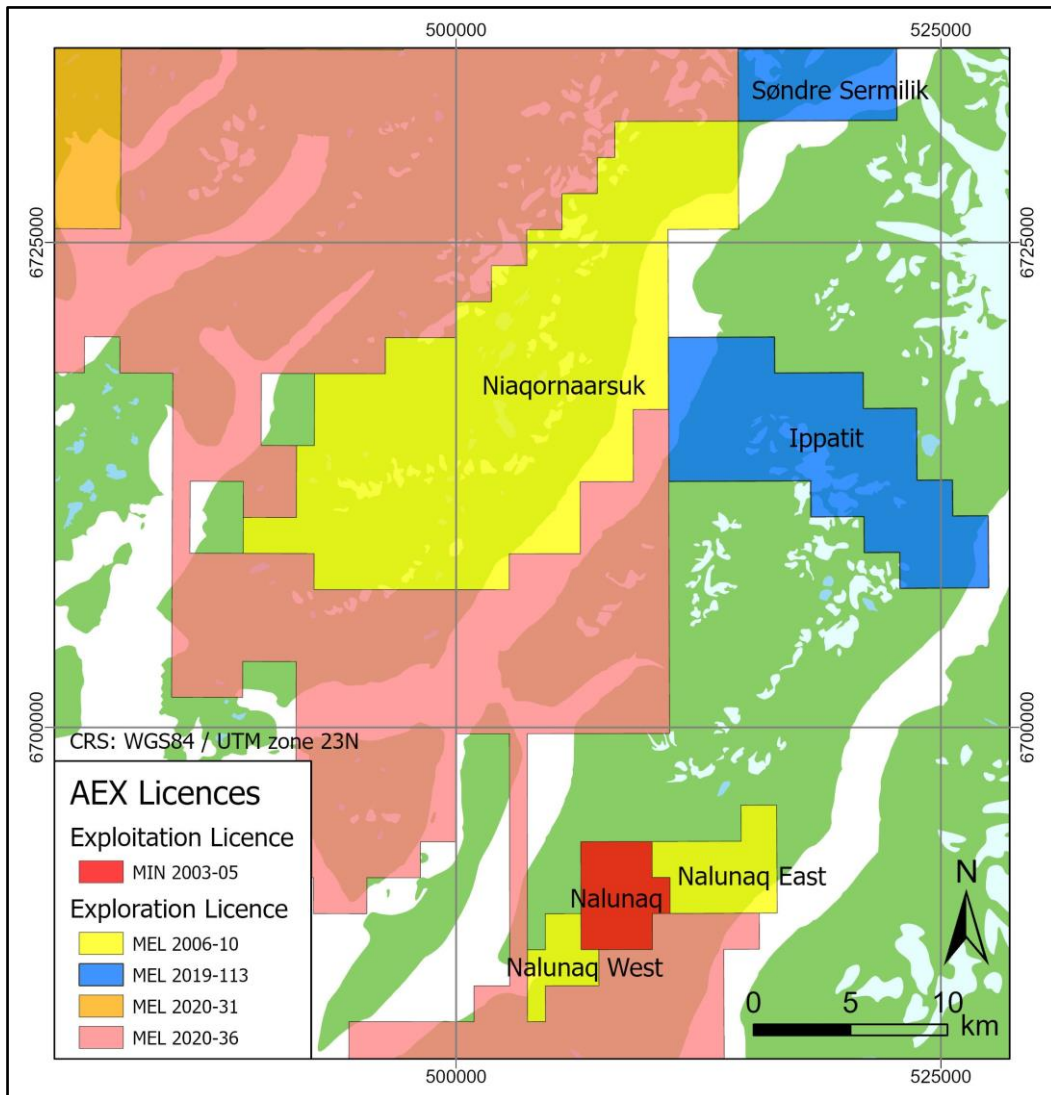
#### ***Nalunaq East & Nalunaq West***

These sub-areas were originally connected around the Nalunaq exploitation licence before reduction. Nalunaq East is mountainous and contains the same amphibolite units which host the gold mineralisation at Nalunaq. Occurrences of gold mineralisation have been recorded in Nalunaq East by historical work and exploration by AEX. The Nalunaq West area has been retained by the company because it contains the exploration camp and the small Saqqa dyke which is known to contain PGE style mineralisation but at this stage is not thought to be material.

#### ***Commitments***

License 2006-10 entered its 15<sup>th</sup> calendar year in January 2020. Due to the reduction in license

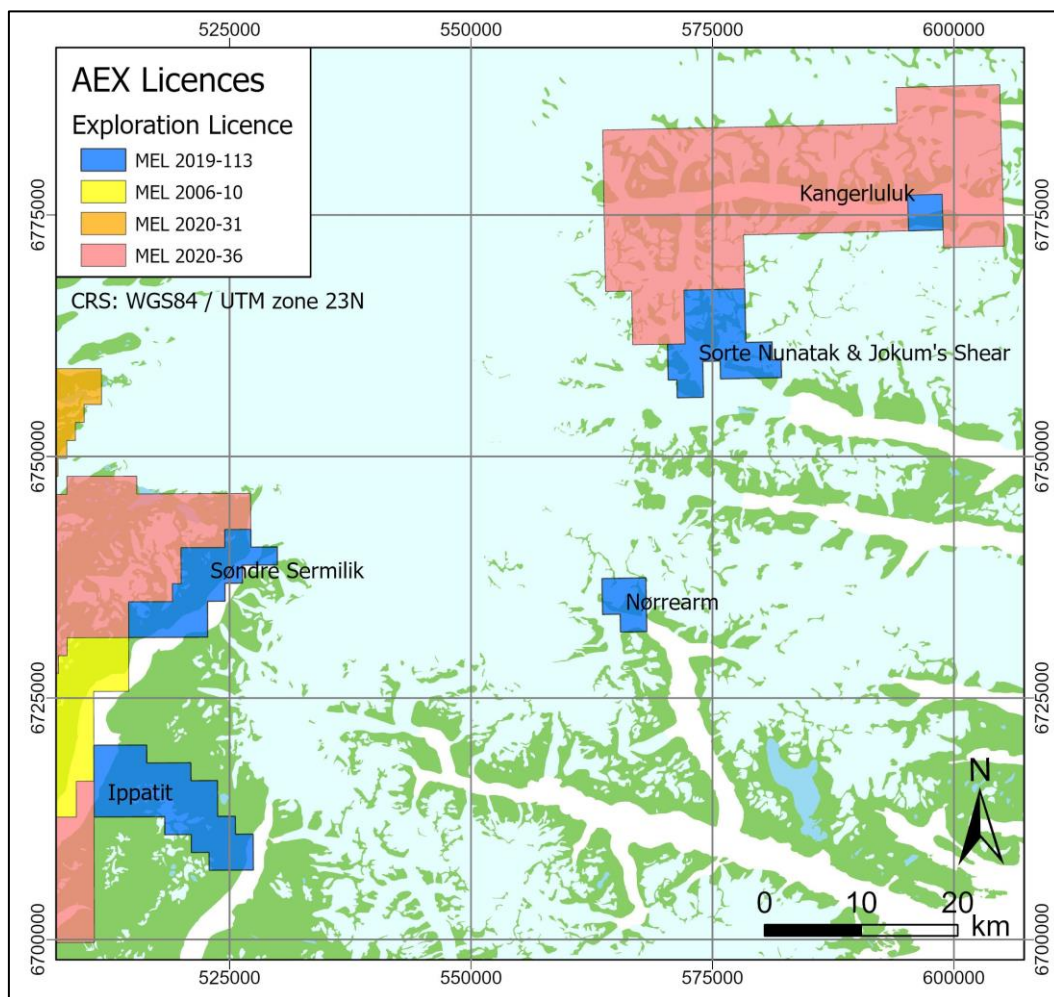
size at the end of 2019, as well as spending credits from years 2012 to 2018, the license had no unspent obligations by the end of 2019. The spending obligation for the licence in 2020 would have been approximately CAD 3.0M but has been reduced to zero by the Greenland Government in light of the Covid-19 pandemic.



**Figure 3-3: Extent of exploration licence MEL 2006-10 showing the location of the three sub-areas and adjacent AEX assets**

### 3.2.2 MEL 2019-113

This licence was granted to Nalunaq A/S in September 2019 and covers a combined official area of 266 km<sup>2</sup>. It is divided into five sub-areas, shown in Figure 3-4 and described below, that were selected by AEX to cover known gold occurrences or areas of prospective geology. These areas, except for Søndre Sermilik, have previously been covered by exploration licences held by NunaOil A/S, Crew Gold, or NunaMinerals A/S.



**Figure 3-4: Extent of exploration licence 2019-113 showing the locations of the five sub-areas**

***Søndre Sermilik***

This sub-area covers steep, mountainous terrain on the northern side of Søndre Sermilik Fjord. The geology and structures in this area appear to be a continuation of those that host gold occurrences in the Niaqornaarsuk sub-area to the southwest.

***Ippatit***

This sub-area is located on the Nanortalik Peninsula and is centred about 26 km northeast of the Nalunaq gold mine. The Ippatit Kua valley runs west to east through the licence, linking Søndre Sermilik to Tasermiut Fjord. South of this, the terrain is very mountainous with numerous small glaciers. Access by boat and then by foot may be possible from either end of Ippatit Kua, although the use of helicopters will be far more efficient. Access to many of the areas of interest may require the assistance of mountaineers due to the very steep terrain.

***Nørrearm***

Nørrearm and the following sub-areas are geographically isolated from AEX’s other assets to the southwest. They are located on the southeast coast of Greenland and separated from the other areas by the inland icecap.

Nørrearm covers a relatively small area at the head of Nørrearm Fjord and includes mountainous and heavily glaciated terrain. Glacier fronts appear to have receded a little since topographic maps were published, meaning that access from the sea to some parts of the area is now somewhat possible. Other areas must be accessed by helicopter or teams of mountaineers.



### ***Jokum's Shear & Sorte Nunatak***

The sub-area that covers these prospects is located at the head of Danell Fjord. Both target areas are surrounded by glaciers (heavily crevassed at Jokum's Shear) and require access by helicopter or, in the case of Sorte Nunatak, ski-equipped light aircraft when conditions allow.

### ***Kangerluluk***

The furthest north of these sub-areas, it is located about midway along Kangerluluk Fjord on its southern side. The rocky terrain slopes steeply down to the fjord from the edge of an icecap at an elevation of about 600 m.a.s.l. There is a particularly steep drop into the fjord which may mean that access by boat is limited to mountaineers.

### ***Commitments***

Licence 2019-113 entered its second calendar year in January 2020. At the end of 2019, the licence had an unspent obligation of approximately CAD 0.06 M. The spending obligations for the licence in has been reduced to zero in light of the Covid-19 pandemic, and therefore the obligation only includes the underspend from 2019.

## **3.2.3 MEL 2020-31**

This is known as the Saarloq licence and has an official area of 818 km<sup>2</sup>. It covers land to the east of Qaqortoq and was explored for gold and rare earth element mineralisation by Rare Earth Minerals PLC between 2012 and 2014. This work was at a reconnaissance level and the area remains underexplored. The principal feature of interest is the Saarloq Shear Zone which has developed in granites of the Julianehåb Batholith. This type of structure may be prospective for gold mineralisation, if the area has experienced mineralising events after this deformation.

The terrain in this area is somewhat less mountainous than AEX's other licences but is still very undulating and rugged, particularly towards the northeast where the licence is close to the inland ice.

This licence area will have no spending obligations in 2020 as a result of them having been waived due to the Covid-19 pandemic.

## **3.2.4 MEL 2020-36**

The Anoritoq licence covers an official area of 1,710 km<sup>2</sup> and is divided into two sub-areas.

The larger sub-area lies between the Vagar and Saarloq licences and extends south towards Nanortalik. It is underlain by a variety of rocks of the Ketilidian Orogen including granites and supracrustal metavolcanics and metasediments. Most exploration in this area was carried out by Crew Gold Development Corp. in the 2000s and the most developed gold prospect is known as Lake 410. This is located between Nanortalik and the Nalunaq gold mine and occurs in the same package of rocks as Nalunaq. Two phases of diamond drilling have been conducted here which confirmed the presence of mineralised features with reasonable continuity, although significantly elevated gold grades are yet to be found. The terrain in this sub-area is mountainous and incised by fjords.

The smaller sub-area of this licence is located on the southeast coast of Greenland and covers the Kangerluluk Fjord and the head of the Igutsaat Fjord. It is predominately underlain by granitic rocks of the Julianehåb Batholith and there are some enclaves of supracrustal rocks. Some gold showings are recorded by GEUS and there may be potential for the Kangerluluk prospect to extend into this area. There are no records of commercial exploration having taken place here. The terrain is extremely mountainous and heavily glaciated.

This licence area will have no spending obligations in 2020 as a result of them having been waived due to the Covid-19 pandemic.

### 3.3 Prospecting Licence

AEX also currently holds two prospecting licences which cover the entirety of southern Greenland. These two licences (2019-146 & 2017/45) allow AEX to conduct regional exploration but does not give the Company any exclusivity.

### 3.4 Accessibility

#### 3.4.1 Introduction

South Greenland is accessed via the international airport at Narsarsuaq with regular flights from Denmark and Iceland as well as regular internal flights from other international airports in Greenland including Kangerlussuaq and Nuuk. From Narsarsuaq, there are regular helicopter flights to other towns in the area, including Nanortalik. Most areas can also be travelled by scheduled or chartered boat from Narsarsuaq or Qaqortoq. South Greenland is widely regarded as the least remote part of Greenland, with several large towns, including Qaqortoq, Nanortalik, Narsaq, and Narsarsuaq.

It must be noted that there are no roads in the licence areas, except for the mine road at Nalunaq. In all other areas, the use of vehicles is not possible. Like most parts of Greenland, exploration is heavily dependent on the use of helicopters and boats. Furthermore, all the licence areas are mountainous, and some are heavily glaciated; professional climbers or rope access specialists will be required for some exploration activities.

#### 3.4.2 MIN 2003-05

The Nalunaq mine site is located 9 km inland along the Kirkspirdalen Valley from an embayment on the eastern side of Saqqaa Fjord. The fjord does not generally freeze over during the winter and navigation by boat to the former mine jetty is possible for most of the year. This takes around one hour from Nanortalik. From the jetty, the mine can be reached by 4x4 vehicle along the 9 km long former mine road which is unsealed but in reasonable condition. The 4x4 vehicle can be mobilised to the area by landing craft.

#### 3.4.3 MEL 2006-10

The Niaqornaarsuk sub-area is located on the Niaqornaarsuk Peninsula, approximately 60 km east of Qaqortoq and 50 km north of Nanortalik. Air/heliports at Qaqortoq, Nanortalik, and Narsarsuaq allow access to the licence areas by helicopter. Alternatively, the licence can be reached from Nalunaq gold mine, located 25 km to the south. Deep-water fjords—which remain ice-free year-round—facilitate easy access for shipping. The most developed exploration target, Amphibolite Ridge, is located 8 km from the coast. Access around the sub-area is only possible on foot or by helicopter.

The Nalunaq East and West sub-areas are located immediately around the Nalunaq mine, and therefore share the same access infrastructure. Central parts of the sub-areas require helicopter access, whilst some eastern areas may be reached by boat via Tasermit Fjord.

#### 3.4.4 MEL 2019-113

Coastal access is possible to the western and eastern ends of the Ippatit sub-area via Søndre Sermilik and Tasermit Fjord respectively. Access is then possible to some areas on foot, but otherwise helicopters are required to reach targets in the mountainous areas.

The following three sub-areas; Nørrearm, Jokum's Shear and Sorte Nunatak, and Kangerluluk are deep within long fjords on the southeast coast of Greenland. An important feature of this part of the coast is the East Greenland Current which flows from north to south along the coast of Greenland, carrying with it very large quantities of pack ice and numerous icebergs. Travel by boat for exploration work in this area may only be possible during the late summer and autumn months

when there is less ice.

The Nørrearm sub-area is accessed by helicopter or by boat through Lindenow Fjord on the eastern coast of Greenland and then Nørrearm Fjord. The terrain is again very steep so exploration would require helicopter support.

The Jokum's Shear and Sorte Nunatak prospects are both located in very mountainous terrain and both are surrounded by glaciers which are heavily crevassed near the coast. The use of helicopters is essential for any work here, and the steep terrain would require the use of mountaineers for some aspects of exploration work.

Finally, the Kangerluluk sub-area can be reached by helicopter or by boat through Kangerluluk Fjord on the east coast. However, the coastline here is extremely steep and suitable landing points may be as much as 2-3 km from the main target area.

### **3.4.5 MEL 2020-31**

Qaqortoq is the closest town to the Saarloq licence area and forms a good staging post for exploration work. The western half of the licence covers a multitude of islands and the mainland is incised by long fjords. Access by boat and on foot to many western parts of the licence is possible via the fjords which are usually ice-free all year. The eastern half of the licence includes terrain that is relatively far inland and helicopters would be required for efficient access.

### **3.4.6 MEL 2020-36**

Coastal parts of the larger sub-area of the Anoritoq licence are well-suited to boat access from Qaqortoq, Alluitsup Paa or Nanortalik. Fjords in this area generally remain ice-free all year and some target areas can be reached by boat and then on foot. Inland areas, some of which are extensive in this sub-area, are mountainous and helicopter access will be the most efficient option. This includes the Lake 410 prospect.

The sub-area on the east coast covering Kangerluluk Fjord and Igutsaat Fjord is the most remote of AEX's exploration assets. Its location and severe terrain mean that exploration work will be heavily reliant on helicopters. In principle, the area could be reached by a long boat journey from Nanortalik; this may allow teams to reach coastal exploration areas and conduct some reconnaissance along the fjords, but probably only in late summer or early autumn when pack ice along the outer coast is at a minimum and ice in the inner fjords has cleared.

## **3.5 Local Resources and Infrastructure**

Qaqortoq is the largest town in South Greenland with a population of around 3,200. The town is 77 km northwest of Nalunaq and 60 km east of the Niaqornaarsuk sub-area. The closest population centre to most of AEX's assets is Nanortalik, 33 km to the southwest of Nalunaq and approximately 40 km south of the Niaqornaarsuk sub-area. This has a population of around 1,400 and is Greenland's most southerly town. It is readily accessible by boat or helicopter and has a port capable of handling cargo vessels. Most people in the town are engaged in fishing, public services, construction, and tourism. There are many people in Nanortalik who worked in the Nalunaq mine when it was operational, and the town remains a good source of local workers.

Surface infrastructure at the Nalunaq project (MIN 2003-05) consists of a jetty in the Saqqaa Fjord which is connected to the Nalunaq mine site via 9 km of gravel road. All surface infrastructure from the old mine site was removed after closure in 2013, however, large flat areas of hard standing and concrete pads remain. AEX has established a container camp next to the mine road at the head of Saqqaa Fjord from where they conduct exploration activities during the field season (Figure 3-5). The camp can accommodate up to 20 people. AEX has a range of light vehicles and plant on site including a JCB backhoe, Scania Hi Ab truck, three light 4x4 vehicles, and a telehandler. Access to the mine is via the 300-level portal which has been opened and rehabilitated by AEX.

None of the old serviceable underground equipment remains onsite. However, the old underground processing plant is still in place, albeit in need of extensive refurbishment.

The 2006-10, 2019-113 exploration licences are uninhabited and have no existing infrastructure, although isolated cabins and farms may be found along coastal areas. The 2020-36 licence area is also largely uninhabited apart from the small settlement of Alluitsoq near Alluitsup Paa, but this is largely abandoned now.

The 2020-31 exploration licence includes the villages of Saarloq and Eqalugaarsuit, and the larger village of Alluitsup Paa is close to its southern boundary. These are accessible by boat or helicopter. This licence also includes the Qorlortorsuaq hydroelectric station which generates power using water flow from a dammed lake. This power is distributed to the towns of Qaqortoq and Narsaq via a 70 km long high-voltage (70 kV) powerline. The sub-area on the east coast is uninhabited.



**Figure 3-5: AEX's field camp during the 2018 field season at the head of Saqqaa Fjord with the jetty in the background (AEX, 2018)**

### 3.6 Climate

The climate of South Greenland is relatively mild for the latitude. In Nanortalik, the temperature ranges between averages of -9°C in January and 14°C in July. Rainfall is moderate and consistent at around 80-100 mm per month, although instances of heavier rain can occur. Snow cover is likely between October and April, with the possibility of deep snow during the winter months. The ordinary field season for southern Greenland is considered to be between April and September but this can vary largely due to local weather variation.

The wind conditions for southern Greenland are notoriously variable and can reach in excess of 100 km/hr with very little warning. This has implications where helicopter access is the only reasonable means of transport to some of the more remote sub-areas.

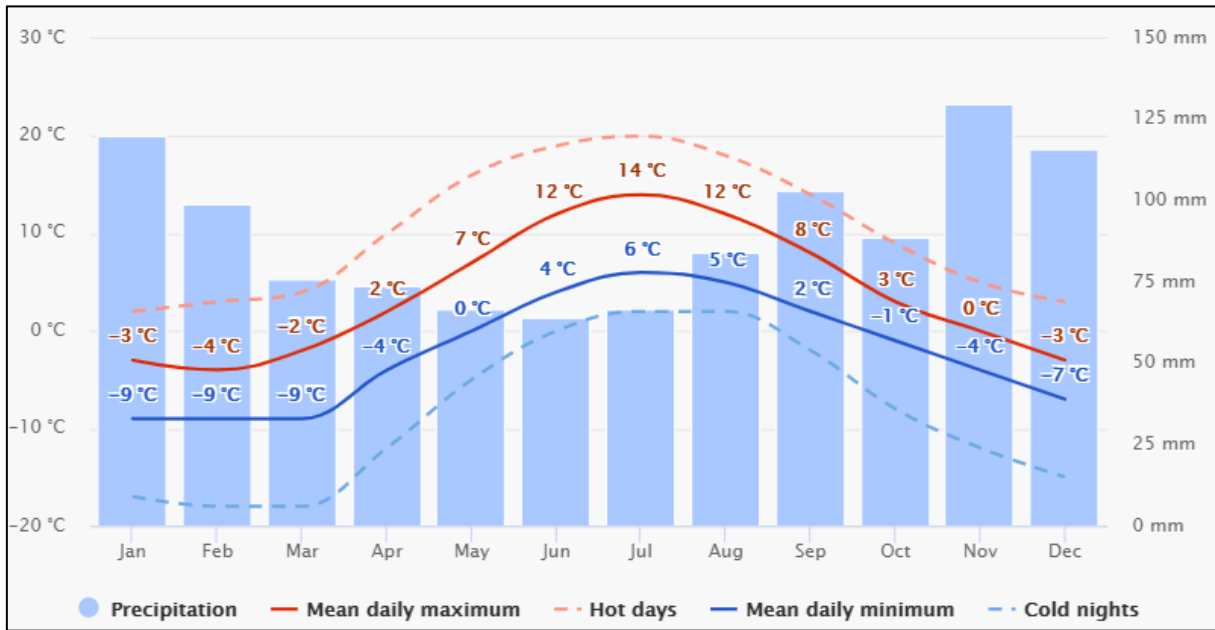


Figure 3-6: Average temperature and precipitation for Nanortalik (Meteoblue, 2019)

### 3.7 Physiography and Vegetation

The physiography of the area comprises rugged mountainous areas separated by glacially carved valleys. Mountains reach from sea level to elevations of 1,500 to 1,900 m.a.s.l., are glaciated, and the southern tip of the permanent ice sheet is about 33 km to the northeast of the Nalunaq mine. Valley floors and lower mountain sides are covered by typical sub-Arctic vegetation. Views of the typical terrain in the area are shown in Figure 3-7 and Figure 3-8. The licence areas are characterized by an absence of trees, typically low rock and tundra plants. In certain sheltered valleys in southern Greenland there is rock birch, mountain ash, alder, and willow scrub.



Figure 3-7: Nalunaq Mountain with mine site in the valley floor looking north (AEX, 2017)



Figure 3-8: Typical landscape in the Nalunaq project area looking south (AEX, 2017)

## 4 GEOLOGY

### 4.1 Regional Geological Setting

AEX's assets discussed in this report are situated within or on the border with the wider Psammite Zone in Southern Greenland that hosts the Nanortalik Gold Belt (Hughes et al., 2013). The two Niaqornaarsuk Peninsula sub-areas lies within the Julianehåb Batholith Zone, close to the border with the Psammite Zone to the southeast (Figure 4-1). Both zones are part of the Ketilidian Mobile Belt which evolved between 1,850 to 1,725 Ma during the interpreted northward subduction of an oceanic plate under the southern margin of the Archaean North Atlantic Craton. Similarities to gold mineralisation of the same age and orogenic setting have been noted and it is possible that the Nanortalik Gold Belt is a continuation of the Swedish Gold Line (Schlatter et al., 2016).

The Ketilidian belt is divided into four geological domains: the Ketilidian Border Zone, the Julianehåb Batholith Zone, the Psammite Zone, and the Pelite Zone (Figure 4-1). For the purposes of describing the metallogeny of South Greenland, Steenfelt et al. (2016) divides South Greenland into the Northern, Central, and Southern Domains (Figure 4-2).

The Nanortalik Gold Belt parallels the boundary between the Psammite Zone and the Julianehåb Batholith Zone and includes a significant number of gold occurrences. Apart from Nalunaq, these are at an early stage of exploration or have not yet been systematically explored. Stream sediment and heavy mineral geochemical data shows numerous anomalies for gold and gold pathfinder elements, indicating further unexplored potential in the area (Figure 4-3).

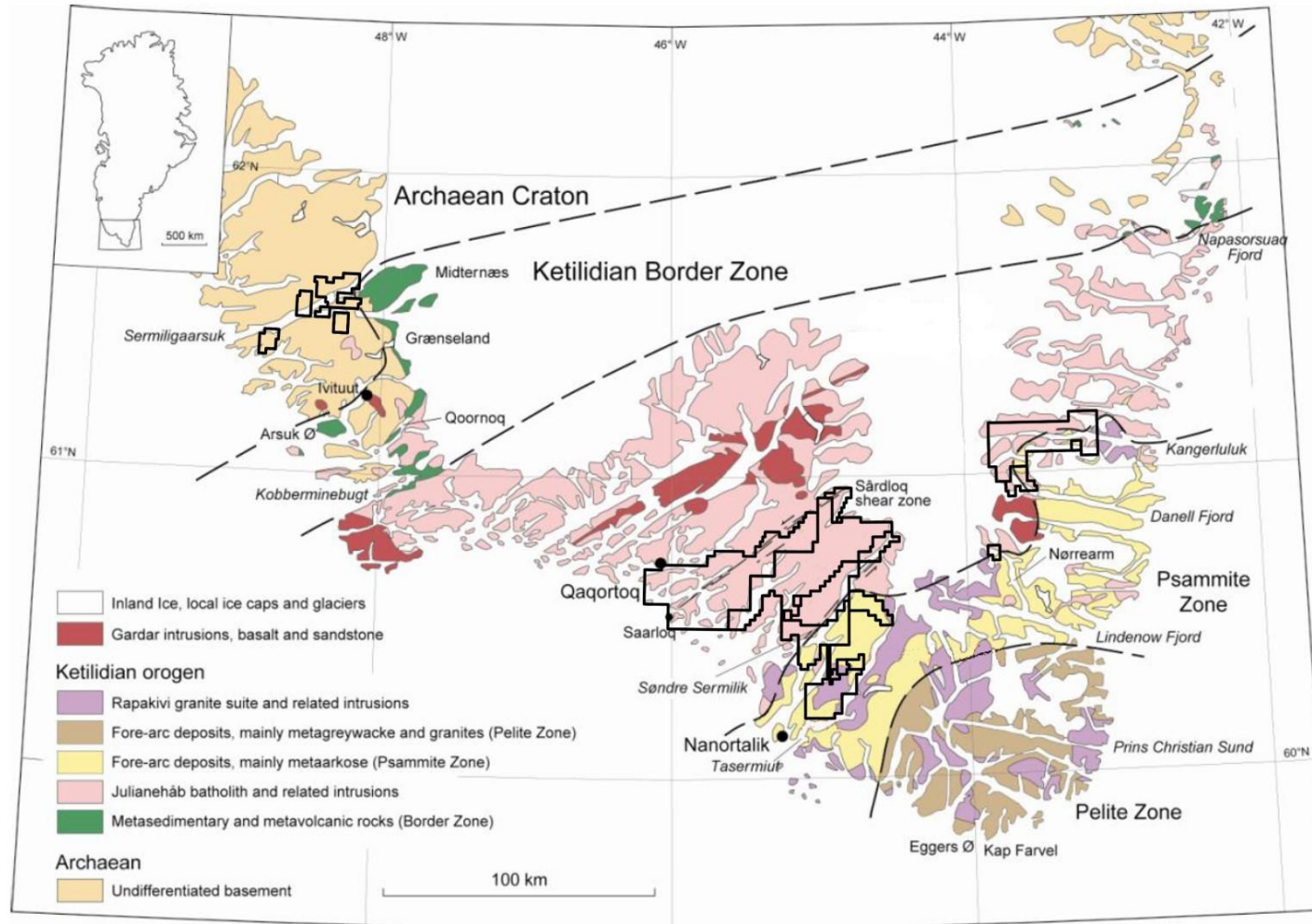
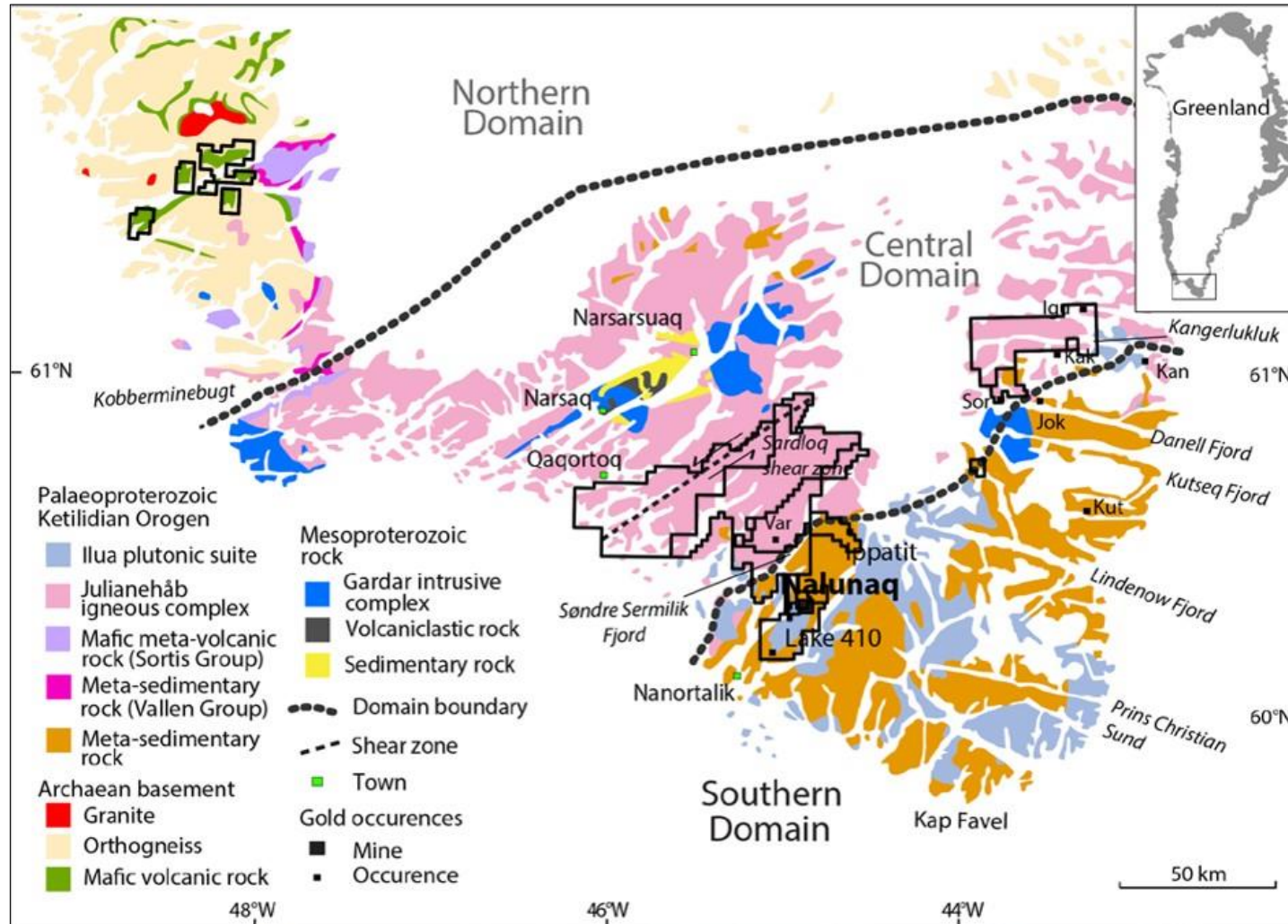


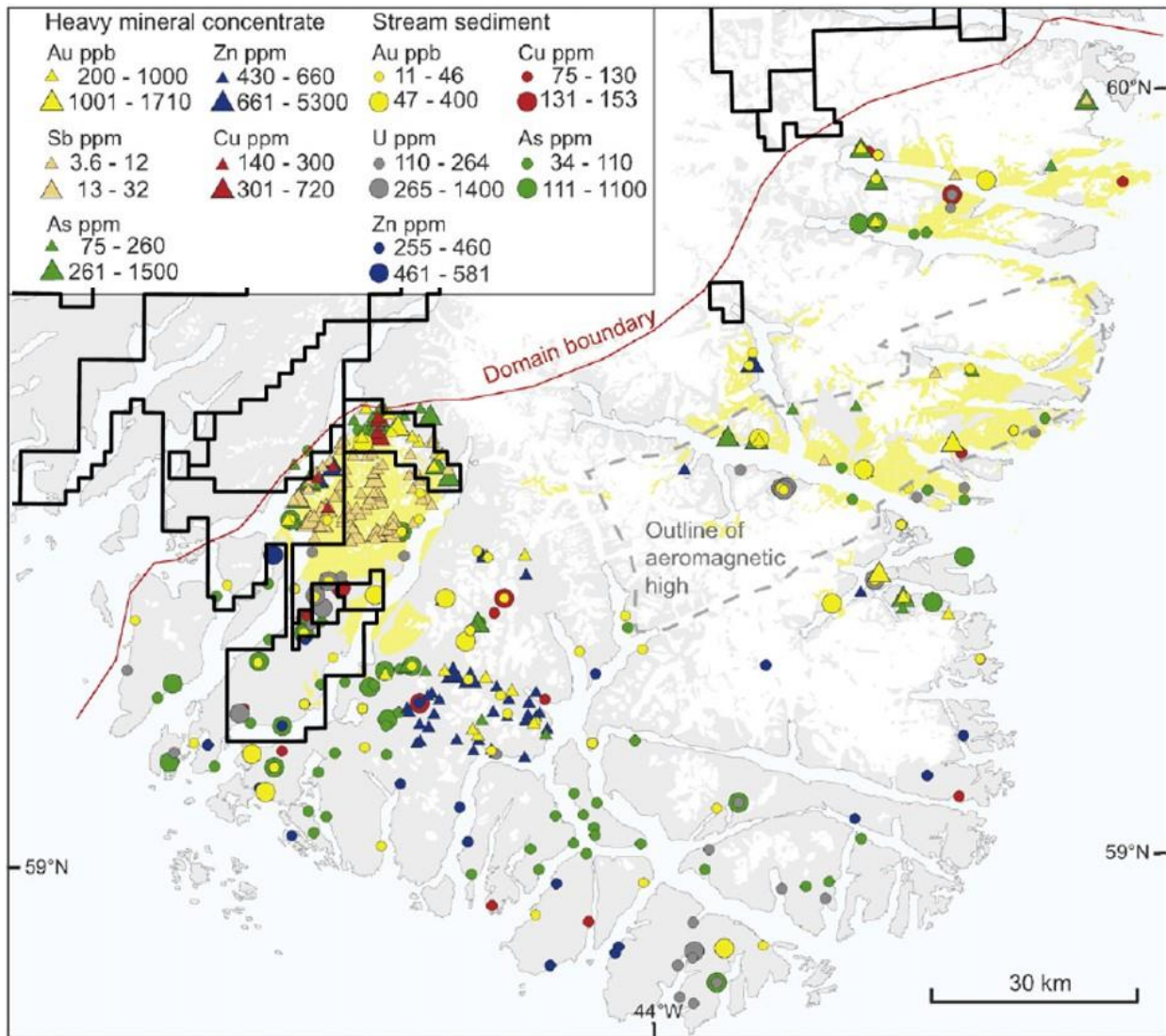
Figure 4-1: Summary geological map of South Greenland showing the principal geological domains and AEX Licences in black (modified from Secher et al., 2008)



**Figure 4-2: Simplified geological map of South Greenland, highlighting the major tectonic divisions of the Ketilidian Orogen and gold occurrences and AEX assets in black (modified from Bell, 2016)**

Abbreviated gold occurrence names are: Igu - Igutsait, Jok - Jokum's Shear, Kan - Kangerluk, Kak - Kangerluluk, Kut - Kutseq, Sor - Sorte Nunatak, Var - Vagar, modified from Garde et al. (2002), Stendal and Frei (2000), Schlatter and Hughes (2014), and Steinfeld et al. (2016)





**Figure 4-3: Stream sediment (<0.1 mm fraction) and heavy mineral concentrate anomalies in South Greenland, showing AEX assets in black (modified from Steenfelt et al., 2016)**

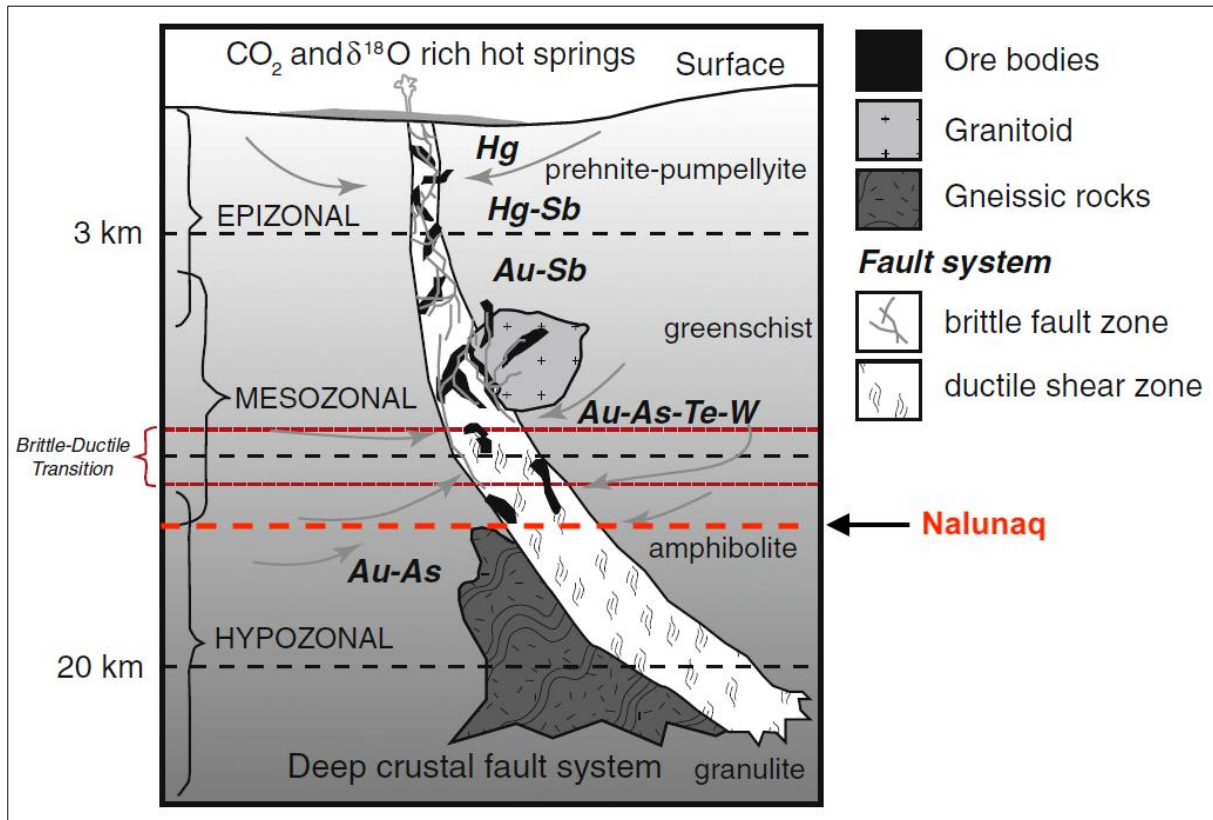
*Anomalies defined as values above the 95<sup>th</sup> percentile of the frequency distributions of data for entire South Greenland; large symbols are above the 99<sup>th</sup> percentile. Yellow shading shows areas of greenschist to amphibolite meta-arkose rocks*

## 4.2 Deposit Model

Gold mineralisation at Nalunaq is hosted in an amphibolite-granite sequence and can be classified as a narrow-vein orogenic lode-gold type system. It displays typical features, being:

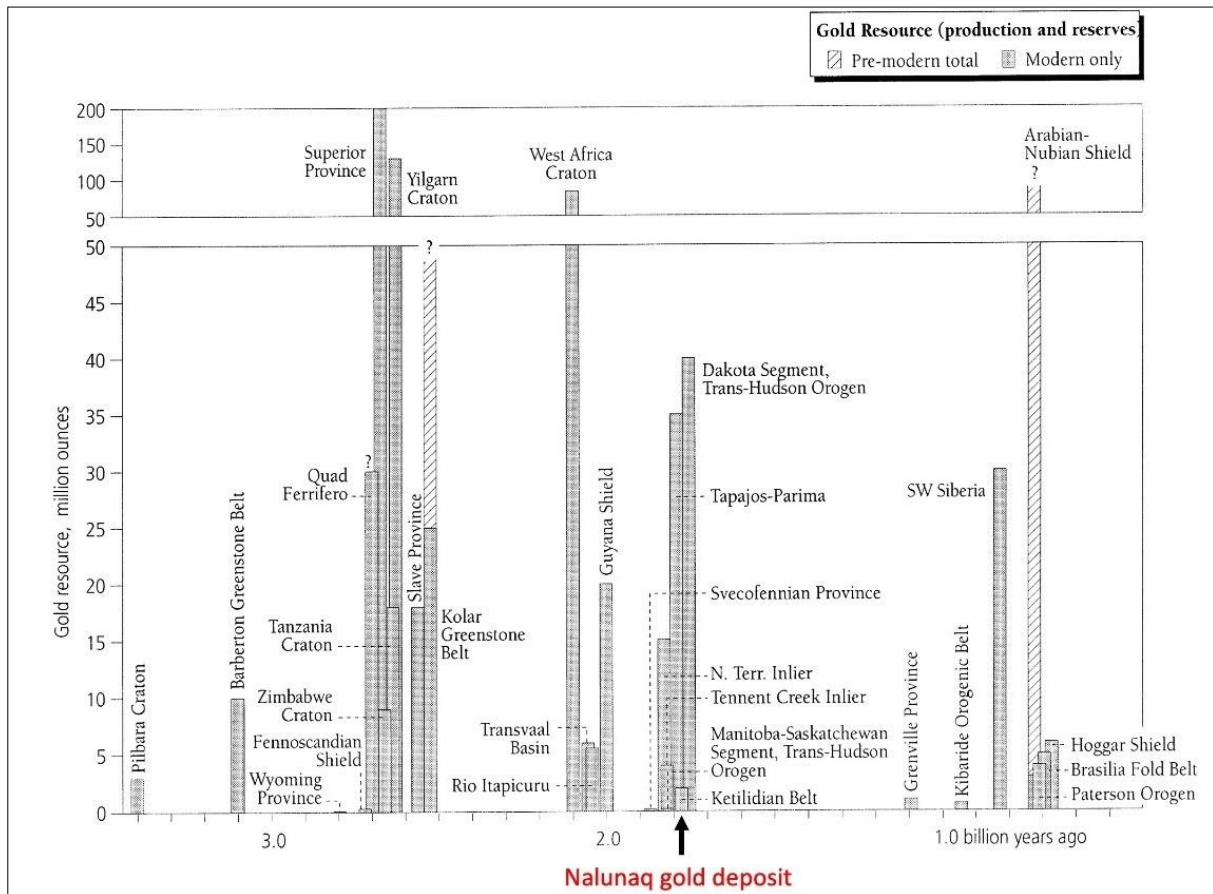
- Dominated by quartz veining generally less than 1 m in thickness
- Structurally controlled and related to brittle-ductile deformation
- Associated with wall rock hydrothermal alteration that shows symmetry in the hanging wall and footwall
- Having formed at a temperature of between 300-600°C and a depth of about 10 km based on fluid inclusion studies by Kaltoft et al. (2000)
- Dominated by coarse, often visible gold with a nuggety grade distribution.

Orogenic gold deposits form over a broad range of crustal depths, both above and below the brittle-ductile transition. Gold is carried in metamorphic fluids generated by devolatilization of rocks during prograde greenschist and amphibolite facies metamorphism (Goldfarb and Groves, 2015). Nalunaq is classed as a hypozonal orogenic gold deposit (Figure 4-4). The term “orogenic gold” is used in the literature to describe a wide variety of deposits, many of which involve magmatic as well as metamorphic fluids. It is increasingly recognised that the mixing of metamorphic and magmatic fluids may be an important process in the formation of many deposits, particularly those that show evidence for more than one mineralising event (Yardley and Cleverley, 2013). The influence of magmatic fluids might explain the high salinity of fluid inclusions at Nalunaq.



**Figure 4-4: Classification of orogenic gold deposits, showing Nalunaq's classification as a hypozonal orogenic gold deposit (modified from Goldfarb and Groves, 2015)**

The age of gold mineralisation at Nalunaq has been estimated to be Paleoproterozoic, at 1.8 to 1.77 Ga (Stendal and Frei, 2000) This is a favourable age when compared to orogenic gold deposits worldwide (Figure 4-5).



**Figure 4-5: Gold production vs best approximation of grade showing how the Ketilidian orogeny and the Nalunaq gold deposit correspond (modified from Goldfarb et al., 2001)**

Exploration targets within the Niaqornaarsuk Peninsula sub-areas are less understood but also thought to also be Palaeoproterozoic orogenic gold deposits, associated with the Ketilidian orogeny. Mineralisation is controlled by quartz dominated vein systems with low sulphide abundance (typically less than 2%) in high brittle-ductile strain zones within relatively undeformed granites (Julianehåb batholith), and at contact zones with subordinate mafic units (“amphibolites”). These structures are thought to represent large scale shearing as part of a regional compressional event.

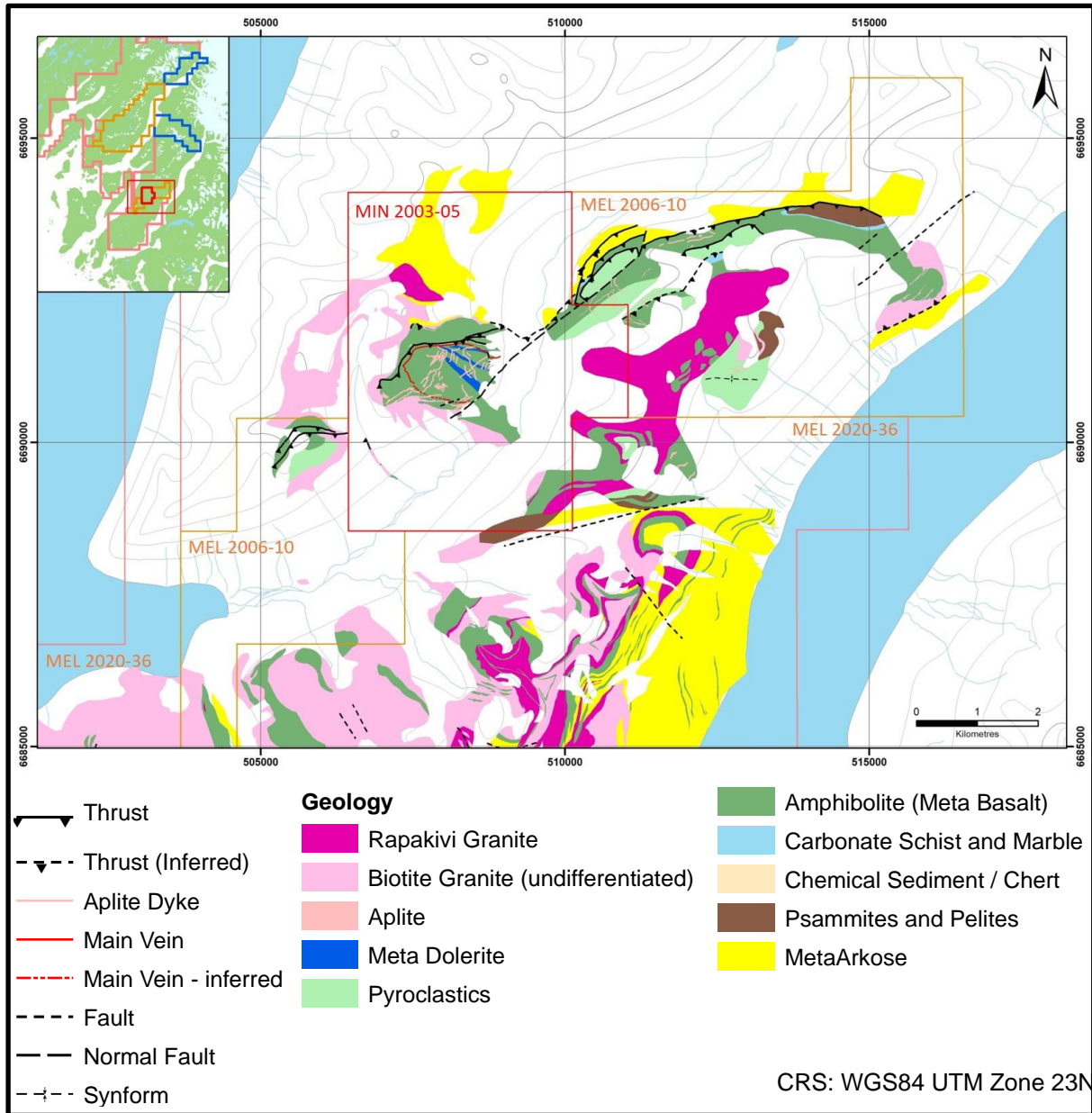
## 5 NALUNAQ

### 5.1 Property Geology

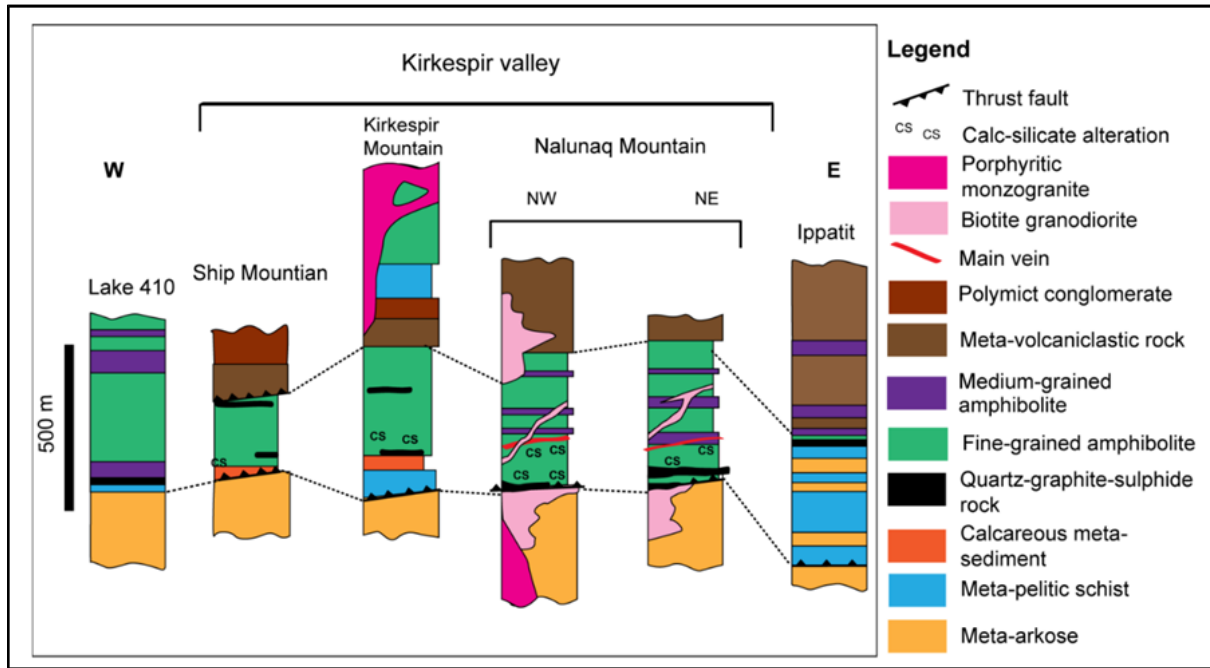
The geology of the Nalunaq Mountain is dominated by a package of fine- to medium-grained tholeiitic basalt flows and locally coarser, sub-concordant doleritic sills, all metamorphosed to amphibolite facies. This package is part of the Nanortalik Nappe and has been thrust over arkosic metasediments. The sequence is intruded by granites of the Ilua suite and several generations of late aplite and pegmatite dykes. Figure 5-1 shows the geology of the Kirkespir Valley including Nalunaq. Figure 5-2 shows simplified stratigraphic columns for various locations in the area, highlighting the base of the Nanortalik Nappe.

The lowermost unit of the Nanortalik Nappe comprises silicified siltstone with abundant sulphides and intercalated graphitic beds. The overlying amphibolite package is divided into the lower-amphibolite (structural foot-wall (FW)) on the north-north face and the upper-amphibolite (structural hanging-wall (HW)) on the north face of Nalunaq mountain, separated by the Nalunaq thrust at the base of the massive-sulphide/chert formation. A basal thrust separates the lower amphibolite and

the meta-sediments, which lie unconformably below, but it has not been conclusively identified in outcrop and has likely been invaded by granite. Calc-silicate alteration is common in both the FW and the HW, present as elongated lenses and stringers of garnet-clinopyroxene and epidote. Strong pervasive epidote-carbonate alteration is associated with granite emplacement. The main mineralised zone at Nalunaq, termed the Main Vein (MV) has been associated with a weak biotite halo (Bell, 2016).



**Figure 5-1: Geological map of the Kirkespir Valley including Nalunaq (MIN 2003-05) (AEX 2020, modified from Petersen, 1993)**



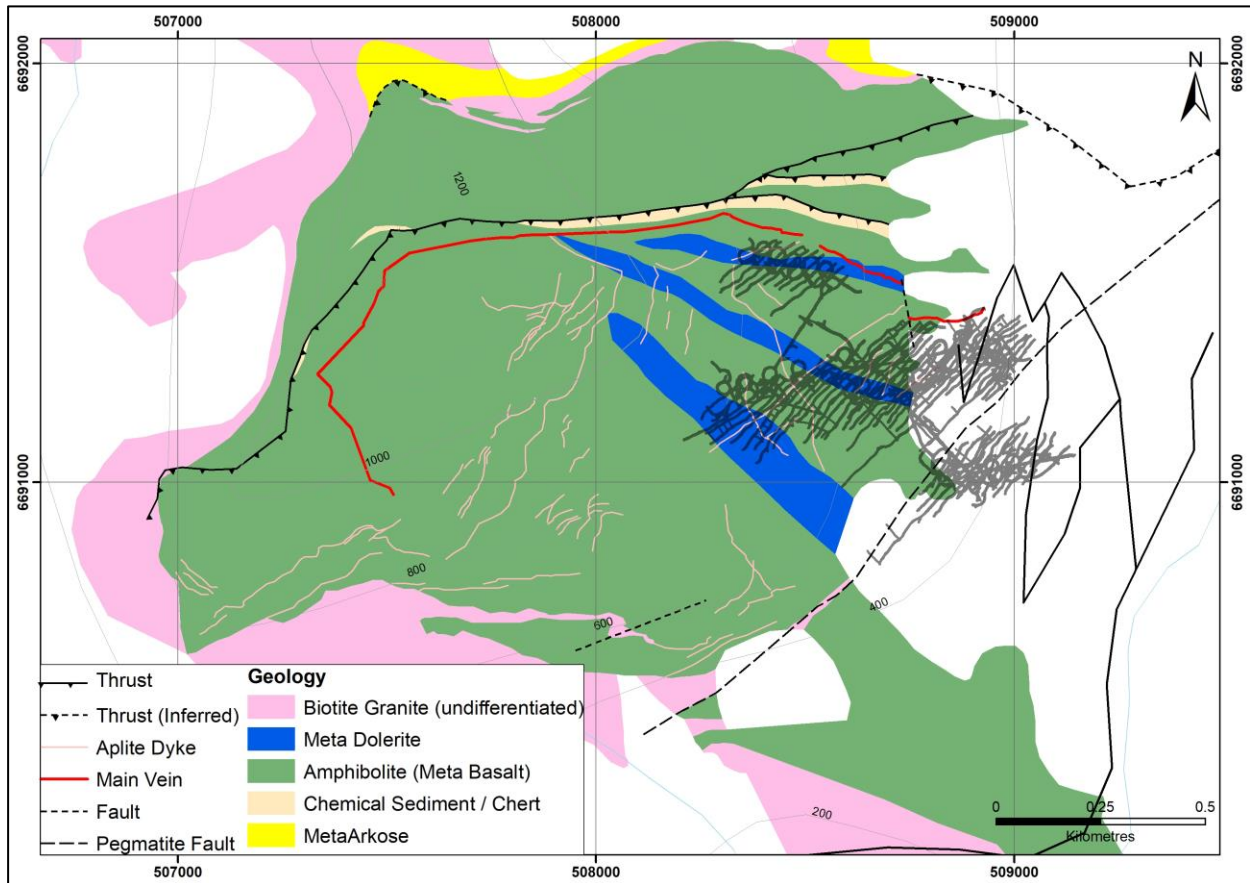
**Figure 5-2: Schematic stratigraphic sequences for sections of the Nanortalik Nappe (Bell, 2016)**

*Lithological units below the thrust correlate throughout the area, marking the base of the Nappe (modified from Petersen, 1993 and Kaltoft et al., 2000)*

## 5.2 Mineralisation

Multiple mineralised shear zones occur in the sequence. Of these, only the MV contains significant gold over widths that may be considered amenable to mining, averaging >15 g/t Au with occasional bonanza grades up to 5,240 g/t Au over 0.8 m. Gold occurs in sheeted quartz veins with associated calc-silicate alteration. The MV has a strike of approximately NE-SW and dips 35-40° to the SE, varying in thickness from 0.05 m to 2 m. The MV structure can be traced along the entirety of the north, north west, and part of the west face of Nalunaq Mountain (Figure 5-3).

Whilst the structure that hosts the MV shows continuity over thousands of metres, the local veining is more variable and shows marked pinching, swelling, and splitting—with the vein sometimes reducing in width from tens of centimetres to nothing over a few metres. The typical appearance of MV outcropping in the area of the mine is shown in Figure 5-4 with Figure 5-5 showing the typical appearance of MV in drill core from South Block. Where veining pinches out, the hosting structure can still be seen in the form of a hydrothermal alteration zone. In some areas the MV is cut or invaded by aplite dykes, causing dilution. Exposures of MV underground show evidence of both compressive and extensional post-mineralisation deformation, with tectonic thickening and thinning.



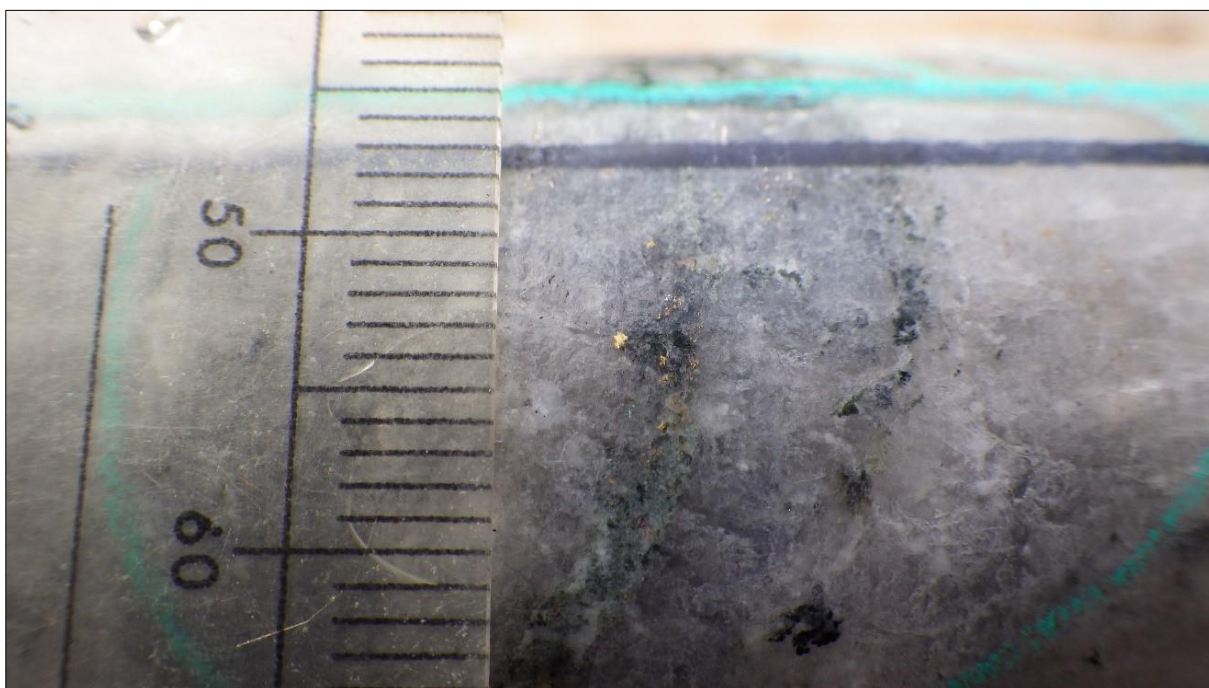
**Figure 5-3: Geological map of Nalunaq Mountain showing the outcrop of MV (AEX, 2020 modified from Peterson, 1993)**



**Figure 5-4: Main Vein outcrop on the north face of Nalunaq Mountain at ~610 m elevation (AEX, 2018)**



**Figure 5-5: Quartz vein containing visible gold interpreted to be MV from drill hole AEX1710 at 147.23 - 147.44 m (AEX, 2017)**



**Figure 5-6: Gold within quartz veining from AEX Nalunaq drill core, AEX1710 ~147.35 m (AEX, 2017)**

The Hanging Wall Vein (HWV) vein is situated stratigraphically above the MV, within the hanging wall sequence. It is less continuous, thinner, and lower grade than MV, with a thickness up to a few tens of centimetres and consists of a quartz vein, sometimes with visible gold. It pinches out along strike and may only be represented by thin seams of calc-silicate alteration and silicification in the volcanic rocks. It is possible that it represents a splay off the MV (Schlatter and Olsen, 2011). SRK ES has not observed this structure underground but noted its presence above the MV on the west face of the mountain.

### 5.2.1 Structure

The Nalunaq deposit is hosted within a moderately dipping quartz vein accommodated with a thrust zone that has likely experienced multiphase deformation. This structure exhibits subtle changes in gradient that may be related to the high-grade plunging features. The deposit has been crosscut by multiple post mineralisation faults with variable degrees of displacement from a few centimetres to hundreds of meters. Many of these faults have been invaded by microgranite/aplitic dykes. Most have a normal sense of movement, however some, like “Your Fault”, have a reverse sense.

Historically the Nalunaq deposit has been divided into three main blocks. These blocks are dissected by post-mineralisation faulting and are named from southeast to northwest; South Block, Target Block, and Mountain Block. The most significant fault is called the Pegmatite Fault which trends NE/SW and separates the South Block and the Target Block. Normal fault movement on this caused about 80 m of vertical offset of the South Block relative to the Target Block, and it also exhibits dextral displacement (Figure 5-7). This is well exposed at surface and intruded by a 30 m thick aplite dyke. Recent drilling by AEX down dip of South Block indicates the presence of another significant fault occurring at the footwall contact of a granitic dyke displacing MV vertically by ~20 m and dextrally by ~100 m.

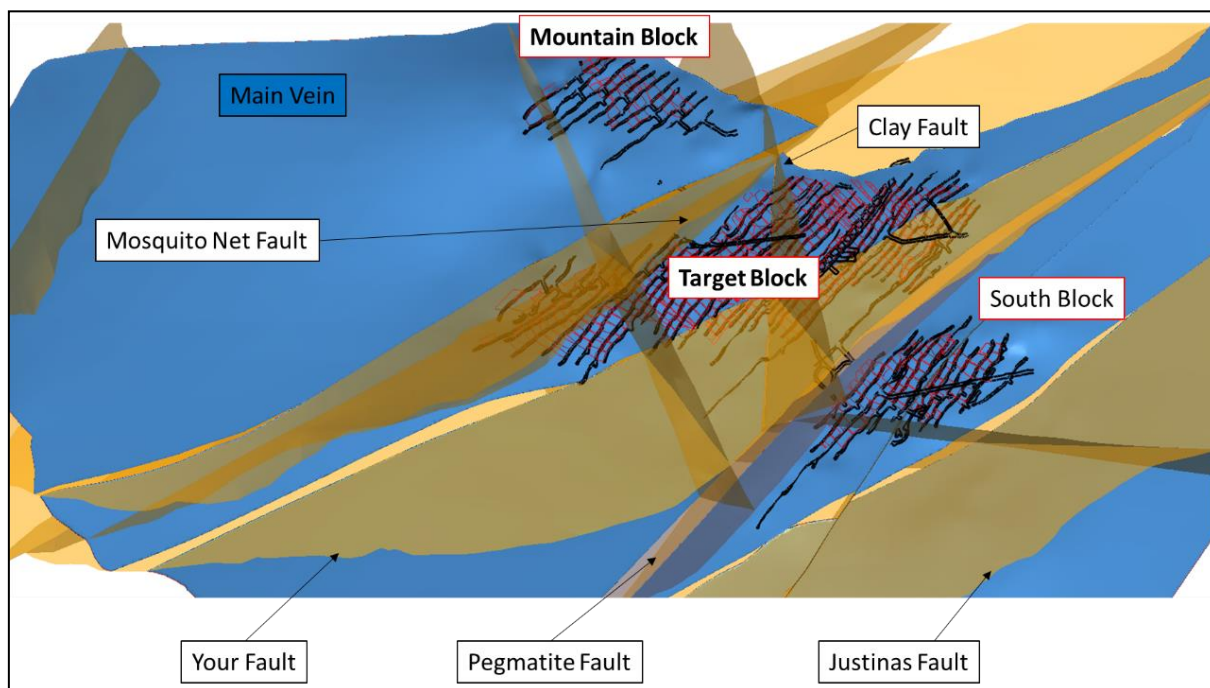


Figure 5-7: Leapfrog 3D model showing MV (blue) cut by multiple faults (orange) (AEX, 2018)

### 5.3 Project History

The following section has been summarised from the previous NI 43-101 report written by SRK ES (SRK ES, 2016) and details the work carried out by previous holders of the Nalunaq Project.

Gold was first reported in the area in 1986 when it was discovered in alluvial settings. However, it is thought that the Vikings, who once had settlements throughout South Greenland, were aware of gold within the area. Alluvial gold occurrences lead to exploration being focused in the Kirkspirdalen Valley within an exploration licence granted to NunaOil A/S, eventually leading to the discovery of the quartz-gold vein at Nalunaq in 1992 (Figure 5-8). Further exploration confirmed the presence of a coherent mineralised structure hosting high grade, sometimes bonanza grade, gold. A mining licence (MIN 2003-05) was granted to Crew Gold Corporation in 2003, who undertook mining from 2004 until 2009 with processing carried out in Spain and later Newfoundland. The project was then acquired by Angel Mining PLC who operated until closure in



2013, processing ore at an underground cyanide plant on site. In total, around 367,130 oz of gold was produced, 352,307 oz being from Crew Gold’s operation.

During 2014 the ownership of the exploitation licence was formally transferred from Angel Mining to FBC although it remained in the name of Angel Mining (Gold) A/S. FBC Mining entered a Joint Venture agreement with ARC which was approved by the Government of Greenland and signed on 17<sup>th</sup> July 2015, and the licence is now held in the name of a Greenlandic joint venture company, Nalunaq A/S, which is a wholly owned subsidiary of AEX.



**Figure 5-8: The “discovery outcrop” of MV close to the 400 Level Portal (SRK ES, 2016)**

### 5.3.1 Historical Exploration

The exploration work carried out is summarised in Table 5-1.

**Table 5-1: Summary of exploration history of Nalunaq Project (1992-2008)**

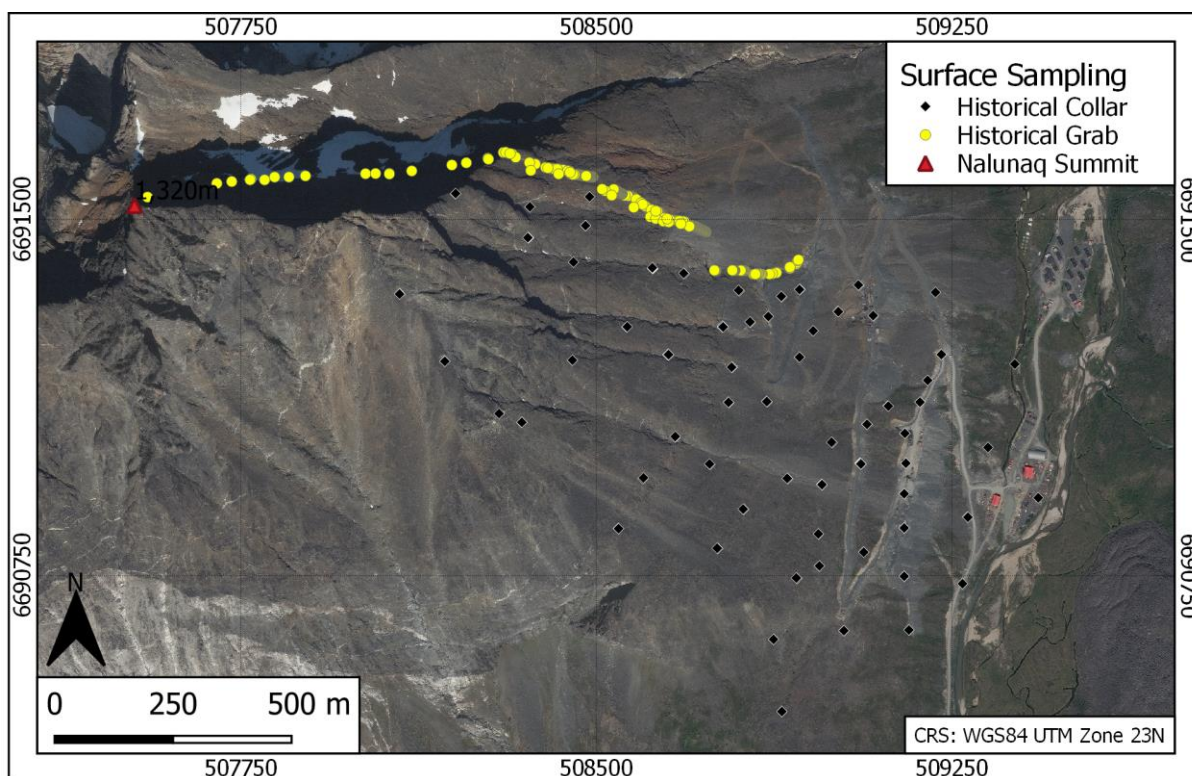
Year	Operator	Work Undertaken
1992	NunaOil A/S	Exploration lead to the discovery of visible gold in quartz vein (MV)
1996-2006	NunaOil (until 1997) Crew Development Corporation (until 2006)	172 surface holes drilled totalling 30,478 m.
1998	NunaOil joint venture with Mindex A/S	Underground exploration with the driving of 400L exploration level. This level was extended in 2000 along with the driving of the 350 and 450 levels. Exploration activities carried out from these levels included channel sampling and collection of bulk samples totalling 21,300 tonnes.
1999	Crew Gold Corporation	Surface channel sampling was undertaken at 1 m intervals on the exposed Main Vein between elevations of 468 m to 775 m.  Mineral Resource Development International (MRDI) produced a Pre-Feasibility Study in 1999 based on the surface and underground exploration data. This was positive and defined a resource of 425,000 oz gold in material with an average grade of 32 g/t gold (diluted to 1 m).
2002	Crew Gold Corporation	Kvaerner completed a Feasibility Study for mining operations at Nalunaq
2004	Crew Gold Corporation	Mining Operations began
2004-2008	Crew Gold Corporation	Underground development and exploration drilling. The total amount completed was 237 drillholes for 5,572 m.

Underground continuous chip sampling was undertaken throughout exploration and mine development. This totalled 2,041 samples taken in exploration adits and raises, and 5,478 samples from development workings and all were assayed for gold.

The Geological Survey of Denmark and Greenland (GEUS) has provided SRK ES with a database for all sampling at Nalunaq for the period 1993 to 2008. This dataset is described in more detail by Schlatter and Olsen (2011), and its contents are summarised in Table 5-2. The distribution of historical surface sampling and diamond drilling is shown in Figure 5-9.

**Table 5-2: Summary of samples from exploration and development at Nalunaq which have gold assays assigned to them as of 2011 (from Schlatter and Olsen, 2011)**

Type of Sample	Number of samples with gold assays
Drillcore from surface drillholes	7,164
Surface rock samples	458
Drillcore from underground drillholes	723
Underground exploration chip samples	2,041
Underground development chip samples	5,478
Miscellaneous samples (not from Main Vein)	104
<b>Total samples</b>	<b>15,968</b>



**Figure 5-9: Locations of historical surface exploration sampling and surface diamond drilling pads**

### 5.3.2 Historical MRE

The Mineral Resources declared by previous operators, particularly those prior to mining operations, have largely been mined out. They are however described here to illustrate the order of magnitude of resources that were identified by the early stages of operations in the lower north-eastern parts of the mountain.

Table 5-3 is the SRK 2002 Mineral Resource estimate used in the 2002 Feasibility Study by Kvaerner. See SRK ES NI 43-101 report (SRK ES, 2016) for the full history of the resource estimates for the project.

**Table 5-3: Summary of the SRK 2002 Mineral Resource Estimate, reported at a zero cut-off grade and at various minimum stoping widths (Kvaerner, 2002)**

Measured & Indicated Mineral Resources	Over 1.0 m		Over 1.2 m		Over 1.5 m		Ounces Gold
	Tonnes	g/t gold	Tonnes	g/t gold	Tonnes	g/t gold	
Main Vein*	352,100	30.3	414,200	25.8	508,300	20.9	343,700
South Vein	58,000	28.3	69,700	23.6	88,300	18.7	52,900
Total	410,100	30	483,900	25.5	596,600	20.6	396,600

*\*including stockpiles*

Inferred Mineral Resources	Over 1.0 m		Over 1.2 m		Over 1.5 m		Ounces Gold
	Tonnes	g/t gold	Tonnes	g/t gold	Tonnes	g/t gold	
Main Vein	200,000	24.7	240,100	20.6	326,000	15.9	159,100
South Vein	34,000	22.4	41,200	18.7	52,000	14.8	24,800
Total	234,000	24.4	281,300	20.3	378,000	15.7	183,900

*Note: This is the pre-mining Mineral Resource Estimate, not the current estimate*

## 5.4 Historical Production

### 5.4.1 Crew Gold Corporation

The Greenlandic and Danish Governments granted the Nalunaq Exploitation Licence to Crew Gold in April 2003 for 30 years. Crew Gold commenced mining in 2004 and owned and operated the gold mine until July 2009. No processing was carried out on site during their tenure, instead broken ore was shipped to Spain and later Newfoundland for processing.

In total, 352,307 oz of gold were produced by Crew Gold from 654,755 t of milled ore at an average production cost of USD 530/oz gold.

All underground mining activities ceased by 28 February 2009 and Nalunaq was placed on care and maintenance. Crew Gold sold the mine and all associated infrastructure to Angus & Ross Plc. (which became Angel Mining) in early July 2009 for US\$ 1.5 million.

### 5.4.2 Angel Mining (Gold) A/S

After acquisition of the Nalunaq Gold Mine assets, the mining permit was transferred to Angel Mining A/S in September 2009. A subsidiary of Angel Mining PLC, Arctic Mining Ltd., carried out all mining operations and installed an underground processing plant in the mine at the 300 Level.

Due to financial difficulties, Angel Mining PLC went into administration on 27 February 2013, and Stephen Cork and Andrew Beckingham of Cork Gully LLP (52 Brook Street, London, W1K 5DS) were appointed Joint Administrators. The Administrators took the decision to keep the mine in production. During this period Arctic Mining continued mine operations.

The closure of Nalunaq was announced in October 2013 and by 15 November 2013 all mining staff had left and remediation by a local construction company began. All mining equipment and surface infrastructure, including the camp and the port facility (apart from the jetty) were removed or destroyed. The underground processing plant was left in place, and the mine portals were closed with waste rock.

In total, 14,823 oz Au of gold were produced by Arctic Mining from Nalunaq.

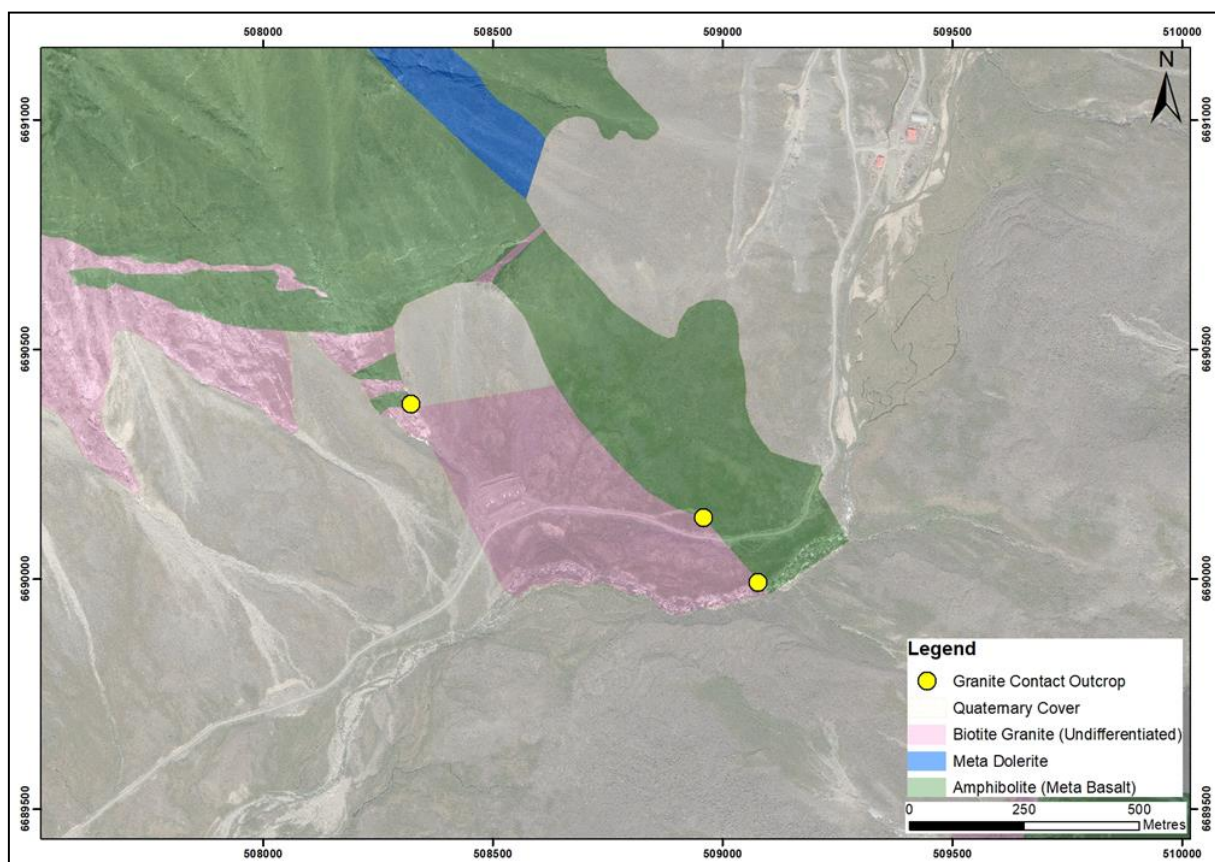
## 5.5 AEX Exploration

The following sections describe exploration completed by AEX since 2015 which has resulted in, amongst other things, confirmation of mineralisation over larger areas than previously demonstrated, and significant new structural interpretations.

### 5.5.1 Mapping

#### *Surface Mapping*

Minor amounts of surface mapping were undertaken during the 2017 and 2018 field seasons. The focus of this work was to better define the contact between the granite and the amphibolite in the southern part of Nalunaq Mountain. MV is hosted within the amphibolites which are cut by the later granite. The contact between these units forms a boundary to the potentially prospective area for MV in this part of the licence. On the upper slopes of Nalunaq Mountain there is very little regolith cover with the contact clearly visible in the satellite imagery and in the field. At lower levels, this contact is obscured by scree and glacial cover. The contact was found in three locations on the lower southern flank of Nalunaq Mountain (Figure 5-10). At each location a dip and strike of the contact and brief geological description was taken.



**Figure 5-10: Geological map showing granite–amphibolite contact observation points (AEX, 2018, modified from Petersen, 1993)**

#### *Drone Assisted Mapping*

During the 2018 field season, AEX had access to a drone with a high-resolution HD video camera. During down time in the drill programme this was used to take images and video of the inaccessible parts of Nalunaq Mountain. This allowed the identification of several new possible faults high up the mountain. These have been included within the AEX working model as “Wills” and “Bens” faults. It also gave very good images of the Nalunaq Thrust (Figure 5-11).



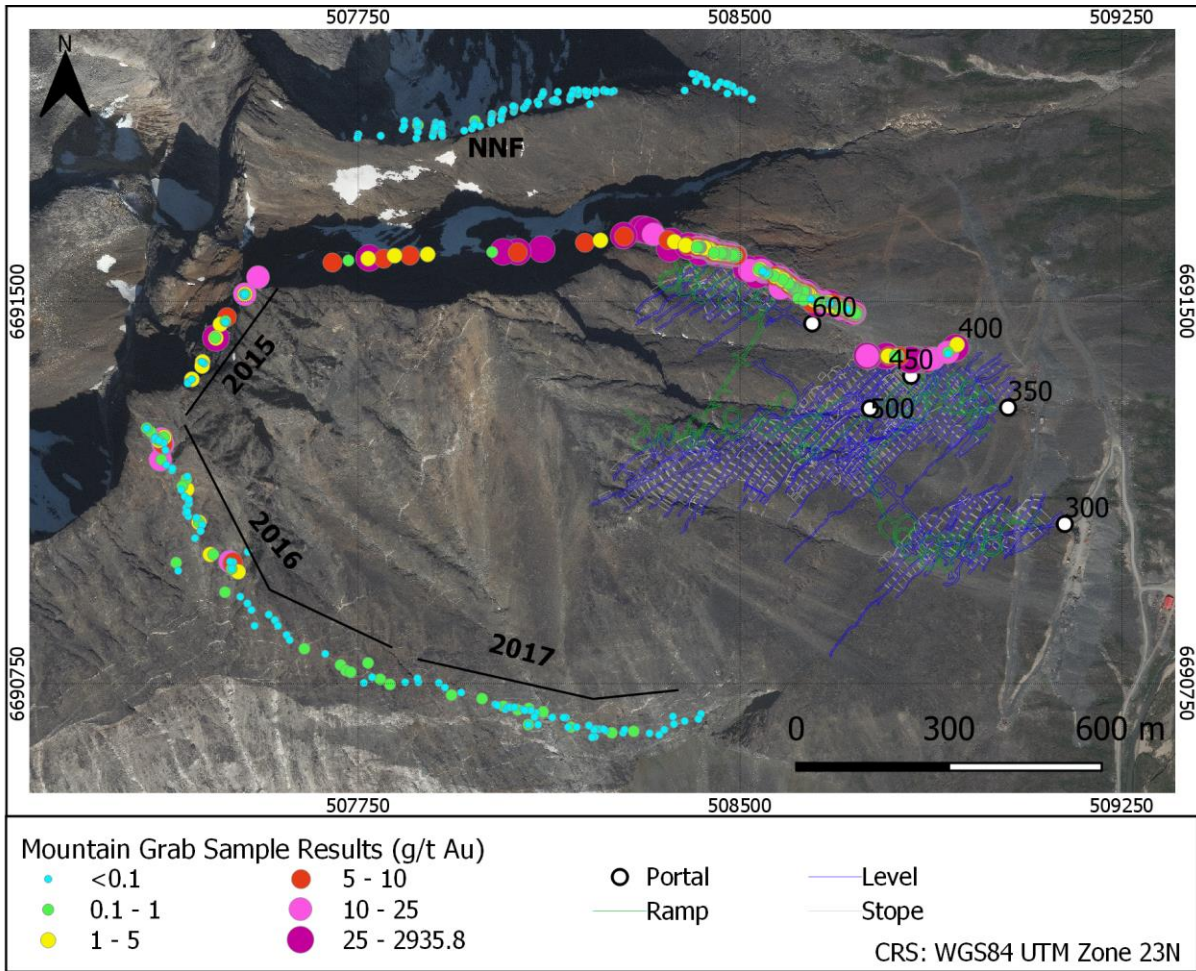
**Figure 5-11: Drone image of the Nalunaq Thrust viewed on the west face of Nalunaq Mountain (AEX, 2018)**

It is hoped in future seasons to inspect the outcrop of MV and look for extensions on the south west face of Nalunaq.

### 5.5.2 Mountain Rock Chip Sampling

#### **SW Face**

The MV outcropping on the NE and N sides of the mountain has been known and tested historically, with sampling stopping near the summit of the mountain. Continuity of the MV structure on the W and SW flanks of the mountain had never been tested by any sampling or mapping programmes, primarily due to the difficulty of accessing these areas. However, since 2015, three phases of mountain rock-chip sampling programmes have been undertaken by the Company—in 2015, 2016, and 2017—to test if the MV is continuous through the mountain (Figure 5-12). These sampling programmes were undertaken by mountaineers, accessing the areas by helicopter and rope whilst being in communication with and monitored by geologist spotters. The use of rock saws in this environment was not possible and all the samples were collected as rock chip grabs, with sample weights typically between 1-3 kg. The samples targeted quartz veins where the width of the vein was recorded, along with other basic geological descriptions and a photo of each sample site.



**Figure 5-12: Surface grab sampling at Nalunaq**

The results from these programmes show that the MV crops out and is mineralised on the W and SW faces of Nalunaq mountain. The samples lower down the SW face are less encouraging. A reassessment of the structural model suggests that the sampling team lost the MV structure, which may have been faulted off, and were most likely following a hanging wall vein.

**N-N Face**

The North-North face of Nalunaq Mountain represents a lower thrust block of amphibolite separated from the rest of the Nalunaq amphibolite package by the Nalunaq Thrust. MV occurs within the upper thrust block above the Nalunaq Thrust. A surface sampling programme undertaken in 2017 aimed to identify other potential gold bearing veins and structures similar to the MV within the lower thrust block.

Prior to sampling, the face was inspected by a geologist from a helicopter. Mountaineers then descended the face sampling the targets identified by the geologist. The focus of the sampling was a series of sub-horizontal quartz veins. Due to the steepness of the terrain the face was traversed using a series of vertical sampling lines. It wasn't possible to traverse horizontally along any of the veins encountered. It was hoped any significant mineralisation encountered would be traceable between sampling lines.

The sampling has identified the presence of gold mineralisation in quartz veins. The results from this sampling however were poor, with only eight of the 99 samples reporting grades above detection, with the highest grade of 0.34 g/t Au. The sample spacing is also insufficient to assess the continuity of the mineralisation encountered.

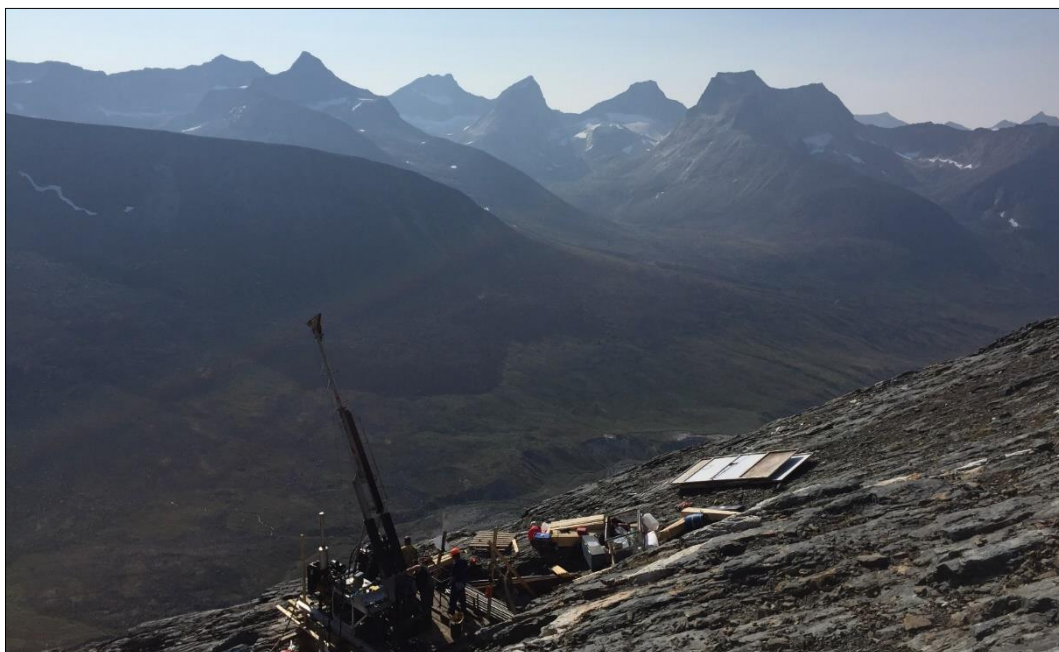
### 5.5.3 Exploration Drilling

AEX have drilled a total of 41 diamond drill holes at the Nalunaq Licence totalling 7,891 m from 2017 to the date of this report. The purpose of all of the drilling at Nalunaq was to intersect the extensions of the Main Vein (MV) of Nalunaq Mine. In 2017 the first seven holes were sighted to test for extensions of MV between 350 and 500 m away from its known location. The other seven holes in 2017 and all the holes in 2018 & 2019 were focused much closer to the old workings. These were primarily aimed at infilling between historic drill holes and testing for near mine extensions of the mineralisation.

**Table 5-4: AEX exploration drilling summary**

Programme	Hole #	BTW (m)	NQ (m)	Total (m)
2017	14	2444.94		2444.94
2018	18	1065.9	2765.8	3831.7
2019	9		1614.69	1614.69
<b>Total</b>	<b>41</b>	<b>3510.84</b>	<b>4380.49</b>	<b>7891.33</b>

Cartwright Drilling from Goosebay, Canada was contracted to drill in 2017 and 2018. They mobilised one CDI 500 helicopter (heli) portable wireline diamond drill rig in 2017 and two in 2018. During 2017, seven heli supported holes were drilled on Nalunaq mountain totalling 895.74 m (Figure 5-13). For all remaining holes drilled, the rig was skid mounted with holes collared on the old Nalunaq mine road. In 2019 three holes were drilled with a Helios wireline diamond drill rig mobilised from Nuuk by Xploration Services Greenland A/S. All remaining holes were drilled with a Silver Bear A5 1,300 m N wireline diamond drill rig mobilised from Nuuk by MT Højgaard A/S.



**Figure 5-13: Drill rig on heli supported drill pad on Nalunaq Mountain in 2017 (AEX, 2018)**





**Figure 5-14: Skid-mounted rig drilling from the Nalunaq Mine road in 2017 (AEX, 2018)**

Holes were sighted using a Garmin 64S handheld GPS and aligned using standard compass clinometers, adjusted for regional magnetic declination by AEX geologists prior to commencing drilling. Once drilling was complete, collar locations were picked up using handheld GPS units. Downhole surveys were conducted using a Reflex EZ Trac magnetic survey tool at 15 m intervals. Although, due to downhole issues, five do not have downhole surveys and two holes have only partial surveys. During all years the core was orientated using a Reflex ACT core orientation tool.



**Figure 5-15: Marking the bottom of hole line on drill core using the Reflex ACT tool in 2017 (AEX, 2017)**

**Table 5-5: Details of all holes drilled by AEX from 2017**

Hole ID	Year	Azimuth	Dip	Depth	Easting (m)*	Northing (m)*	Elevation (m)
AEX1701	2017	315	-85	116.3	508752	6690313	228
AEX1702	2017	315	-60	137.9	508750	6690313	228
AEX1703	2017	315	-90	139.8	508063	6690782	663
AEX1704	2017	315	-60	132.8	508063	6690782	663
AEX1705	2017	315	-85	95.2	507912	6690983	830
AEX1706	2017	315	-60	92	507912	6690983	830
AEX1707	2017	315	-85	181.74	508210	6690997	814
AEX1708	2017	315	-85	125.5	509067	6691168	365
AEX1709	2017	315	-60	125.2	509067	6691168	365
AEX1710	2017	315	-85	203.3	509148	6690947	305
AEX1711	2017	315	-60	215.2	509148	6690947	305
AEX1712	2017	315	-60	179.2	509188	6691085	304
AEX1713	2017	315	-85	326.5	509237	6690576	284
AEX1714	2017	315	-60	374.3	509210	6690251	245
AEX1801	2018	310	-50	274.4	509279	6690772	231
AEX1802	2018	310	-85	257.4	509278	6690932	246
AEX1803	2018	310	50	220.8	509278	6690932	246
AEX1804	2018	310	-85	203.4	509154	6690886	306
AEX1805	2018	310	-83	175.7	509128	6690911	305
AEX1806	2018	310	-70	251.4	509289	6690809	238
AEX1807	2018	310	-55	222.5	509289	6690809	238
AEX1808	2018	310	-45	241.9	509289	6690809	238
AEX1809	2018	310	-55	163.6	509128	6690911	305
AEX1810	2018	310	-65	179.3	509128	6690911	305
AEX1811	2018	310	-50	245.15	509260	6690740	237
AEX1812	2018	310	-70	194.3	509100	6690837	309
AEX1813	2018	310	-85	248.65	509129	6690811	296
AEX1814	2018	310	-55	182	509100	6690837	309
AEX1815	2018	310	-58	131.2	509070	6690771	312
AEX1816	2018	310	-72.5	206.6	509129	6690811	296
AEX1817	2018	310	-58	218.2	509070	6690771	312
AEX1818	2018	310	-70	215.2	509070	6690771	312
AEX1901	2019	310	-65	136.43	509162	6691025	303
AEX1902	2019	300	-80	152.58	509187	6691082	300
AEX1903	2019	310	-65	131.38	509248	6691110	268
AEX1904	2019	310	-70	116.4	509444	6691087	234
AEX1905	2019	310	-85	275.57	509444	6691087	234
AEX1906	2019	310	-65	215.61	509444	6691087	234
AEX1907	2019	310	-85	233.65	509522	6691362	240
AEX1908	2019	310	-60	215.5	509522	6691362	240
AEX1909	2019	310	-85	137.57	509413	6691190	221

\*CRS: WGS84 UTM Zone 23N

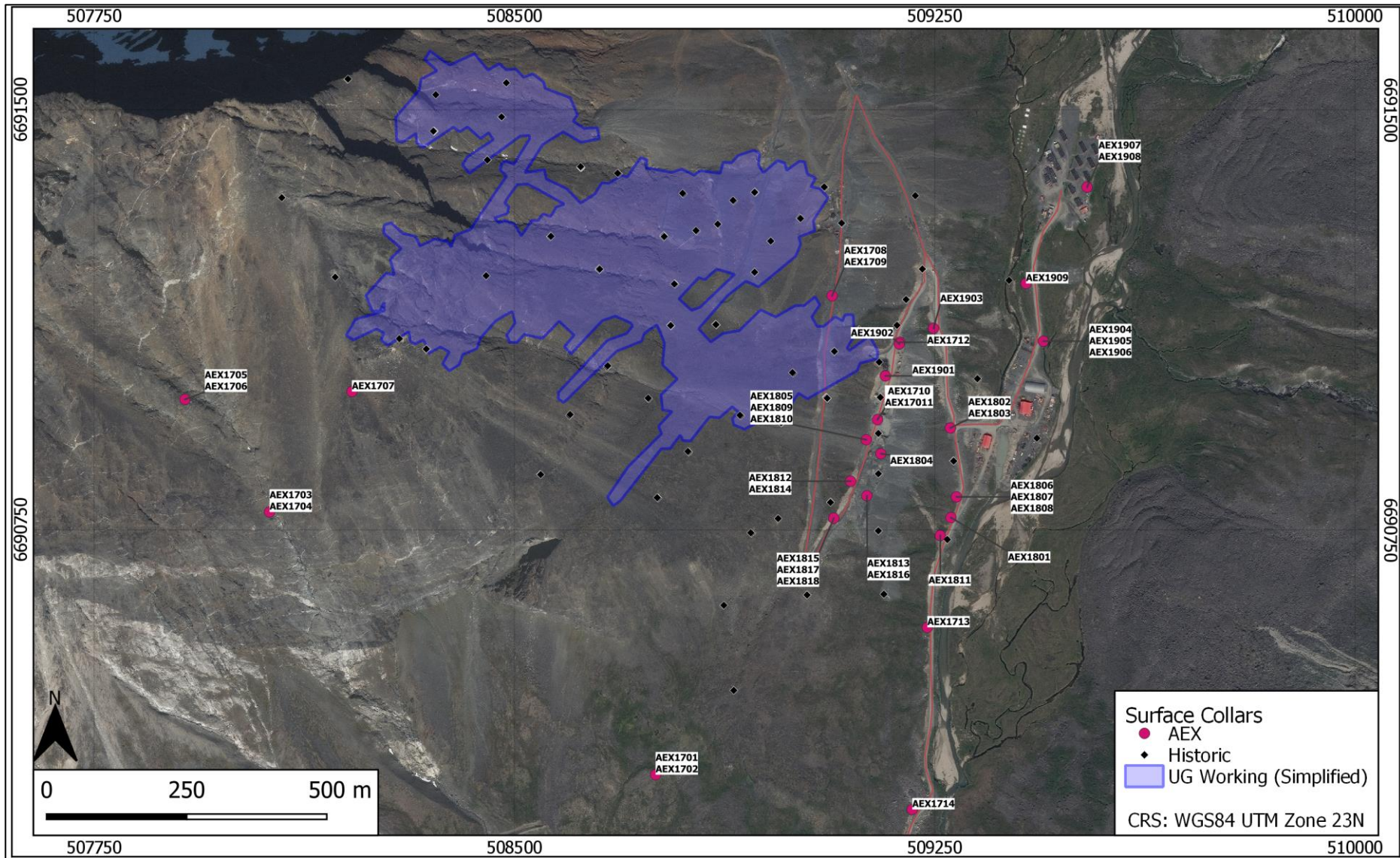


Figure 5-16: Map showing the locations of all AEX's diamond drilling at Nalunaq

**Core Logging and Sampling Procedures**

SRK ES established AEX core logging and sampling procedures prior to the start of drilling in 2017. These same procedures were followed in subsequent programmes by AEX geologists with only minor changes. Core was removed from the inner tube by the drillers and placed in wooden core trays marked with the drillhole ID and tray number along with the start and end of each tray. Wooden depth markers were placed at the end of each drill run displaying the depth of the hole. During all field seasons AEX geologists regularly conducted depth checks at the rig when the rods were pulled to ensure the depths were accurate. Core was transported to the logging area by the drillers and handed over to the geologists at the end of each shift.

A covered core logging area was established at the AEX field camp. All core was laid out in the logging area on core racks then orientation lines and meter marks were drawn on the core. Any problems or discrepancies with the core were discussed with the drillers and corrected prior to logging commencing. A basic geotechnical log was undertaken recording TCR, RQD, SCR, IRS, and joint count on a run-by-run basis. The core was then logged with separate continuous logs for lithology, mineralisation, and alteration with a separate discrete log created for structural data. During the 2018 programme, a change was made to the way veining and mineralisation was logged with a separate log created for veining. During 2017 all logging was recorded onto paper and then manually entered into an Excel logging template designed by SRK ES.

	A	B	C	D	F	G	H	I	J	K
	HoleID	Depth From (m)	Depth To (m)	Interval (m)	Lithology Colour	Lithology	Texture	Lithology Grainsize	Weathering	Contact Style
1	AEX1804	0.00	20.80	20.80	DGG	COV			OX	SHP
2	AEX1804	20.80	25.42	4.62	DGG	AMP	EQI	FG	TR	SHP
3	AEX1804	25.42	26.24	0.82	LG	GRU	EQI	MG	FS	SHP
4	AEX1804	26.24	40.82	14.58	DGG	AMP	EQI	FG	FS	SHP
5	AEX1804	40.82	41.33	0.51	WHT	PEG	POB	CG	FS	SHP
6	AEX1804	41.33	43.93	2.60	DGG	AMP	EQI	FG	FS	SHP
7	AEX1804	43.93	45.03	1.10	LG	GRU	EQI	MG	FS	SHP
8	AEX1804	45.03	52.81	7.78	DGG	AMP	MAS	FG	FS	SHP
9	AEX1804	52.81	53.40	0.59	LG	GRU	EQI	MG	FS	SHP
10	AEX1804	53.40	69.77	16.37	DGG	AMP	EQI	FG	FS	SHP
11	AEX1804	69.77	73.88	4.11	DGG	DOL	EQI	MG	FS	SHP
12	AEX1804	73.88	74.37	0.49	WHT	PEG	POP	PEG	FS	SHP
13	AEX1804	74.37	82.45	8.08	LG	GRU	EQI	MG	FS	FLT
14	AEX1804	82.45	83.50	1.05	DGG	FLZ		MG	TR	FLT

**Figure 5-17: Example of the Excel logging sheet from AEX1804 (AEX, 2018)**

From 2018, data was directly logged using electronic spreadsheets. All data relating to the borehole was recorded into the Excel log including all collar, survey, geological logging, and sampling data. Once the geological log had been completed, areas thought likely to contain gold mineralisation were identified by the supervising geologist and marked up for sampling. A minimum sample length of 0.5 m was used to ensure there was enough material for the scree fire assay method which requires 1 kg of sample. The maximum sample length used was 1.5 m with cut lines marked on the core 10 degrees off the orientation line. All core was photographed both dry and wet prior to sampling.



Figure 5-18: Core logging at Nalunaq in 2017 (AEX, 2017)

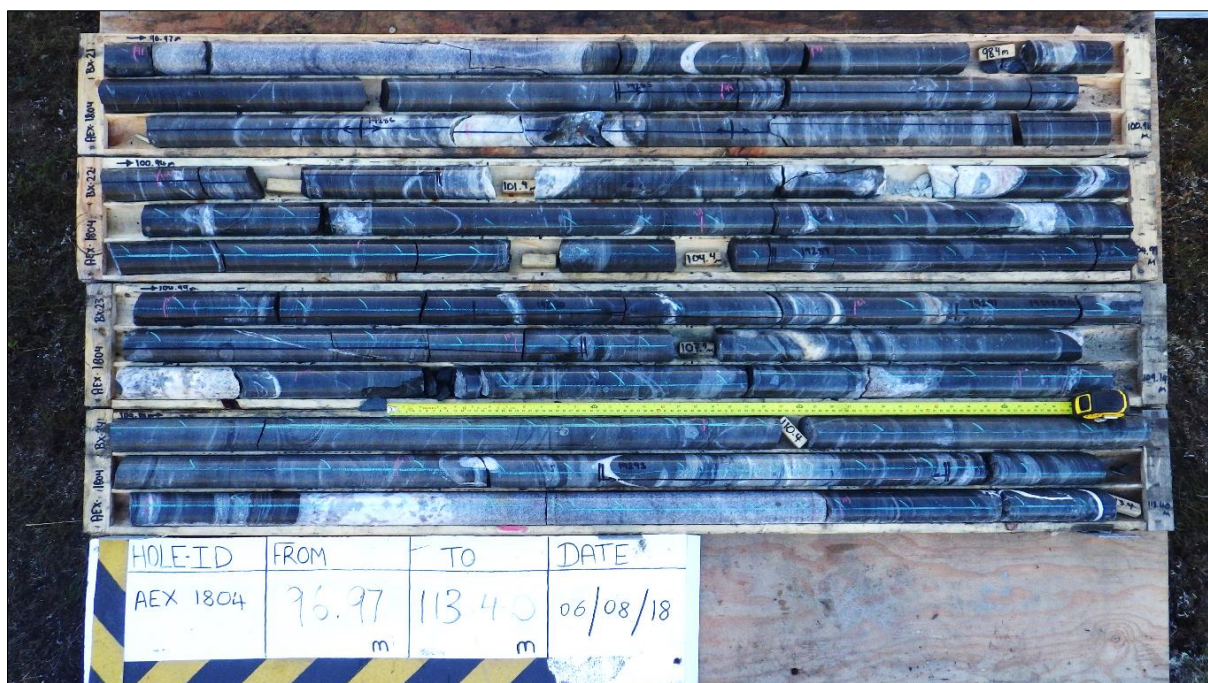


Figure 5-19: Example of a core photo from Nalunaq showing full core mark-up prior to cutting and sampling (AEX, 2018)

All core was sampled half core and cut using a diamond bladed core saw. The right-hand side (looking down hole) of the core was always sampled. All sample IDs (including QAQC samples) were marked on the core prior to photography. The IDs and intervals were then re-marked on the cut half of the core after sampling. All samples were picked and placed into calico sample bags

marked on the outside with the sample ID and containing a sample ticket with the same ID by AEX geologists. All samples were securely stored in a shipping container on site prior to dispatch to the lab.

Paper cross sections of the drill holes were made showing the geology encountered in each hole as the core was logged. All finished digital borehole logs were stored on two portable hard drives, one primary and a backup while in the field. After the field season all data was transferred into a database. Periodically during the field season downhole data was entered into Leapfrog Geo 3D modelling software. The working model of the deposit was updated in order to better inform the upcoming drill holes.

**Drilling Results**

*Core Recoveries*

Core recoveries at Nalunaq during all field seasons were very good. The rock is generally very competent and can be geotechnically described as massive with only minimal jointing. Overall drill recoveries once the glacial overburden is excluded from the calculation were >99%.

*Hole Deviation*

No problems with excessive drill hole deviation have been encountered on the project between 2017 and 2019 with holes staying generally straight.

*Geology and Mineralisation*

In summary, drilling at Nalunaq intersected the expected large package of meta basalt (termed amphibolite) and meta dolerite intruded by microgranite/aplite dykes and sheets. Variable amounts of glacial cover occurs across the licence up to ~20 m in thickness near the valley floor. The basalts and dolerites were variably altered to calc silicate minerals (clino pyroxene, epidote, garnet), biotite/phlogopite, quartz, calcite, albite, and iron oxides.



**Figure 5-20: Example of the typical lithologies and alteration intersected during drilling at Nalunaq (AEX, 2017)**

Gold mineralisation occurs within distinct glassy/vitreous quartz veins. Gold is generally coarse in nature and often occurs associated with thin clinopyroxene stringers within the quartz vein. Other barren quartz and quartz-carbonate vein occurrences were intersected within the licence area. All

drilling was targeted at the projected extensions of MV of Nalunaq Mine.



**Figure 5-21: Quartz vein containing clinopyroxene stringers and visible gold interpreted to be MV of Nalunaq Mine (AEX, 2018)**

The geology of the deposit is generally well understood, except for the tectonic history of the MV structure. Drilling at Nalunaq in 2017-2019 hasn't intersected anything unexpected or new in terms of the general geology of the licence.

*Assay Results*

Drilling from 2017-2019 has returned 63 assay results over 0.1 g/t Au (Table 5-6).

**Table 5-6: Sample intersection of >0.1 g/t Au for the AEX exploration drilling 2017-19**

Hole ID	From	To	Sample No.	Interval (m)	True Width (m)**	Au (g/t)	Main Vein
AEX1703	53.5	54.5	18667	1		0.17	
AEX1704	48.78	49.8	18712	1.02		0.29	
AEX1708	33.15	33.65	18863	0.5		0.71	
AEX1708	33.65	34.8	18664	1.15		0.12	
AEX1708	58.4	59.4	18870	1		0.25	
AEX1708	60.75	61.5	18873	0.75		1.95	
AEX1708	73.2	73.7	18876	0.5		0.38	
AEX1709	15.8	16.4	18895	0.6		0.12	
AEX1710	147.1	147.6	18938	0.5	0.38	19.75	MV
AEX1710	147.6	148.4	18939	0.8		0.13	
AEX1711	83.9	84.4	18965	0.5		0.1	
AEX1712	108.8	109.5	19115	0.7		0.12	
AEX1712	125	125.5	19127	0.5	0.45	0.51	MV
AEX1712	125.5	126	19128	0.5	0.45	3.69	MV
AEX1712	126	127	19129	1		0.18	
AEX1712	145.1	145.6	19138	0.5		0.1	
AEX1714	257.5	258	19188	0.5		0.13	
AEX1803	150.3	151.3	19264	1		0.29	
AEX1803	151.3	151.8	19265	0.5		0.37	
AEX1804	111.3	111.8	19293	0.5		0.5	

Hole ID	From	To	Sample No.	Interval (m)	True Width (m)**	Au (g/t)	Main Vein
AEX1804	174.3	175.33	19319	1.03		0.16	
AEX1804	175.33	176	19320	0.67	0.55	46	MV
AEX1805	146.7	147.2	19407	0.5	0.43	2.11	MV
AEX1806	197.1	197.6	19336	0.5	0.43	0.71	MV
AEX1808	193.1	193.6	19446	0.5	0.5	0.33	MV
AEX1810	133.5	134.1	19503	0.6	0.56	0.39	MV
AEX1813	68.65	69.15	19606	0.5		0.13	
AEX1813	69.15	69.65	19607	0.5		0.21	
AEX1813	127.15	127.95	19616	0.8		0.16	
AEX1813	191.5	192.35	19637	0.85		0.11	
AEX1813	192.35	192.85	19638	0.5	0.41	0.62	MV
AEX1813	192.85	193.35	19640	0.5		0.14	
AEX1814	153.1	153.6	19599	0.5	0.38	0.91	MV
AEX1814	153.6	154.1	19600	0.5		0.18	
AEX1816	43.45	44.2	19661	0.75		0.68	
AEX1816	44.2	45	19662	0.8		0.12	
AEX1816	45	45.8	19663	0.8		0.13	
AEX1816	183	184.05	19679	1.05	1.03	0.15	MV
AEX1817	175.3	175.8	19691	0.5	0.47	0.54	MV
AEX1817	175.8	176.3	19692	0.5	0.48	1.55	MV
AEX1817	176.3	177	19693	0.7	0.68	0.12	MV
AEX1818	183	184.2	19718	1.2	1.13	0.28	MV
AEX1818	184.2	184.7	19719	0.5	0.43	0.5	MV
AEX1818	184.7	185.2	19720	0.5	0.43	1.04	MV
AEX1901	117	117.75	20001	0.75	0.75	0.17	MV
AEX1901	117.75	118.75	20002	1	1	0.22	MV
AEX1902	100.4	101	19786	0.6		0.13*	
AEX1902	124	125	19807	1	0.87	46.1*	MV
AEX1902	146.5	147	19833	0.5		0.13*	
AEX1903	18.9	19.4	19839	0.5		0.22*	
AEX1903	84.5	85	19842	0.5		0.12*	
AEX1903	85	85.5	19843	0.5		0.16	
AEX1903	122.1	122.6	19859	0.5	0.47	3.79	MV
AEX1903	123.5	124	19861	0.5		0.4*	
AEX1903	130.5	131	19865	0.5		0.16	
AEX1905	255.4	255.9	19940	0.5		0.11*	
AEX1905	256.5	257	20013	0.5		0.12	
AEX1906	24.9	25.4	19952	0.5		5.48*	
AEX1906	191.5	192	20016	0.5	0.43	0.18	MV
AEX1906	192	192.5	20017	0.5		0.11	
AEX1907	145	146	20026	1	0.77	0.33*	MV
AEX1909	63.75	64.25	20134	0.5		0.13*	
AEX1909	64.25	64.75	20136	0.5		0.63*	

\*Assay Au-AA26, remaining SCR24

\*\*True thickness only calculated on MV where there were sufficient measurements and confidence in structural intersection angles.

A map showing all the intercepts over 1 g/t Au on the MV can be seen in Figure 5-22 along with significant historic intercepts in the area down dip of South Block. Sample grades on the MV are shown in Table 5-7. Drilling down dip of South Block is interpreted to have intersected where it was predicted in almost all instances. Results have shown that the MV structure shows good continuity in the area drilled. Cross sections (Figure 5-23 and Figure 5-25) through two lines of AEX's drilling show MV can be traced between drill holes even when the assay results are relatively low.



Well-developed MV intersections in holes AEX1905 and AEX1906, whilst low grade, indicate a steepening of the MV structure to the Northeast and down dip of South Block.

**Table 5-7: MV intersection from the 2017-2019 drilling including low grades**

Hole ID	From	To	Sample No.	Interval (m)	True Width (m)**	Au (g/t)*	Main Vein
AEX1710	147.1	147.6	18938	0.5	0.38	19.75	MV
AEX1712	125.5	126	19128	0.5	0.45	3.69	MV
AEX1712	126	127	19129	1	0.90	0.18	MV
AEX1803	151.3	151.8	19265	0.5	0.45	0.37	MV
AEX1804	175.33	176	19320	0.67	0.55	46	MV
AEX1805	146.7	147.2	19407	0.5	0.43	2.11	MV
AEX1806	197.1	197.6	19335	0.5	0.43	0.71	MV
AEX1807	192.7	193.2	19370	0.5	0.47	0.06	MV
AEX1808	193.1	193.6	19446	0.5	0.50	0.33	MV
AEX1810	133.5	134.1	19503	0.6	0.56	0.39	MV
AEX1812	162	162.5	19582	0.5	0.47	0.08	MV
AEX1813	192.35	192.85	19638	0.5	0.41	0.62	MV
AEX1814	153.1	153.6	19599	0.5	0.38	0.91	MV
AEX1816	183	184.05	19679	1.05	1.03	0.15	MV
AEX1817	175.8	176.3	19692	0.5	0.48	1.55	MV
AEX1818	184.7	185.2	19720	0.5	0.43	1.04	MV
AEX1901	117.75	118.75	20002	1	1.00	0.22	MV
AEX1902	124	125	19807	1	0.87	46.1	MV
AEX1903	122.1	122.6	19859	0.5	0.47	3.79	MV
AEX1905	233.65	234.2	20010	0.55	0.45	0.06	MV
AEX1906	191.5	192	20016	0.5	0.43	0.18	MV
AEX1907	145	146	20026	1	0.77	0.33	MV

\*Assay Au-AA26, remaining SCR24

\*\*True thickness only calculated on MV where there were sufficient measurements and confidence in structural intersection angles.

SRK ES notes that the recent and historical exploration at Nalunaq shows that the gold grades reported on MV intersections from drill core are highly variable when compared to the much more comprehensive underground sampling data where available. This is reflected in some of the MV intersections showing the poor gold results in Table 5-7. SRK ES agrees with AEX that the main value in the drilling is to identify the presence and depth of the MV structure for the reason that drill core samples are unlikely to be representative of in-situ grades due to the high variability of the distribution of gold in the mineralised structures. Further sampling will be required to fully understand its true grade potential. The phrase “drill for structure, drift for grade” is applicable at Nalunaq.

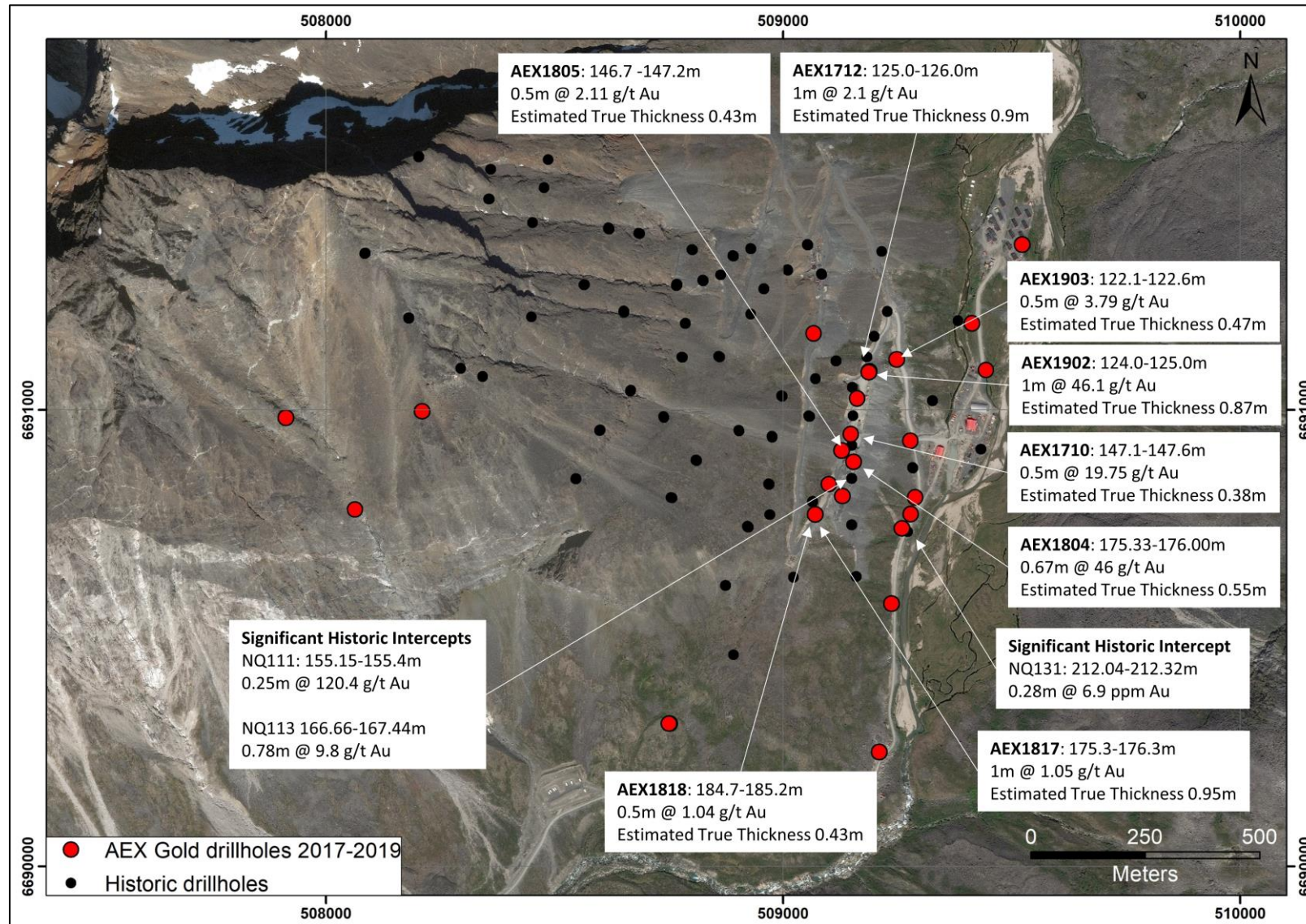


Figure 5-22: Map of drill locations with all MV intercepts over 1 g/t Au with significant historic results from down dip of South Block (AEX, 2020)

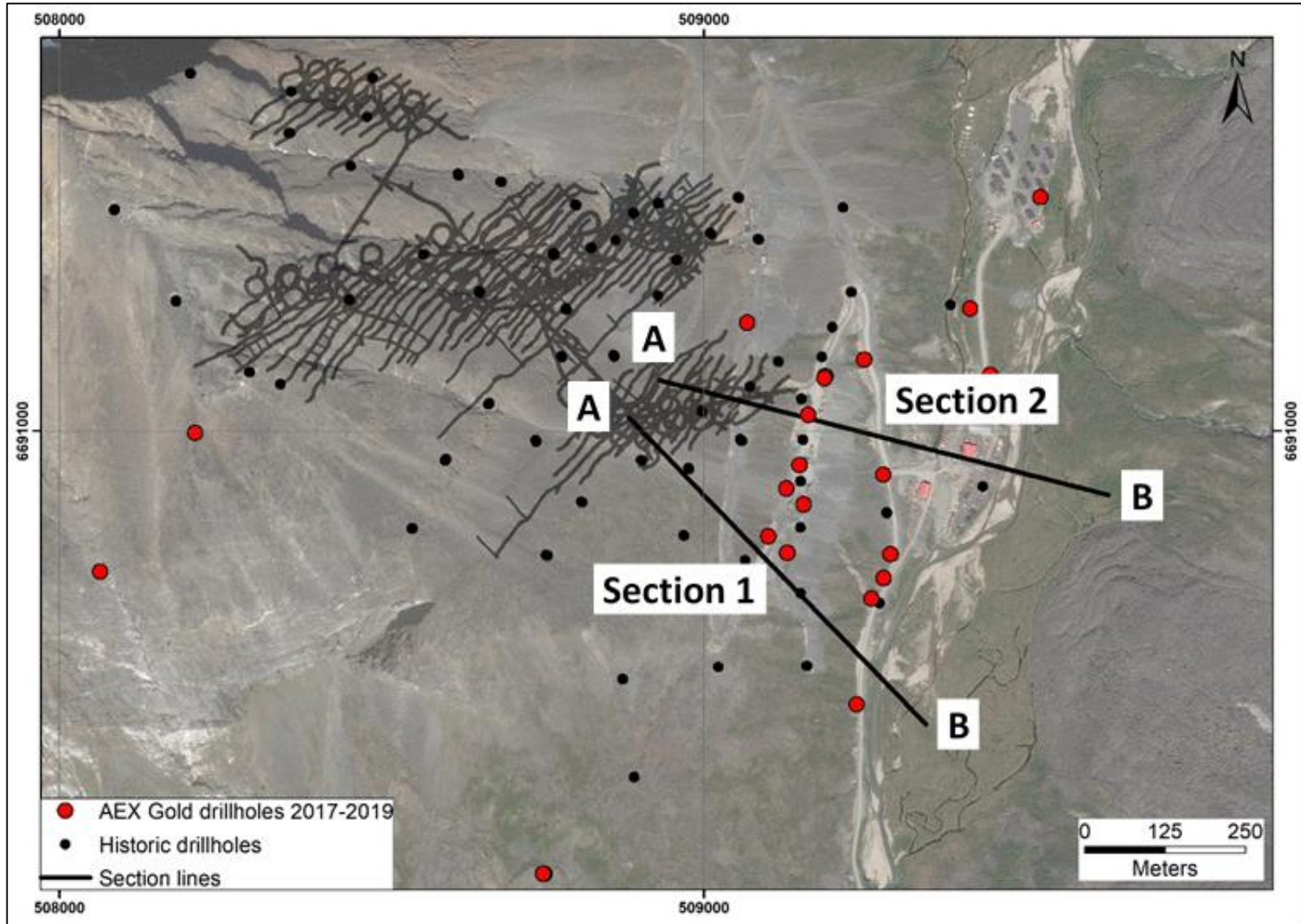


Figure 5-23: Map of surface drilling showing cross section lines (AEX, 2020)

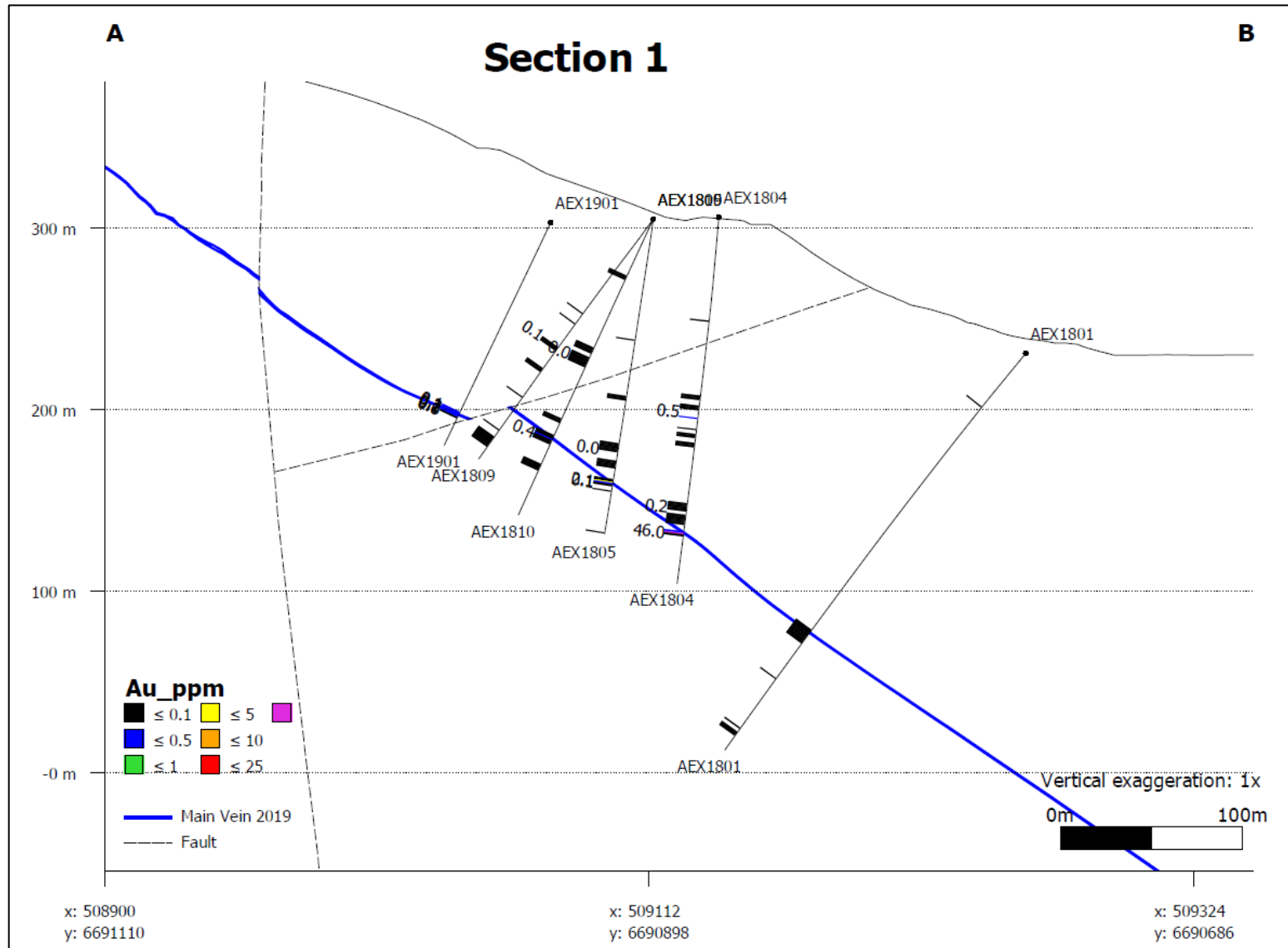


Figure 5-24: Cross Section 1 with the 2019 MV model (AEX, 2020)

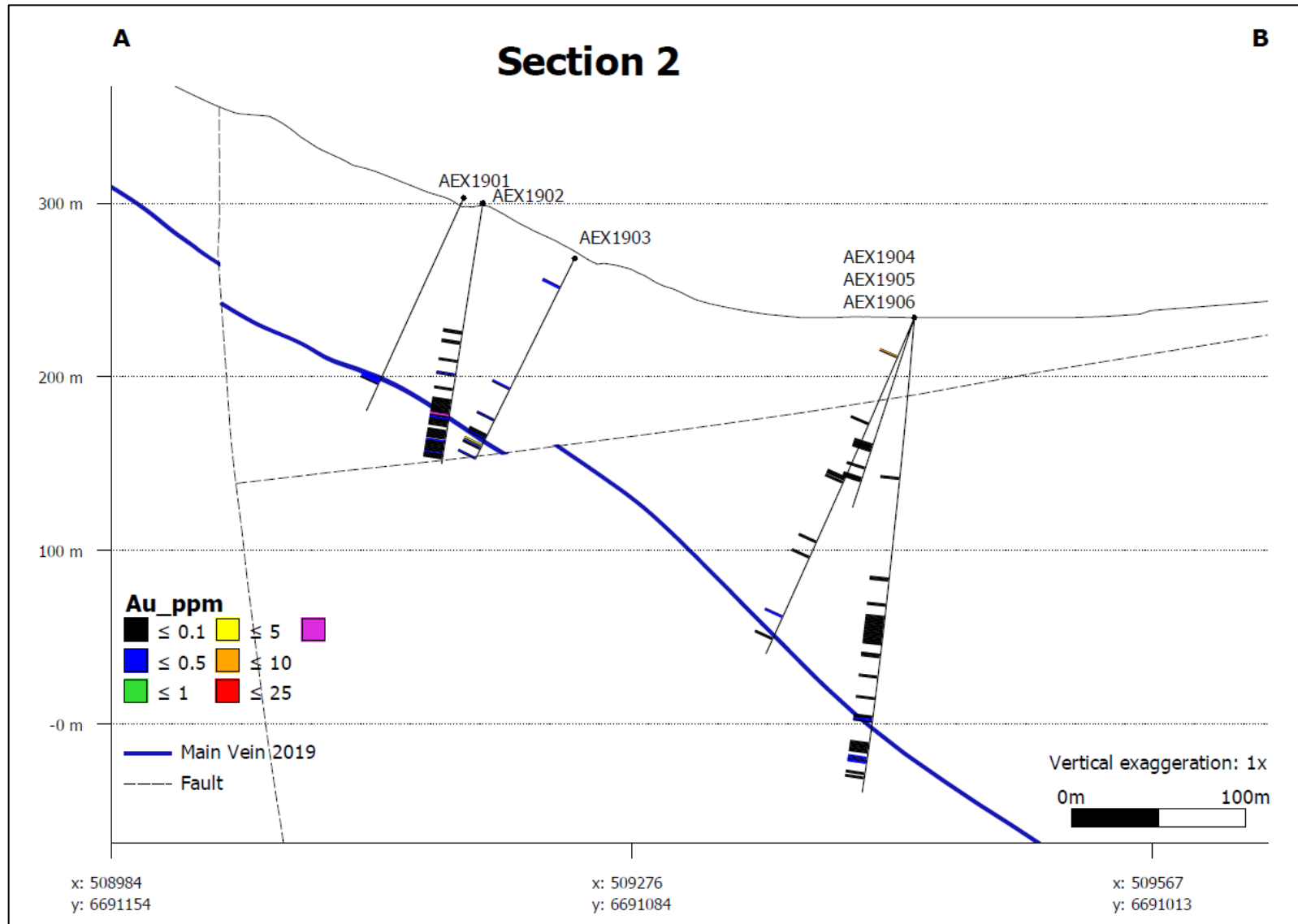
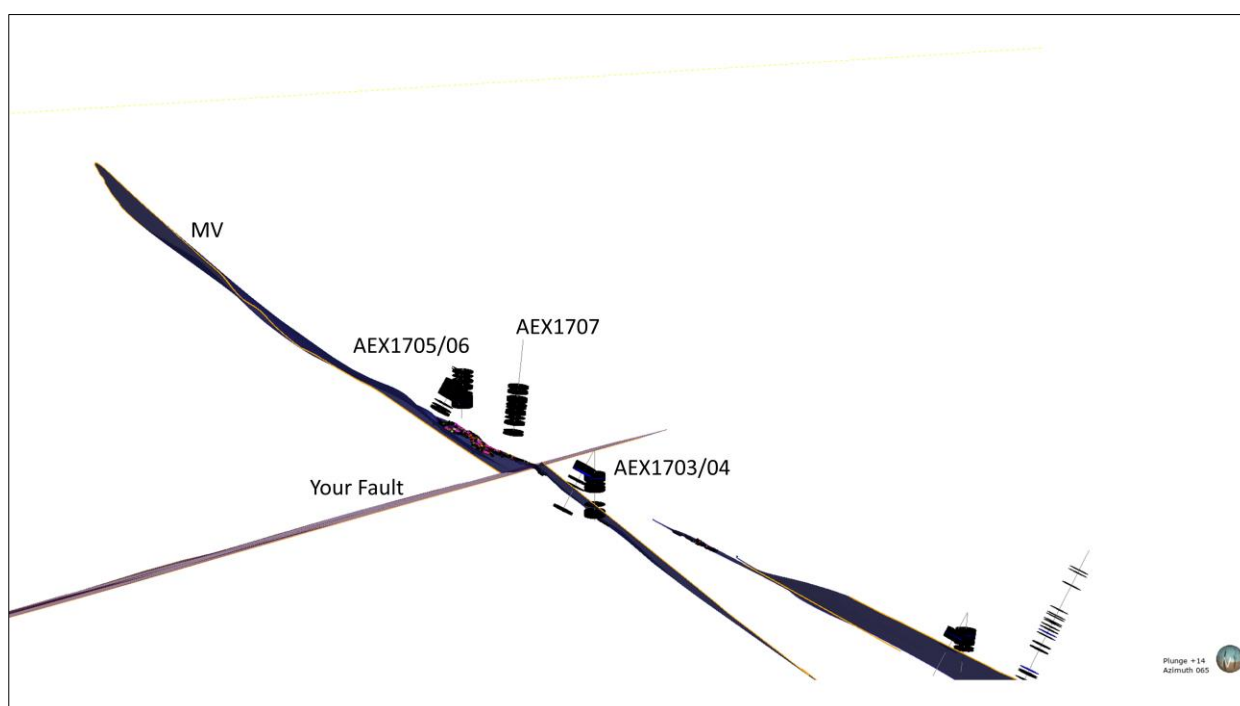


Figure 5-25: Cross Section 2 with the 2019 MV model (AEX, 2020)

*Mountain Drilling*

The mountain drilling undertaken in 2017, including five holes (AEX1703-07, Figure 5-16) all failed to intersect the MV or any significant mineralisation. This drilling targeted extensions up-dip to target block, with the aim at confirming the continuation of MV, as indicated by the mountain sampling (Figure 5-12). SRK ES understands that due to difficulties encountered whilst drilling, a number of these, notably AEX1707 was stopped short of the target depth. The 2019 interpretation of the MV, indicates that holes AEX1705-07 all fall short of intersecting. Holes AEX1703-04 do appear to intersect the MV model (Figure 5-26), however due to their distance from known mineralisation, there is a low confidence in the MV model and it is possible that these holes are also too shallow.

SRK ES note that due to the location of these holes, the interpretation that they were not drilled deep enough is important. Positive intersections at these locations would have significant impact on the prospectivity of MV extending up the mountain.



**Figure 5-26: Cross-section showing mountain drillholes and with the 2019 MV model, looking NE (AEX, 2020)**

**5.6 Sample Preparation, Analysis, and Security**

**5.6.1 Historic Sampling**

Dominy (2005) provides a summary of sample preparation, analysis, and security procedures that were in place at Nalunaq at the time of his writing and this has been adopted here. This is not necessarily relevant to the Company’s recent exploration results and future planning by AEX. However, it is included here since SRK ES is reliant on Dominy (2005) for the Quality Assurance Quality Control (QAQC) procedures and results related to historical sampling. These summarised data have been used for SRK ES’ Mineral Resource estimate. SRK ES has not, however, seen a full QAQC database relevant to historical drilling or underground sampling.

No subsequent reports have been seen by SRK ES and it is assumed that the same methods were applied in later years. This was confirmed by former Chief Geologist Kurt Christensen (pers. comm.) who states that the methods reported by Dominy (2005) and his recommendations were adhered to for the remainder of the time that Crew Gold operated the mine and exploration, but

less so (if at all) once Angel Mining took over the operation.

There are few details as to what methods were employed during Angel Mining’s tenure, but SRK ES notes that the majority of exploration and development sampling that is included in the database for the project was carried out by Crew Gold and thus was subject to their protocols. The only sampling that can be assigned to Angel Mining appears to be a limited amount in the top levels of the Mountain Block.

**Exploration Sample Preparation and Analysis**

Each face or channel (c. 4 kg) sample was crushed to -3.4 mm in its entirety, and 1 kg split off and pulverised to approximately -75 microns for screen fire assay (105 µm screen) at XRAL Laboratories, Canada. The entire oversize was assayed to extinction and a 50 g charge of the undersize taken for fire assay.

*Exploration Sample QAQC procedures*

A QAQC programme was instigated by Crew Gold and Strathcona (Strathcona, 2001, 2002, 2003; Schlatter, 2001). Three certified standards and one reference material were inserted into the sample stream at a rate of one in ten, giving an average of two-five standards in each sample batch.

**Table 5-8: Details of reference materials used in QAQC of Crew Gold exploration samples (Dominy, 2005)**

Standard	Number used	Certified grade value (g/t Au)	Accepted range: 2SD grade (g/t Au)	Lab mean grade (g/t Au)	Number outside accepted range
G06	21	14.7	13.4 - 16.0	14.0	9%
G397-8	18	11.7	10.2 - 13.1	11.4	11%
Ma-1b	29	17.0	15.4 - 18.6	17.1	7%
CDN-GS-8	22	33.5	31.8 - 35.2	33.1	9%

The mean values determined by XRAL Laboratories for the four standards tend to be lower than the certified values with occasional individual values falling outside, mainly below the accepted ranges (Table 5-8). There was no pattern in the assay results of the various standards in individual batches to suggest a consistent bias in the assaying. In any individual batch, most results for standards were acceptable. The differences between the mean values obtained by the laboratory compared to the certified values are generally small, and Dominy (2005) concludes that the results of the assaying are slightly low but acceptable with respect to accuracy.

Assay precision was monitored by re-assaying 50 g duplicates of the -105 µm fraction. This was the same charge weight as for the initial assay. This was done for 74 samples and precision was acceptable given the coarse gold-high-nugget nature of the mineralisation and was generally within ±15% (using Half Absolute Relative Difference (HARD)).

In addition to the pulp duplicates, reject re-splits were selected for duplicate assaying. The protocol required one duplicate for every ten original samples. Samples were selected after original assaying to ensure a range of gold grades were tested, and only 14 samples were assayed. Despite this small number, the degree of scatter was small (within ±15% HARD) and the results indicate no bias.

An investigation into gold contamination during crushing and pulverising was undertaken and reported a gold loss of up to 1.6% in one case.

All equipment was purged with 500 g of barren silica sand between each sample.

Blank field samples were inserted at sample numbers ending in 01 and 51, effectively one blank in fifty. SRK ES does not know what material was used for blank samples and has not seen the results of this.

*SRK ES Comment*

Dominy (2005) concluded that the quality of sample preparation, analysis, and QAQC for exploration samples was generally good at the time of his writing and the resultant assay data was considered reliable for the purposes of Mineral Resource estimation in the context of coarse gold, high-nugget mineralisation.

SRK ES cannot comment on the performance of sample analysis and QAQC in subsequent years but notes that there appears to be no record of field duplicates (for example, parallel channel samples) being taken and analysed. Furthermore, SRK ES' observations from their own sampling underground showed that there was a distinct competency contrast between the HW, MV, and FW lithologies, with the MV substantially easier to sample and the FW being particularly hard. This suggests a potential risk of sampling bias, especially during manual chip samples across mineralised zones, and it is not known how this was controlled or monitored.

SRK ES also notes that the preservation of exploration drilling data is somewhat lacking. SRK ES has not seen photographs of surface of underground drill core, and most of the core appears to have been discarded except for selected core intervals from selected surface boreholes retained by the MLSA in Narsarsuaq. Drilling logs exist in hardcopy, but the digital database is incomplete and only limited information has been recorded in the digital database in a manner that can be readily modelled.

***Production Sample Preparation and Analysis***

*Nalunaq Laboratory*

During the operational period, a laboratory was located at the Nalunaq camp (Figure 5-27). This was inspected by Dominy (2005) and was found to be clean and well run, with a full-time chemist supervising operations. Approximately 30 samples per day could be prepared and analysed and an average of 200 samples from the mine could be processed per month.



**Figure 5-27: The former Nalunaq laboratory (Dominy, 2005)**



An LM5 mill in the right-hand foreground, and a jaw crusher unit is on the far side. A small LM1 mill is located next to the jaw crusher; this was used for exploration samples that were less than 1 kg

Each channel sample (approximately 1-2 kg) was dried and crushed to -10 mm in its entirety, and then pulverised in an LM5 mill to +85% passing -75 microns. Between samples, a vacuum head and compressed air blast was used to clean out the pulveriser bowl, and subsequently a barren sand charge was run for 10 seconds.

500 g was then scooped off for a LeachWell bottle roll assay. The rolling time was 4.5 hours, after which the solution is left to stand for 15 hours prior to extraction of the gold by Diisobutyle Ketone and Atomic Absorption Spectroscopy.

Based on Gy Sampling Theory, Dominy (2005) calculated the fundamental sampling error for the current laboratory protocol (for ore with a head grade of 19 g/t Au) to be 9.1% at a confidence level of 90%. This is wholly acceptable within a coarse gold environment, but it does not account for any segregation error that may occur in the pulverised sample lot during handling and scooping out the final assay charge.

*QAQC Procedures*

Three Gannet standards were inserted into the sample batch at a rate of 1 in every 15 samples to check for accuracy, the results of which are summarised in Table 5-9.

**Table 5-9: Summary of analysis of standards at the Nalunaq laboratory (Dominy, 2005)**

Standard	No of samples	Certified mean grade (g/t Au)	Laboratory mean grade (g/t Au)	No. samples breaching 1SD	No. samples breaching 2SD	Acceptable
ST08	78	0.33	0.32	5	0	Yes
ST06	109	1.10	1.16	26	0	Yes
ST18	98	9.70	9.57	2	0	Yes

No standard values breached the two standard-deviation (2SD) level, which can be considered as the action point requiring re-assay of pulps.

Blank samples were not used routinely, though all but one result (n. 31) seen by Snowden in 2005 were below 0.03 g/t Au, with a single value of 0.07 g/t Au, indicating minimal contamination.

An inter-laboratory duplicate pulp sample of 50 g was retained at the rate of 1 in 10 and submitted to ALS Chemex (Sweden) for fire assay. Dominy (2005) determined that 76% of samples were within ±15% HARD, which can be considered as showing a moderate variability.

The quality of the pulveriser output was monitored once per week, with the aim of achieving +85% passing -75 microns.

One in 20 of the LeachWell residues were sent to ALS Chemex for fire assay. Dominy (2005) compared the primary LeachWell sample results and residue results and noted that as primary grade increases so does residue grade. This is not uncommon, and often reflects larger quantities of coarse gold in high-grade samples that are poorly dissolved by the cyanide. In general, the residue grades were below 2 g/t Au (90%). Based on 59 data points, the mean residue percentage is 3.5%, giving an overall recovery of 96.5% gold for the LeachWell method. It was considered that this value was reasonable in the presence of coarse gold.

Laboratory duplicates were not routinely taken at Nalunaq, although Dominy determined from 18 sample pairs that 66% of samples were within 15% HARD. This can be considered as showing a high variability but is common for ore containing coarse gold where pulverisation is often not perfect

due to the malleability of gold (Dominy et al., 2000; Dominy, 2004; Dominy & Petersen, 2005).

***SRK ES Comments on QAQC Procedures***

In 2005, Snowden (Dominy, 2005) considered that there were some shortcomings in QAQC procedures at Nalunaq and made several recommendations for improvements. However, in the context of the resource estimate produced by Snowden in 2005, the data were considered useable.

A database of QAQC results is not available for the project, although SRK ES understands that all recommendations made by Snowden were adopted and followed until the mine was sold by Crew Gold (K. Christensen, pers. comm., 2016). Thus, between 2005 and 2009, it is assumed (but cannot be confirmed) that the same QAQC protocols were in place. It is thought that, post-2009, QAQC procedures were more limited, although data arising from this period represents only a small part of the database. Considering that the project lacks a QAQC database and that there is some uncertainty as to the procedures applied for later years of the mine’s life, SRK ES considers that the exploration data can be used for resource definition at the Inferred category.

***Sample Security***

Strathcona monitored sample security during underground exploration by placing samples into ‘lockable’ plastic pails prior to shipping. If the seal on any pail was broken, this could indicate tampering.

During subsequent exploration, once samples were collected underground in numbered plastic bags, they were taken directly by either the geologist or geo-technician to the laboratory. The same also applied to drill core being submitted to the laboratory.

**5.6.2 2015 - 2019 Sampling**

***Surface Samples***

All samples taken during surface sampling from 2015-2017 were dispatched by air freight from Nanortalik to ALS Geochemistry in Loughrea, Ireland for preparation and analysis.

*Sample Preparation*

Sample preparation used ALS code PREP-31b which comprises crushing to 70% passing 2 mm, splitting off 1 kg and pulverising the split to 85% passing 75 microns.

*Analysis*

Gold analysis was done by the screened metallic procedure (ALS code Au-SCR24, Figure 5-28). This involves screening the 1 kg pulverised split at 100 microns and running a duplicate fire assay on the undersize and fire assaying the oversize to extinction. The sample aliquot used for the fire assay is nominally 50 g although may be lower if the mass of the oversize is less than this. The results produced by this method provide an indication of the proportions of coarse and fine gold in the sample. The method also helps to reduce over- or under-estimation of gold grades in coarse gold environments. As part of this method, a regular 50 g fire assay (Au-AA26) result is also reported.

CODE	ANALYTE	RANGE (ppm)	DESCRIPTION
Au-SCR21	Au	0.05-100,000 (0.01-1000 mg)	<b>1kg pulp</b> screened to 100 microns. Other screen sizes available. Duplicate <b>30g</b> assay on screen undersize. Assay of entire oversize fraction.
Au-SCR24	Au		<b>1kg pulp</b> screened to 100 microns. Other screen sizes available. Duplicate <b>50g</b> assay on screen undersize. Assay of entire oversize fraction.
Au-SCR24B	Au		<b>1-2kg pulp</b> screened to 100 microns. Duplicate <b>50g</b> assay on screen undersize. Assay of entire oversize fraction.
Au-SCR24C	Au		<b>2-3kg pulp</b> screened to 100 microns. Duplicate <b>50g</b> assay on screen undersize. Assay of entire oversize fraction.

**Figure 5-28: Sample analysis method Au-SCR24 (ALS Services Schedule, 2020)**

Samples from the 2015-16 were also analysed for trace elements in order to identify gold pathfinder elements for samples in which gold grades may be low but are still on the mineralised structure. The 2015 samples were analysed for 35 elements using ALS method ME-ICP41 (Figure 5-29) which involves digestion by aqua regia and analysis by ICP-AES. The 2016 samples were analysed for 33 elements using ALS method ME-ICP61 which involves four acid digestion followed by analysis by ICP-AES. The decision to use a four acid digestion for the 2016 samples, as opposed to aqua regia, was taken to ensure that the samples were fully digested. This was considered important for the 2016 samples since a larger number of aplite dykes were encountered which may contain minerals that are more resistant. From 2017 onwards it was decided that multi-element analysis was not worth continuing and samples were only assayed for gold.

CODE	ANALYTES & RANGES (ppm)							
ME-ICP41 <b>0.5g sample</b>	Ag	0.2-100	Co	1-10,000	Mn	5-50,000	Sr	1-10,000
	Al	0.01%-25%	Cr	1-10,000	Mo	1-10,000	Th	20-10,000
	As	2-10,000	Cu	1-10,000	Na	0.01%-10%	Ti	0.01%-10%
	B	10-10,000	Fe	0.01%-50%	Ni	1-10,000	Tl	10-10,000
*ME-ICP41m <b>1g sample</b>	Ba	10-10,000	Ga	10-10,000	P	10-10,000	U	10-10,000
	Be	0.5-1,000	Hg	1-10,000	Pb	2-10,000	V	1-10,000
	Bi	2-10,000	K	0.01%-10%	S	0.01%-10%	W	10-10,000
	Ca	0.01%-25%	La	10-10,000	Sb	2-10,000	Zn	2-10,000
	Cd	0.5-1,000	Mg	0.01%-25%	Sc	1-10,000		

**Figure 5-29: Sample analysis method ME-ICP41 (ALS Services Schedule, 2020)**

*Sample Security*

The 2015 surface samples were held in bags sealed with cable ties in a secure storage facility in Nanortalik prior to be collected by a shipping company for air freight to Ireland. A list of samples was provided to the receiving ALS laboratory and ALS confirmed that all samples were received and that there was no evidence of tampering.

The 2016 samples were placed in their individual sample bags into 10 large bags for shipment. These large bags were sealed with cable ties marked with unique identification numbers and held in a secure storage facility in Nanortalik until collected by a shipping company for air freight to the

ALS laboratory in Ireland.

The 2017 samples were collected and stored following the same procedure as 2016. The only difference being that the samples were delivered by AEX personnel via charter boat to DHL in Narsarsuaq who then organised transportation to ALS in Ireland.

*QAQC Procedures*

A basic QAQC programme was undertaken on the surface sampling programme including CRMs, coarse blanks, and coarse reject duplicates. The results from this programme were acceptable for the level of confidence required for this sampling:

**Coarse blank samples** were included in sample batches. No indication of contamination or mineralisation in samples was detected with the Au-AA26 method in 2015 and 2016 (Figure 5-30) or with the ME-ICP61 method in 2016 (Figure 5-31). The assay results by both methods are within the lower and upper limits.

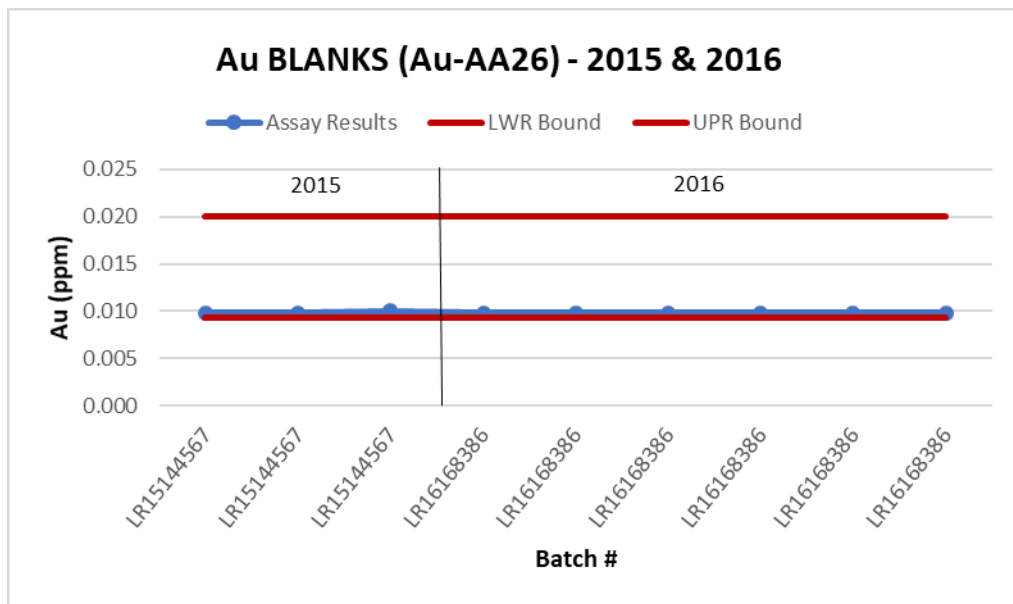


Figure 5-30: Au-AA26 blanks results for 2015 and 2016

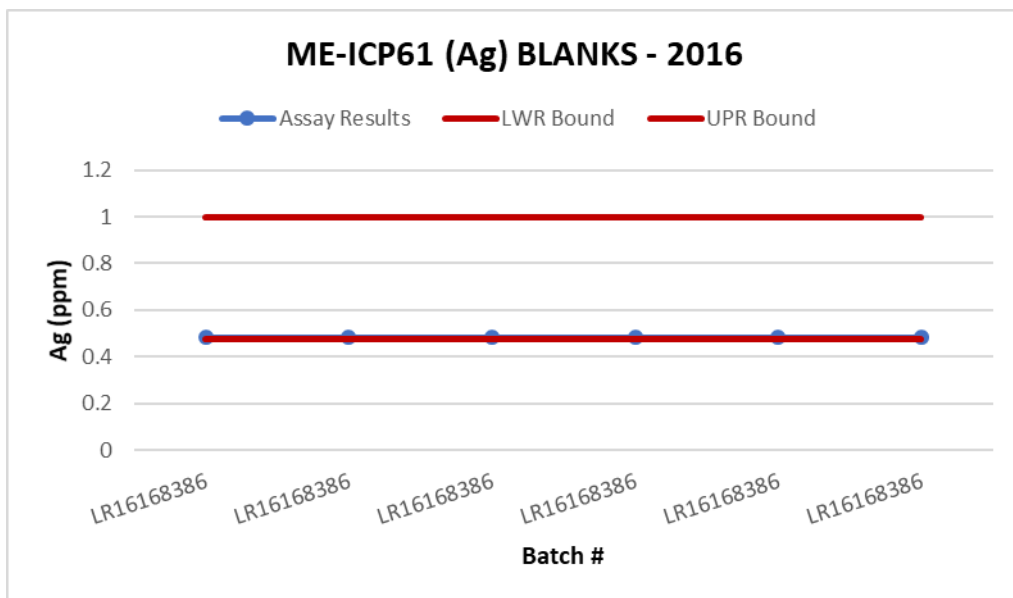


Figure 5-31: ME-ICP61 blanks results for 2016

**Standards** used in the 2015 and 2016 included G910-3 9 and OREAS 12a. Assay results for these are presented in Figure 5-32 and Figure 5-33 respectively. The assay results for both standards are within the accepted limits, highlighting the consistency of the assay programme in both years.

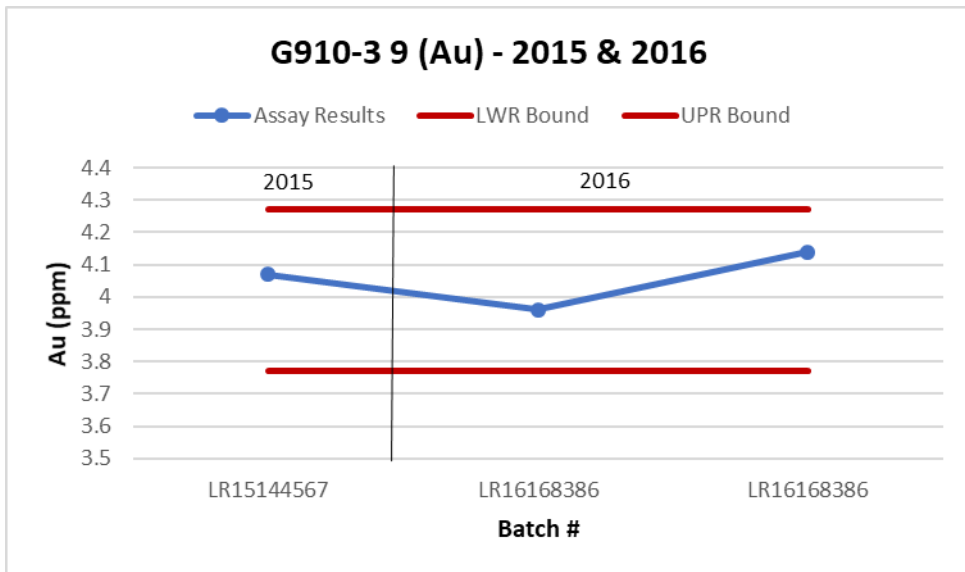


Figure 5-32: Assay results for standard G910-3 9 for 2015 and 2016

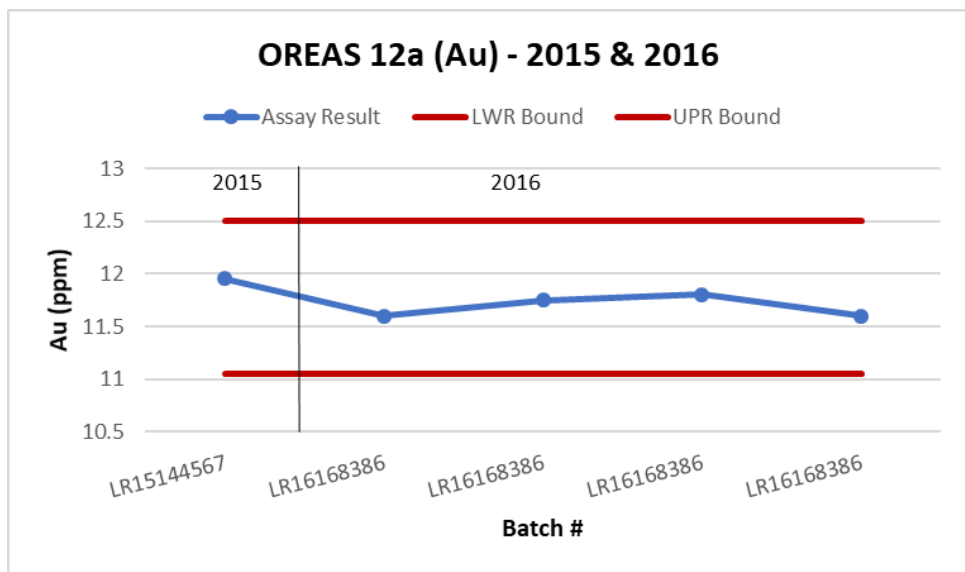
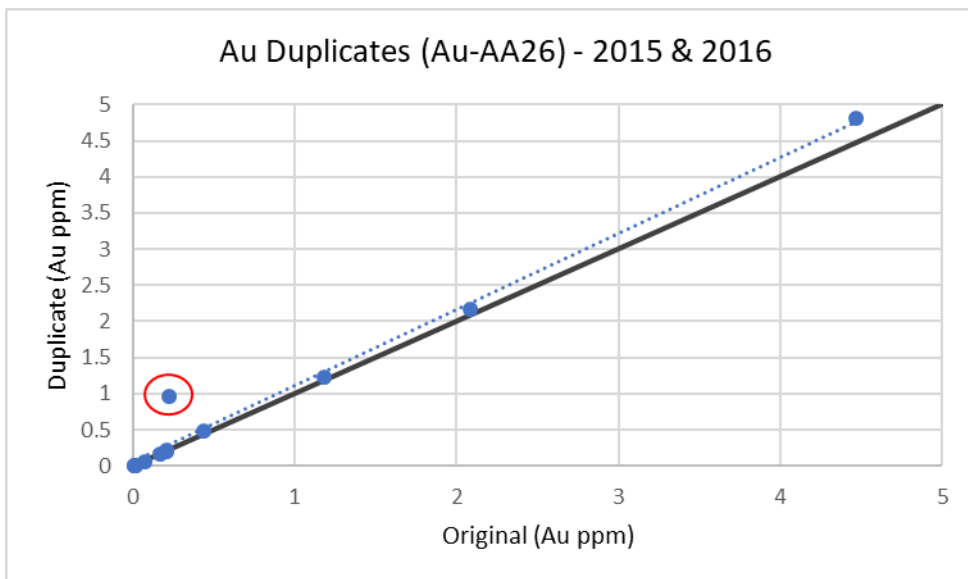


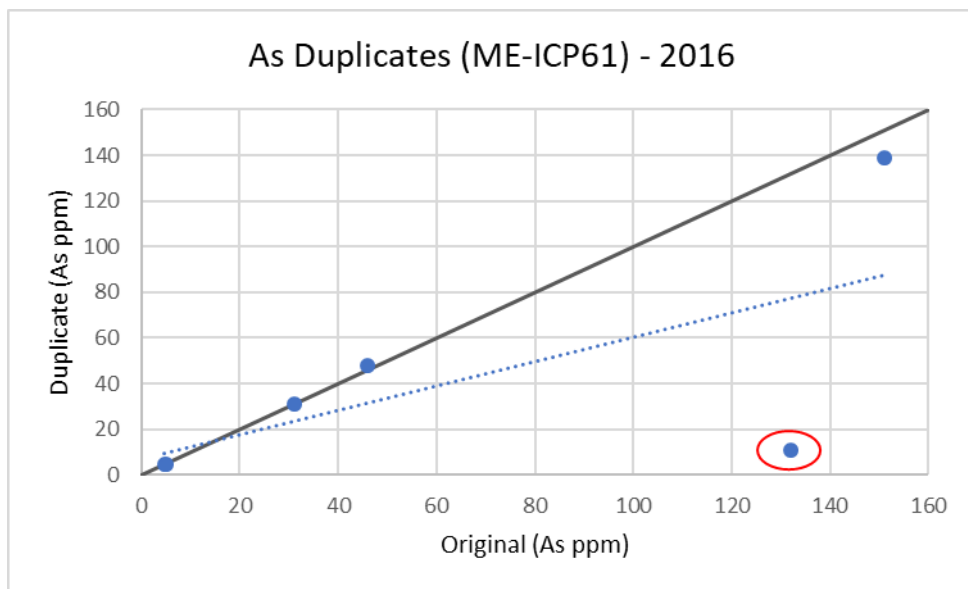
Figure 5-33: Assay results for standard OREAS 12a for 2015 and 2016

Gold assay results for **coarse duplicate samples** and their corresponding original samples analysed by the Au-AA26 method in 2015 and 2016 are plotted in Figure 5-34. The circled sample, 14463 from batch LR16168386, showed a slight difference in the original and duplicate gold values, otherwise good repeatability is observed from the rest of the results.

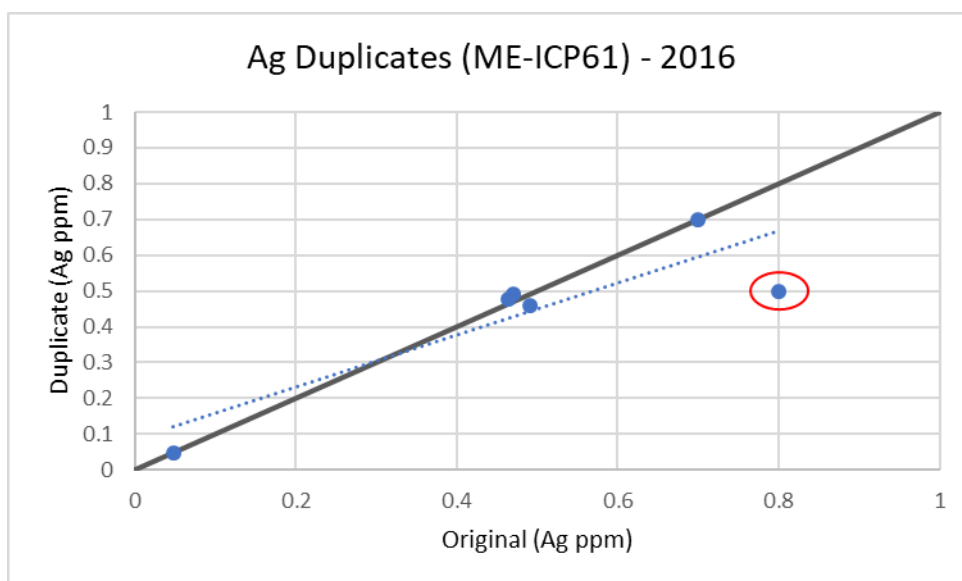


**Figure 5-34: Gold assay results for coarse duplicate samples and their original samples for 2015 and 2016. Analysis by Au-AA26**

Arsenic and silver assay results for duplicates and their original samples are presented in Figure 5-35 and Figure 5-36 respectively. Arsenic results have a poor correlation due to a single high value FAIL, but removing it improves the correlation in the remaining population. One sample on the silver duplicates graph showed slightly higher silver grades in the original sample. Both the FAILED arsenic and silver samples were analysed from the 2016 batch LR16168386, which is the same batch with the FAILED gold duplicate results discussed above.



**Figure 5-35: Arsenic assay results for coarse duplicate samples and their original samples for 2015 and 2016. Analysis by ME-ICP61**



**Figure 5-36: Silver assay results for duplicate samples and their original samples for 2015 and 2016. Analysis by ME-ICP61**

**Drilling**

*Sample Preparation*

Sample preparation used ALS code PREP-31b which comprises crushing to 70% passing 2 mm, splitting off 1 kg and pulverising the split to 85% passing 75 microns.

*Analysis*

Gold analysis was done via two different methods. Screened metallic procedure (ALS code Au-SCR24) was undertaken as standard for all samples during the 2017-18 programmes, replaced by standard 50 g fire assay (Au-AA26, Figure 5-37) during the 2019 programme. The method Au-AA26 is a fire assay technique with an atomic absorption spectroscopy finish. All samples from the three programmes have a reported AA26 result due to this being part of the SCR24 technique. For comparison, all QAQC analysis on the AEX drilling data (as well as the recent surface samples) have been undertaken using the Au-AA26 fire assay result. No multi-elemental trace element analysis was undertaken on the drill core samples.

CODE	ANALYTE	RANGE (ppm)	DESCRIPTION
<b>Trace Level</b>			
Au-ICP21	Au	0.001-10	Au by fire assay and ICP-AES.
Au-ICP22			30g sample 50g sample
Au-AA23		0.005-10	Au by fire assay and AAS.
Au-AA24			30g sample 50g sample
<b>Ore Grade</b>			
Au-AA25	Au	0.01-100	Au by fire assay and AAS.
Au-AA26			30g sample 50g sample
Au-GRA21		0.05-1000	Au by fire assay and gravimetric finish.
Au-GRA22			30g sample 50g sample

**Figure 5-37: Sample analysis method Au-AA26 (ALS Services Schedule, 2020)**

*Sample Security*

The sample security for all drilling derived samples was the same for the 2017 surface grab sampling. See above for details.

*Specific Gravity Samples*

No specific gravity data has been collected by AEX during the drilling programmes.

*QAQC Procedures*

A total of 208 QC samples have been used during the three phases of exploration drilling from 2017-19 at a global insertion rate of 17.6%. The breakdown of the QC samples can be seen below in Table 5-10. The planned insertion rate for the three separate QC sample types was 5%, with a total QC planned insertion rate of 15%.

**Table 5-10: Summary of QAQC Samples from 2017-19 Exploration Drilling Programmes**

Type	Count	Insertion Rate (%)*	Comment
Total Assayed	1388	N/A	
Normal Sample	1180	100.0%	
Field Blank	79	6.7%	Locally sourced Granite - Coarse
Total CRM	80	6.8%	
	G914-6	29**	2.5%
	G914-7	30	2.5%
	G916-5	21**	1.8%
Field Duplicates	49	4.2%	Quarter Core - None in 2019
Pulp Duplicates	0	0.0%	
<b>Total QC Samples</b>	<b>208</b>	<b>17.6%</b>	
Umpire Laboratory Check Assays	0	0.0%	

\*Based on the total number of "normal" half core samples submitted for analysis.

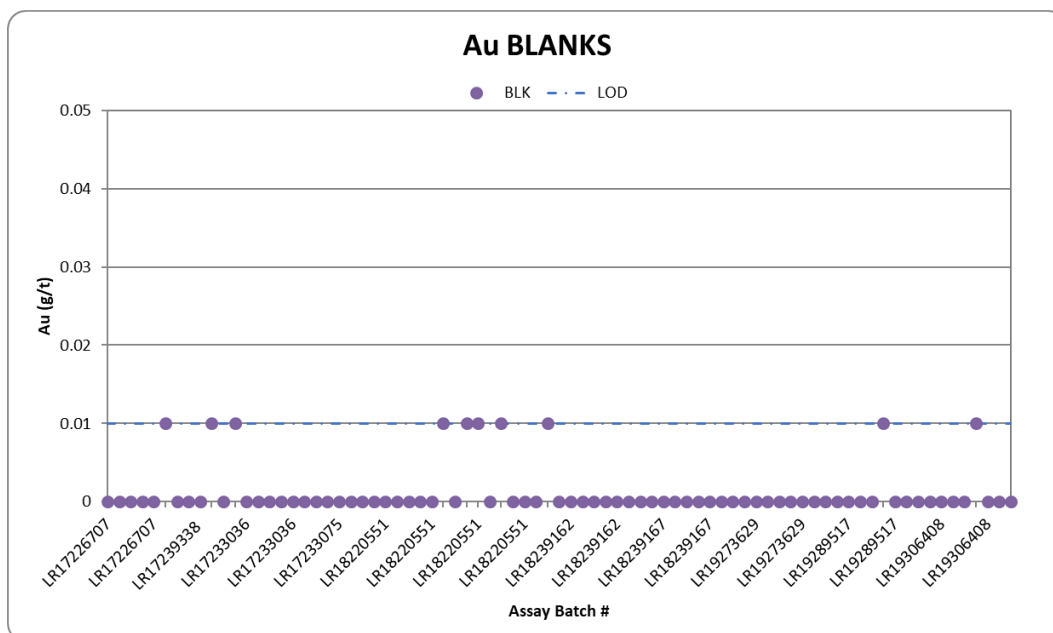
\*\*One sample was not analysed due to insufficient sample material submitted.

**Field Blanks**

Field blanks were randomly inserted during all drilling programmes into the sample stream by the geologists as the drill core was sampled. The insertion rate for the field blanks was 6.7%. A porphyritic quartz, feldspar biotite granite known as the Rapikivi Granite was used for these samples, locally sourced. 2-3 kg of the blank material was placed in each sample bag which was clearly marked with the sample ID and a sample ticket placed in each bag.

The blanks performed well with 10 samples returning results at the level of detection (LOD) and no samples exceeding this. As the blank material is not certified and has a potentially heterogenous mineralogy, the possibility that this material contains very low traces of gold cannot be ruled out.





**Figure 5-38: Blank results from the 2017-19 exploration drilling**

**Certified Reference Materials**

Three different CRMs were chosen and used throughout all the drilling sampling programmes, they were all sourced from Geostats Pty Ltd. All three CRMs are described as being high grade, low sulphide ore and are certified for both 50 g fire assay and aqua regia techniques. The certified values for the three CRMs are provided in Table 5-11 below.

**Table 5-11: CRM certified grades for Au**

CRM	Au (g/t)	SD (g/t)	Based on # results
G914-6	3.21	0.12	179
G914-7	9.81	0.43	178
G916-5	19.92	0.69	175

*Method: 50 g Fire Assay*

These CRMs were selected with a range of grades in order to best match the mineralogy and grade of the type of mineralisation expected at Nalunaq. The samples were submitted as pulverised 50 g packages and as such were only assayed using the Au-AA26 method.

A total of 80 CRMs has been submitted to date as part of the sampling programme, with an insertion rate of 6.8% split between the three different types (Table 5-10). The populations of the individual CRMs (n.21-30) are insufficient for use in a robust review of the laboratory’s precision, however they are sufficient to gain a good understanding of the laboratory’s general performance over the drilling programmes to date.

All three of the CRMs performed well, with the results all falling within the +/- 2SD of the certified mean. The results show a very minor positive bias in the lower grade CRM (G914-6 – 3.21 g/t Au) and a minor negative bias with the high-grade CRM (G915-6 – 19.92 g/t Au). However, this is not material and the calibration and accuracy of the analytical equipment can be seen to be suitable for the grade ranges expected of the samples submitted. Graphs showing the results of the three CRMs by batch over time are shown below in Figure 5-39 to Figure 5-41.

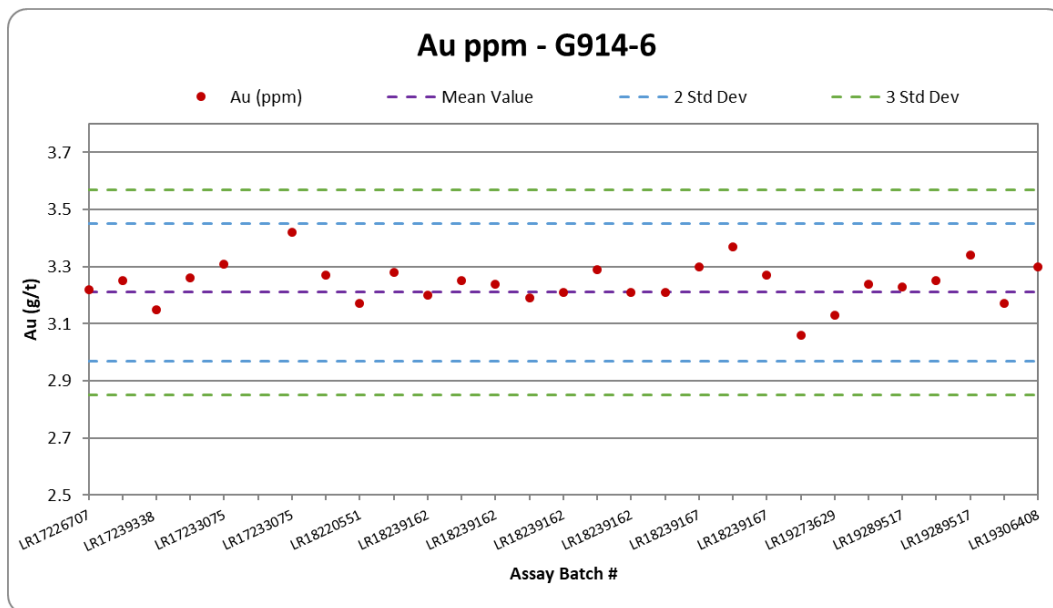


Figure 5-39: Results for Au in G914-6 by laboratory batch

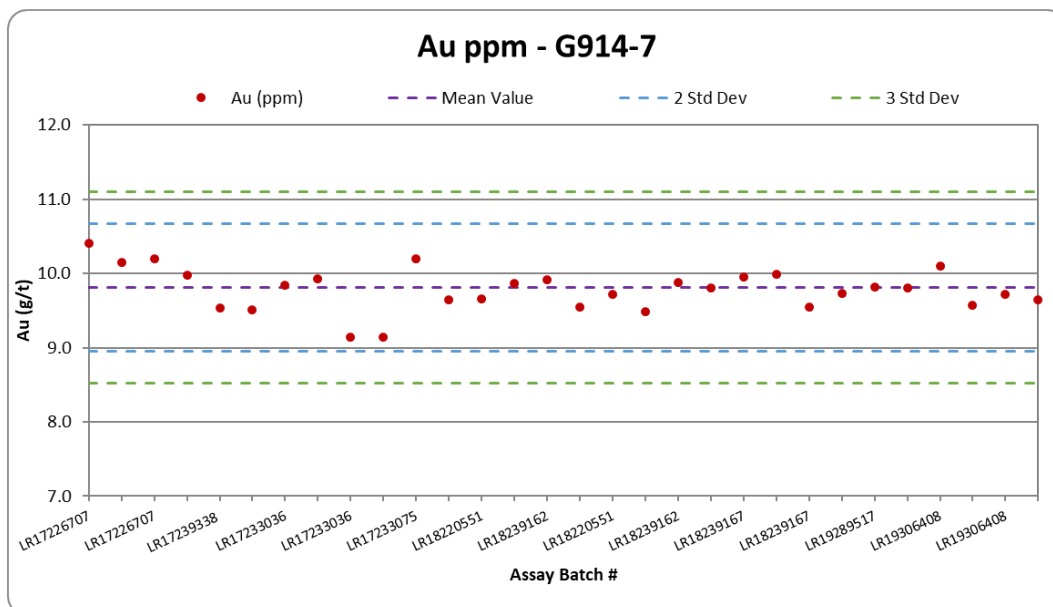


Figure 5-40: Results for Au in G914-7 by laboratory batch

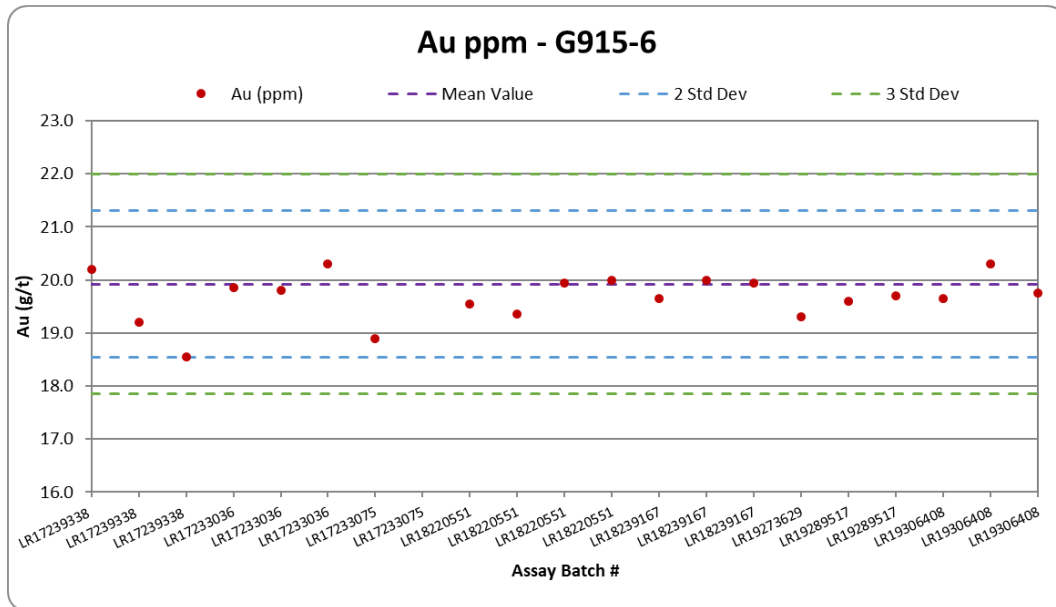


Figure 5-41: Results for Au in G915-6 by laboratory batch

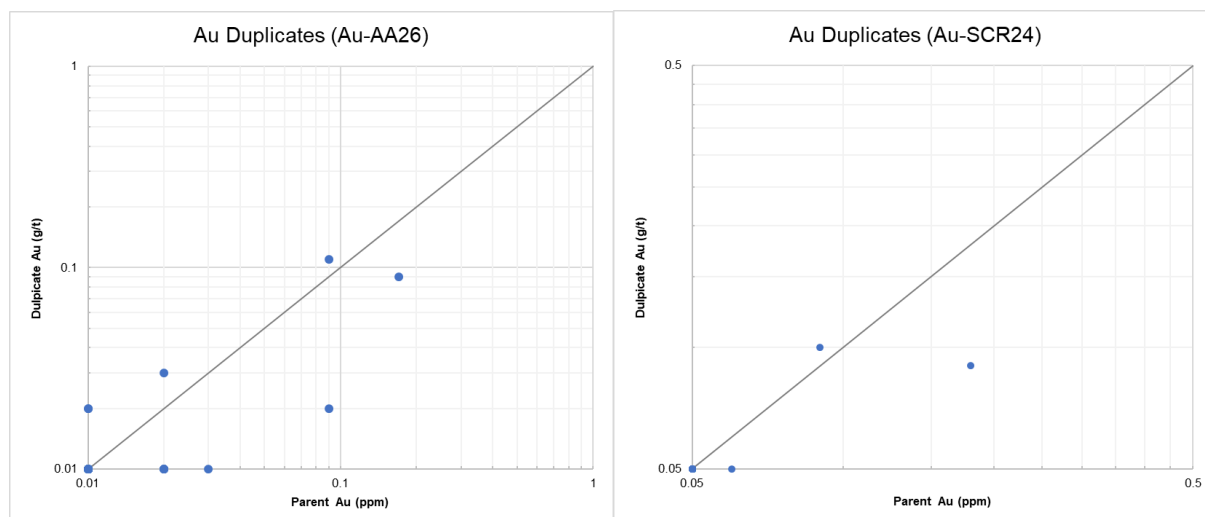
**Field Duplicates**

Field duplicates were taken at the core sampling stage as quarter core from the retained half core. The core size of this drilling was predominantly BTW in size (42 mm diameter). The purpose of these is to assess how repeatable the sampling was and therefore the suitability of the sampling method given the mineralisation style.

A total of 49 field duplicates were taken from the 2017-18 programmes, with none taken during the recent 2019 drilling programme. Of these samples, only a minority returned grades above the LOD for either analytical method (Figure 5-42). The insertion rate of the total programme is 4.2%, reflecting the lack of sample collection in 2019.

The lack of results above the LOD due to the mineralisation style at Nalunaq, together with the mineralisation’s high variability (nugget effect) and relatively small size of the samples, makes it hard to draw any meaningful conclusions from these results. It does highlight the issues relating to drill core sampling within this type of mineralisation. Even though the results show a poor repeatability in terms of absolute values, generally samples of moderate grade (>5x LOD) show a relationship.

AEX have taken the decision to stop collecting field duplicates at the core sampling stage due to the issue mentioned above.



**Figure 5-42: Comparison of field duplicate results by analytical method**

**SRK ES Comments**

SRK ES considers the procedures implemented to be generally sufficient for this stage of sampling and the blank and CRM results are adequate. The inherent issues with the core sampling process given the nature of the mineralisation at Nalunaq are highlighted by the previous field duplicate sampling programme. AEX stopped collecting field duplicates in 2019 but SRK ES considers the results from this work important and it should therefore be resumed, or alternative protocols put in place, to assess the confidence and repeatability of the sampling methodology.

**5.7 Assessment of Remnant Mining Areas**

In 2015, studies identified the possibility for there to be unmined material within or immediately adjacent to the current mine infrastructure. This was derived via a combination of resource modelling, examination of mine plans, and discussions with Kurt Christensen, the former Chief Geologist. For the sake of assessing their potential for small-scale mining requiring no further mine development, AEX conducted a more detailed examination of these areas. This assessment that was undertaken between 29 June and 6 July 2016, before the updated MRE had been produced.

**5.7.1 Assessment Objectives**

The main objective of the assessment was to verify what remnant material exists as practical and safe mining blocks.

During the assessment, areas considered to be potentially mineable had to comply with two key characteristics:

1. Hold reasonable grade and structural continuity; and
2. Host mineralisation above 10 g/t when diluted to 2 m true mining width.

**5.7.2 Results**

Based on the observations during this assessment, approximately 25,000 tonnes of minable material grading 22.5 g/t Au was estimated. This has subsequently been revised down to 21,400 tonnes grading 16.2 g/t Au following the removal of material now known to constitute historical mine waste as a gully fill following acquisition of more accurate surface imagery in 2019.

While these figures are based on the 2016 MRE, this material can be considered as an estimate of that proportion of the Inferred Remaining Stopes, outlined in Section 5.9.7, that has been considered as assessible to future mine ahead of significant further mine development.

**5.7.3 Pillar Mining**

Mineralised material also remains in the mine area in the form of pillars between stopes. Following an assessment of the potential mineralised material left in pillars in 2012, and a recommendation for a method to exploit this potential (Golder, 2012), there have been attempts in several parts of the mine to extract pillars, particularly in the upper parts of the Target Block. This involved reinforcing the top and bottom of the pillars with rock bolts, then drilling and blasting the central parts of the pillars thus leaving stub pillars as support at either end. It is unclear how much ore was recovered in this way. During their site visit in 2016, SRK ES observed pillars where extraction had been attempted and it did not appear to have been particularly successful. In several pillars only small amounts of material had been removed and there was often a substantial amount of overbreak. Failures of the reinforcement in the remaining pillars were also observed.

A significant amount of pillar robbing has also occurred, with less or no consideration for stability. Rarely, wooden packs have been installed, but in other areas entire pillars have been removed leading to spans that cross three open stopes. The widest unsupported span observed by SRK ES was 33 m. Where small pillars have been left after robbing, “hourglass” failures are commonly observed. Areas where pillar robbing has taken place are unsafe and must not be entered, even for inspection purposes.

In summary, pillar mining at Nalunaq is likely to involve substantial technical and logistical difficulties, and hence would be an expensive exercise. It is not recommended as an option for future mining operations.

## 5.8 Underground Sweepings Assessment

### 5.8.1 Introduction

Vamping, a word to describe a mining method used to recover higher grade ore left in stoped areas, is perhaps not applicable to the Nalunaq mine as the stopes are open, have debris in them, and are considered unsafe to enter. Most were seen to have little or no ore “frozen” to the hanging wall or footwall contacts, often as a result of over-break—particularly in the footwall.

By contrast, sweepings are accumulations of fine material (including free gold and quartz vein fragments that host gold) that have been blasted in the stoped areas and subsequently washed down to settle on the floor of the drives below. They may also be derived from mucking operations or will accumulate at the bottom of ore passes or in areas of mineral processing if they are not kept clean. It can be reasonably expected that the grade of sweepings should be similar to the stope immediately up dip of the stope drive. It is highly likely that the grade could be higher due to the concentration effects of the water washing down the stopes and the process of hydraulic equivalence sedimentation that could happen in the stope drives, as well as dust suppression carrying lighter material away.

Whilst assessing the mining areas and carrying out geological work, SRK ES noted the presence of sweepings in all the stope drives visited and in other areas such as ore passes and the processing plant. Recovery of these sweepings has apparently been attempted in certain places in the mine in the past by Crew Gold (K. Christensen, pers. comm.), but SRK ES has no records to show where and when this took place, the head grades, or the gold recovery that resulted from this activity. Drives where sweepings removal may have taken place still had several centimetres of sweepings on the floor.

Due to the significant amounts of sweepings throughout the mine, it was decided to sample them in several locations and determine their head grade in order to assess the potential for future recovery and processing.

### 5.8.2 Sampling of sweepings

Four large samples (>20 kg each) were taken on the 300 and 310 South Block Levels. The

thickness of sweepings from surface to bedrock varied from 5 cm to 22 cm.

The thickness of sweepings influenced the method in which samples could be taken. In deep material on the 300 SB Level, a trench was excavated across the width of the drive (Figure 5-43) and produced a large quantity of material that was then sampled in three places to provide a composite sample. A 0.5 m<sup>2</sup> pit in the same thickness of material on the 310 SB Level provided sufficient material and it is suggested that this would be the most efficient sampling method for further work.



**Figure 5-43: Sampling trench dug across 22 cm thick sweepings in the 300 SB Level drive below the #15 stope (SRK ES, 2016)**

Where sweepings may have already been taken there was still material with a thickness of 5 cm. The best way of taking a sample was by scraping and brushing material from a 1 m<sup>2</sup> area Figure 5-44.



**Figure 5-44: Sweepings sampling (300 18 SW02) in 1 m<sup>2</sup> of 5 cm thick material on the 310 SB Level below the #18 stope with material scraped (LHS) and then the surface swept (RHS)(SRK ES, 2016)**

The sweepings samples were dispatched to SGS Minerals Services UK Ltd. for preparation and determination of their head grade.

### 5.8.3 Sample results

The head grades for the sweepings samples are summarised in Table 5-12. A screened fire assay method was used with grades for the over- and undersize fractions provided, as well as the percentage of gold reporting to the coarse fraction.

**Table 5-12: Summary results of screened metallic analysis on sweepings samples**

Sample ID	Drive	Location	Sample Weight, kg	Oversize		Undersize		Grade, wt. av. g/t Au	Au in oversize, %
				Weight %	Grade, g/t Au	Weight %	Grade, g/t Au		
290 15 SW01	300 E South Block	Top of stope 290/15	42.00	3.27	166.50	96.73	8.54	13.70	39.73
310 18 SW02	310 W South Block	Below stope 310/18	43.30	3.54	400.30	96.46	14.25	27.90	50.75
310 17 SW02	310 W South Block	Below stope 310/17	19.40	3.59	358.70	96.41	12.05	24.49	52.57
300 18 SW02	300 W South Block	Below stope 300/18	31.70	4.35	460.40	95.65	13.42	32.85	60.94

It is worthwhile comparing these head grades to the expected grades from the stopes above the sample locations from which the sweepings may have been derived. An exact correlation cannot be expected, since the sweepings will be subject to gold “contamination” from stopes further above as well as along the drives. Also, the sweepings were not sampled along the whole length of the stopes. Furthermore, there is no information on the grades of individual stopes based on gold recoveries during processing. The comparison can only be made using estimates made from underground sampling during mining operations, including estimates by Crew Gold and the block model that SRK ES has developed for resource estimation purposes. This is summarised in Table 5-13.

**Table 5-13: Comparison of sweepings grades to resource model grades**

Sample ID	Sweepings grade g/t Au	Stope Grades	
		SRK Estimate 1.8 m Diluted, Au g/t	Crew Estimate 1.8 m Diluted, Au g/t
290 15 SW01	13.70	25.63	22.90
310 18 SW02	27.90	25.23	22.60
310 17 SW04	24.49	20.69	25.20
300 18 SW04	32.85	26.33	18.70

The following notes are provided as further explanation of the values used:

- **SRK Estimate 1.8 m Diluted:** In-situ gold grades diluted to true mining width of 1.8 m, taken from SRK ES’ resource block model.
- **Crew Estimate 1.8 m Diluted:** Stope grade estimates taken from Crew Gold’s “Nalunaq Stope File” based on underground chip sampling applied to the area of each stope and

diluted accordingly.

As expected, there is no close correlation, but grades are of a similar order of magnitude and there is some similarity in relative grade variations between samples when comparing the sweepings samples to the SRK ES modelled grades. The sweepings grades are generally higher than those modelled for the stopes but, as explained above, some enhancement of grade may have occurred during and after accumulation of the sweepings.

Whilst this is a small dataset, it provides some evidence that modelled stope grades could be used to provide an indication of potential grades in sweepings for the purpose of prioritising further areas for investigation.

#### 5.8.4 Preliminary estimate of sweepings

In order to provide a preliminary order of magnitude for the possible quantity of sweepings in Nalunaq, SRK ES has estimated the total length of drives in the mine from the mine plans and used assumed factors for the thickness of sweepings and their grade. This has been done for the total amount of strike drive development (11.75 km) and again for the strike drive development within areas that have been stoped (8.12 km). The stoped areas are more likely to contain sweepings with gold grades that are similar to those of the mined material. A drive width of 3 m has been assumed and a 10 cm thickness of sweepings.

Based on these assumptions, there may be potential for the existing mine excavations to contain between 2,400 m<sup>3</sup> and 3,500 m<sup>3</sup> of mineralised sweepings.

It must be emphasised that this is purely to provide an idea of the possible order of magnitude and is based on several untested assumptions. The estimate is likely to change following a programme of sweepings thickness measurement throughout the mine and systematic sampling for head grade analysis. This is **not** considered to be a compliant Mineral Resource estimate.

Furthermore, apart from the exclusion of levels in the Target Block that contain tailings from the processing plant, the estimate assumes that the entire length of the drives can be accessed. This is unlikely due to unsafe ground conditions and/or drives being blocked by scrap and other materials and therefore it may only be possible to recover a proportion of the sweepings, possibly as little as 50%. Furthermore, SRK ES understands that some tailings may also have been stored in South Block towards the end of the mining operation, but the locations, volumes and grades are unknown.

Finally, the estimate does not include sweepings or imported crushed material that is present on the floors of the ramps or in the processing plant. There is a substantial amount of material on the floors around the processing plant which may be mineralised.

### 5.9 Mineral Resource Estimates

To date, the Nalunaq project is the only AEX asset to have a Canadian Institute Mining NI 43-101 compliant Mineral Resource Estimate (MRE) completed. The effective date of this MRE is the 26 June 2020 and was undertaken by SRK ES based on all available data. This MRE constitutes a minor update to the 2016 estimate to account for further drilling in the South Block, minor surface drilling into the Target Block and surface sampling on the surface expression of the MV. This update also made use of more accurate imagery that defines historical waste dumps and accurate 3D surveys of the historical stopes.

SRK ES has developed this MRE based on the interpretation widely applied by previous workers — that the mineralisation at Nalunaq is hosted within three plunging high-grade features, possibly associated with flexures in the hosting structure, within a shallow dipping mesothermal quartz-gold vein as discussed in Section 4.2.



Therefore, based upon the “ore shoot interpretation”, SRK ES has generated a set of estimates across four areas as defined below:

1. **Remaining Stopes** – this is material within the mine that was never extracted for various reasons. It exists as mineralised material that could be mined either immediately or with small amounts of development/reconditioning, but may only be economically viable if done as part of existing mining or exploration activities;
2. **Mine Area** – this is defined as the mineralised MV in close proximity to the current underground infrastructure;
3. **Tailings** – an estimate of the tailings retained within the Target Block mined stopes has been made in support of any future plans to reprocess this material; and
4. **Exploration Target** – this is defined as those areas in which the MV is interpreted to extend, based on surface sampling and diamond drilling, but that contain insufficient sampling to define a Mineral Resource and are some distance from the current infrastructure.

### 5.9.1 Input Data

Data used for the Nalunaq resource estimate and exploration target constitutes the following:

- Surface core drillhole data (213 drillholes, 5,409 samples);
- Underground drillholes (237 drillholes, 723 samples);
- Underground chip/channel samples (7,796 samples),
- Surface channel samples (414 samples); and
- Surface chip samples (212 samples).

Nalunaq has undergone several drilling programmes since 1993, as summarised in Table 5-14.

**Table 5-14: Summary of Nalunaq drill sampling programmes by year as used in MRE (SRK ES, 2020)**

Year	Number of holes	Hole Numbers	Meterage
1993	13	NQ1-13	2,987
1994	8	NQ14-21	848
1998	37	NQ22-58	5,134
1999	19	NQ59-77	2,520
2000	-	-	-
2001	13	NQ78-90	2,740
2002	-	-	-
2003	-	-	-
2004	11	NQ91-121	1,237
2005	53	NQ102-155	10,560
2006-2008	18	NQ156-173	4,452
2017	14	AEX1701-1714	2,445
2018	18	AEX1801-1818	3,832
2019	9	AEX1901-1909	1,615
<b>Totals</b>	<b>213</b>		<b>38,370</b>

## 5.9.2 Post 2016 Data

### Drilling and Surface Samples

The 2020 MRE contains a further 31 drillholes for 7,892 m from the 2016 estimate. While some of these have targeted the Target Block, the bulk have sought to prove up MV extensions to the south.

In addition to this, a further 55 surface chip/channel samples attempting to sample the surface exposure of the MV have been taken since 2016.

### Wireframing

AEX has produced a new wireframe of the MV in Leapfrog Geo software using a similar approach to that conducted in 2016. Furthermore, AEX has created initial wireframe models of a series of hanging wall veins identified from previous drilling. These have not been included in this estimation.

### Imagery

Since 2016, AEX has commissioned two imagery programmes. The first using underground LiDAR technology to provide a greater understanding of the extents and volumes of the historical stopes (Figure 5-45). The second provided a high-resolution surface image to be draped onto the existing topography. This latter programme highlighted that a small portion of the 2016 estimate close to surface was in fact a surface gully filled with scree and historical mine waste. This data has therefore been used to exclude this material from the 2020 MRE update.

### Tailings

Additional research into the extent of historical tailings storage has also been conducted along with slurry dynamics and density estimation studies.

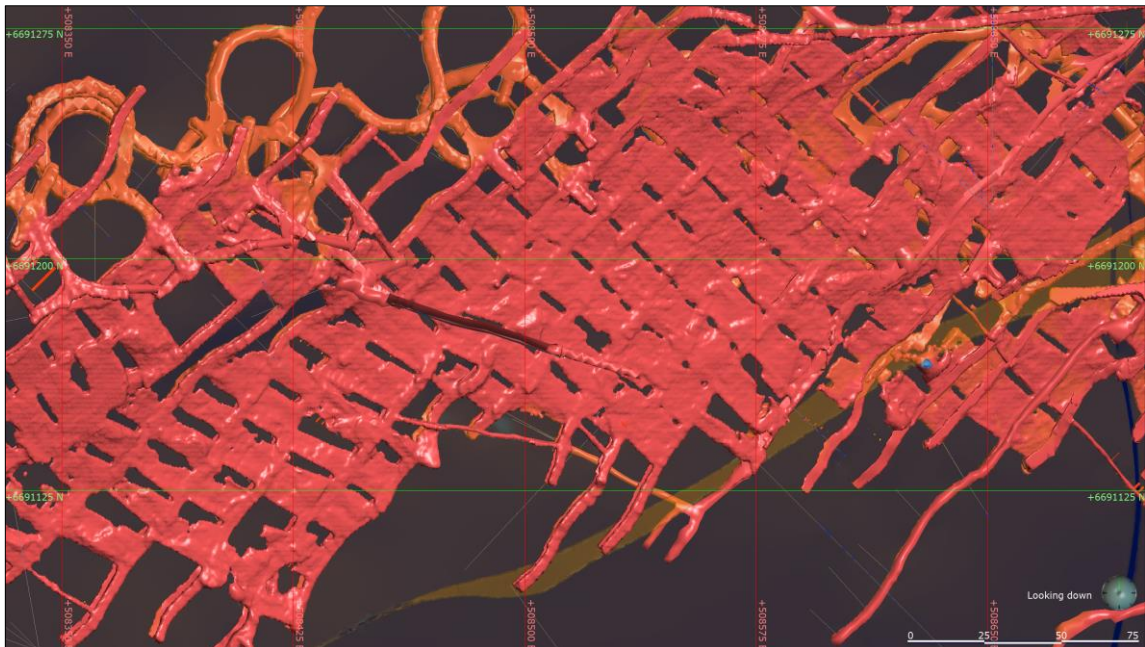


Figure 5-45 Example of the detail provided by the 3D Underground Lidar survey

## 5.9.3 Modelling Procedure

A wireframe was constructed to represent the MV using datapoints for the tops and bottoms of samples taken across the vein. The mean sample length of those samples marked as representing the MV in the database is 79.8 cm (8,395 samples, excluding the few samples that are more than 3 m long). Samples can be collected either along a vertical trace (which is at ca. 40° to the vein

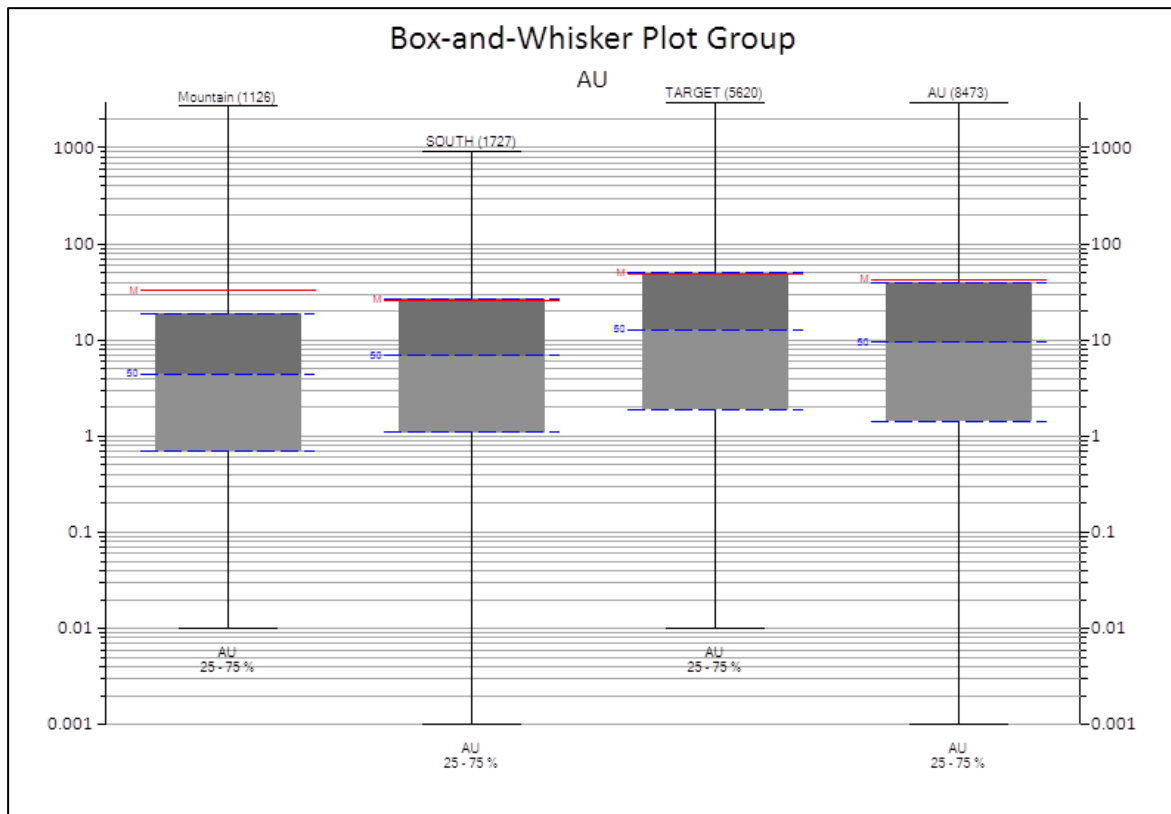
dip), or along a trace perpendicular to the vein walls.

Following the wire framing of the MV, all samples were composited within these solids to 1 m. No other significant data manipulation was used in the estimate.

The 1 m composites were separated into three broad grade domains defined by the three mining areas suggested by previous workers to represent the high-grade shoots in the Mountain, Target, and South Blocks. A summary of the statistics across these three domains is given in Figure 5-46 and Table 5-14. The statistics of the Mountain Block domain are very similar to those of the South Block domain, whereas the Target Block domain has a distinct higher-grade population.

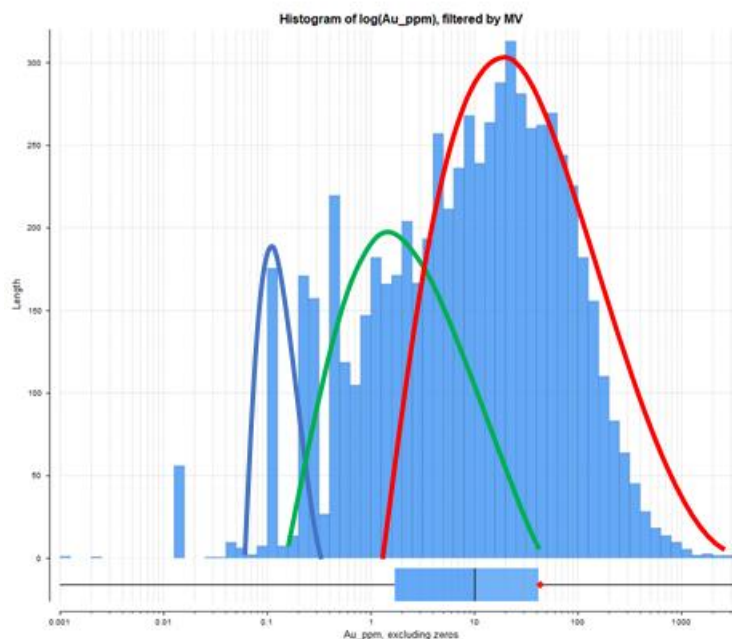
**Table 5-15: Summary statistics of the three Main Vein grade domains (SRK ES, 2020)**

Domain	Samples	Min	Max	Mean	SD	Var	CV
Mountain	1126	0.01	2716	32.438	138.187	19095.6	4.26
Target	5620	0.01	2935.8	49.39	123.42	15232.88	2.5
South	1727	0.001	917.4	25.727	59.269	3512.8	2.3
<b>TOTAL</b>	<b>8473</b>	<b>0.001</b>	<b>2935.8</b>	<b>42.31</b>	<b>116.0</b>	<b>13456.8</b>	<b>2.7</b>



**Figure 5-46: Box Plot of the Main Vein domains (SRK ES, 2020)**

The statistics of all samples, as well as each domain, were assessed and suggest the presence of three distinct populations as outlined in Figure 5-47. The first population is considered a background low grade population. The second is a moderately mineralised population and a third high grade population is evident in all three domains.



**Figure 5-47: Log Histogram of uncapped 1 m gold composites across all three MV domains illustrating three grade populations (blue, green and red curves) (SRK ES, 2020)**

Due to this strong distinction between a high and a low grade zone within each of the domains, these were further separated into two data populations for each domain through the use of a series of cut off grades as outlined in Table 5-16. An Indicator Kriging method was then employed to define a set of sub-domains where low grades were assigned a 0 while high grades were assigned a 1.

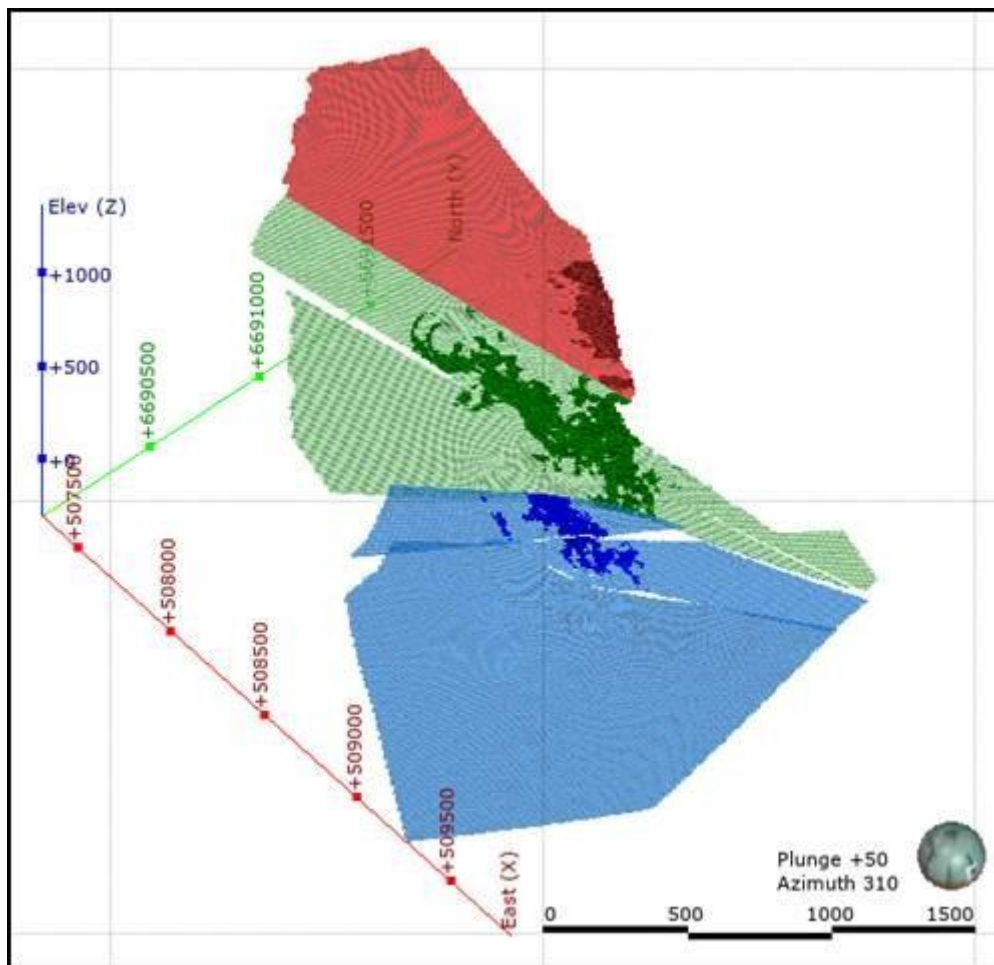
Following the definition of the indicator values, a set of variograms was created and Ordinary Kriging carried on the data. The results of this estimation were used to define the high grade and low-grade sub-domains.

**Table 5-16: Data cut off grades used for Indicator Kriging (SRK ES, 2020)**

Domain	Cut off (g/t Au)	Low Grade Percentage
Mountain	3	0.4
Target	5	0.45
South	5	0.45

The variograms show a very high nugget effect as is expected from mineralisation in a setting such as Nalunaq, but with large ranges in the region of 100-180 m. Search ellipses for the Indicator Kriging were restricted to 50-70 m.

Following the completion of the Indicator Kriging, three grade domains and six sub-domains were defined as illustrated in Figure 5-48.



**Figure 5-48: 3D image illustrating the location of the six sub-domains at Nalunaq. Coordinates are in UTM (SRK ES, 2016)**

A contact analysis across these six domains was performed to assess the grade behaviour and therefore the best domain boundary type to use during estimation. From these analyses, a gradual or hard contact is considered as the most appropriate for the six sub-domains at Nalunaq.

Following a review of each sub-domain, to ensure that the estimate is not biased through the inclusion of extreme high grades, a decision to apply a top cut at an appropriate level ahead of estimation was made. These were defined through the inflection points on the cumulative probability plots for each sub-domain. Table 5-17 illustrates the top cuts used during the 2016 estimate.

**Table 5-17: Data Top Cuts Used for the Various Main Vein Sub-Domains (SRK ES, 2020)**

Domain	Sub Domain	Top Cut (g/t Au)	No. of Samples Affected
Mountain	High	500	7
	Low	20	18
Target	High	-	-
	Low	200	20
South	High	-	-
	Low	50	9

## 5.9.4 Resource Estimation

### **Block Model Construction**

A block model has been created in UTM coordinates as opposed to the mine grid used in 2016. Block dimensions of 10 x 2 x 2 m were selected based on the average width of the vein, the Quantitative Kriging Neighbourhood Analysis (QKNA) programme, and the anticipation of the likely smallest mining unit. Block model parameters are shown in Table 5-18. No sub-blocks were used in the estimations stage.

**Table 5-18: Block Model Parameters (SRK ES, 2020)**

	Origin	Block Size	# Blocks
East	508,781	10	228
North	6689,506	2	1167
Elevation	-321	2	790

### **Grade Estimation**

Gold grades were estimated into this block model using Ordinary Kriging (OK) on three iterations using increasing sized search ellipses. A Nearest Neighbour (NN) estimate was also conducted by way of a comparison during validation.

### **Tonnage estimation**

While the Snowden report (Dominy, 2005) uses a density of 2.7 g/cm<sup>3</sup>, it refers to an earlier report (Strathcona, 2001) which describes a bulk density testing programme conducted on Nalunaq material in 2001. This report concludes that due to the presence of sulphide and country rock within the vein material, a density of 3.0 g/cm<sup>3</sup> is more realistic. SRK ES used this figure in their calculations.

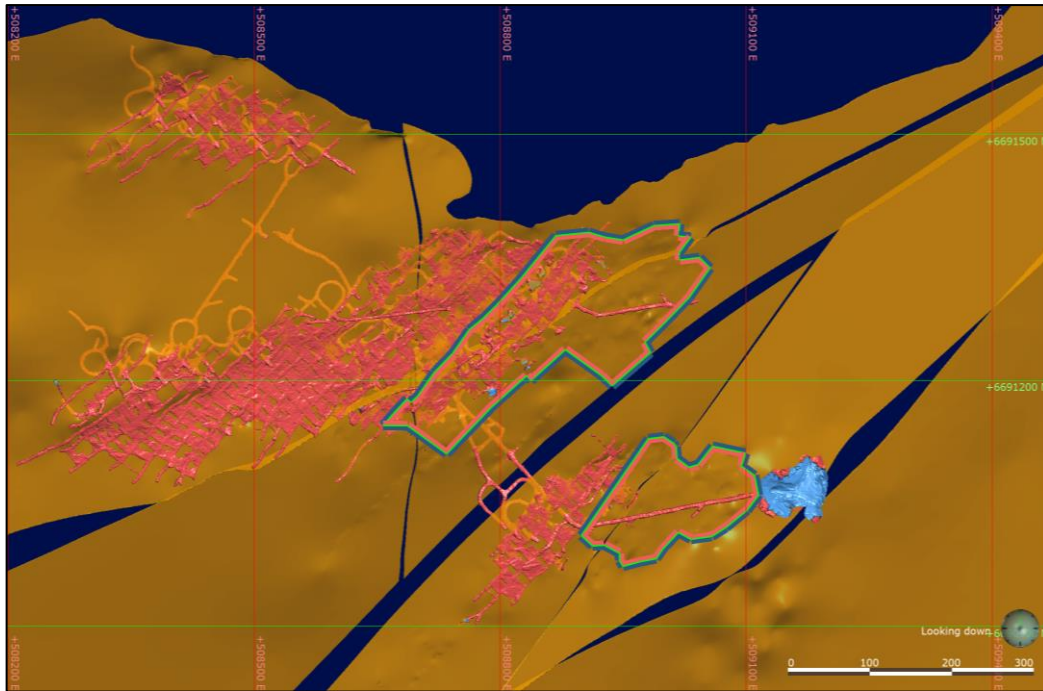
### **Validation**

The OK model was validated through assessing the global bias (OK vs. NN), local bias (Swath Plot), and through contact analysis. These assessed the degree of smoothing incorporated in the models, and the change of support through the model. It was decided that no support correction was required during this validation. A visual validation against drill hole composites was also undertaken.

### **Block Model Modifications**

#### **Depletion for Mined Areas**

Following the 2016 stope inventory and the more recent 2019 underground stope and development 3D LiDAR survey (Figure 5-49, the resultant block model has been interrogated to ensure that all previously mined, as well as inaccessible stopes, have been removed ahead of classifying the Mineral Resource.



**Figure 5-49 Plan view of the extent of the underground 3D LiDAR survey and outlines of additional stope areas where inaccuracies in the survey exist. Collectively used to deplete the block model**

To conduct this, wireframes were created in Leapfrog Geo software around the surveyed stopes and, where surveys were considered inaccurate or the survey team were unable to access the area, around the stope maps provided by GEUS and guided by the 2016 inventory.

Using the Deplete Block Model routine within 5DP, the blocks within these existing stopes and development shapes were removed from the block model. The parent blocks in the original block model were sub-celled up to eight times to provide an accurate fit to the existing stope and development shapes.

***Dilution***

The final block model has also been diluted to a 1.2 m true width to reflect reasonable economic mining conditions. This is on the assumption that future mining will predominately utilise the resue mining technique in line with AEX’s decision to develop a mining method focused on selectivity and the reduction of dilution.

After various mining simulations, AEX has decided to implement a combination of mining techniques as follows

- Long Hole Stopping: 40% of ore, true mining width 1.8 m;
- Ramp in ore (resue), sublevels (resue) and cut and fill: 60% of ore, true mining width 0.8 m.

Therefore, the weighted average of the total true mining width equates to 1.2 m. This figure also aligns to the targeted mining width that Crew Gold worked towards as documented by Dominy et.al. (2006).

Dilution was conducted using Datamine Studio 3 software by assessing the horizontal vein thicknesses across the model and, through simple trigonometry, defining those blocks with a MV true width of less than 1.2m. These were then diluted through the inclusion of hanging wall

and footwall material at a grade of 0.0 g/t Au. The final diluted block model was then used for subsequent resource classification and reporting.

**Resource Classification**

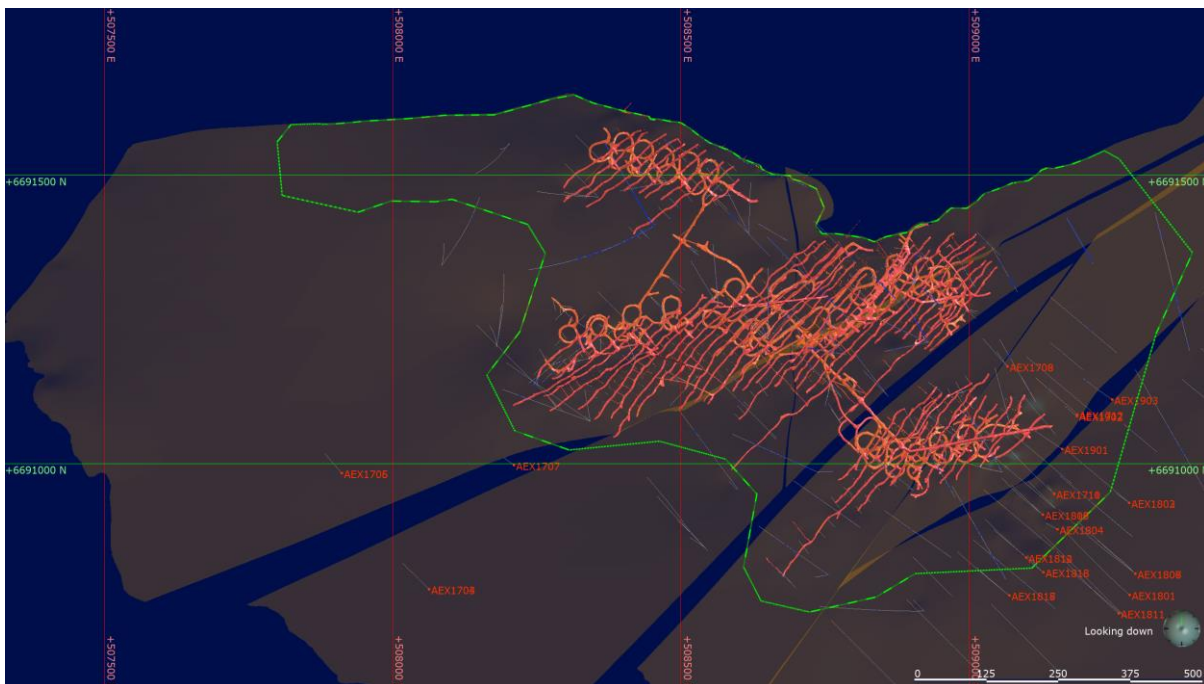
The material within the Remaining Stopes is well sampled, and details of its location and grade are all available. In many situations these areas would be classified as Measured or Indicated Resources. However, due to the high nugget effect seen across Nalunaq, the lack of first-hand QAQC results, and the fact that this material can probably only be economically extracted as part of a larger long-term mining operations, these areas remain classified as Inferred.

The rest of the MV has been classified Inferred or Unclassified based upon the average distance from the samples (proportion of the 1<sup>st</sup> search ellipse diameter), Table 5-19.

**Table 5-19: Resource Classification Criteria (SRK ES, 2016)**

Category	1st Search Ellipse Proportion
Inferred	2.5
Unclassified	4

This classification was conducted on a block by block basis and then manually adapted to ensure that consistent coherent areas of the same classification existed. Figure 5-50 illustrates the final resource classification across Nalunaq.



**Figure 5-50: Plan view of Nalunaq illustrating the final extent of the Mineral Resource classification in green (SRK ES, 2020)**

**Cut-Off Grade**

To determine the Mineral Resource, a diluted cut-off grade of 6.0 g/t Au was selected based on AEX’s corporate assumptions for gold price, refining and royalty costs, processing recovery, and operating cost for the mining methods proposed. The calculation is provided in Table 5-20. Operating costs estimation assumes a 300 t per day underground longhole open stoping operation with a minimum true mining width of 1.2 m.

The gold price selected mirrors AEX’s price assumption used in their corporate and financial



planning. SRK ES has selected this price as a conservative assumption but consider this valid under the current global financial uncertainty that the mining sector and commodity markets are facing.

**Table 5-20: Cut-off grade calculation (SRK ES, 2020)**

	Factor	Value US\$	Units	Formula
<b>Metal Price</b>				
A	Gold Price	1,500.00	/oz	
<b>Refining, Transportation, and Royalties</b>				
B	Refining Cost	5.00	/oz	
C	Transportation (1%)	15.00	/oz	
D	Government Royalty (2.5% on NSR)	37.00		
E	<b>Total Refining, Transportation, and Royalties</b>	<b>57.00</b>	<b>/oz</b>	<b>B+C+D</b>
<b>Metal Value</b>				
F	Metal Price	1,500.00	/oz	A
G	Refining, Transportation, Royalties	57.00	/oz	E
H	<b>Metal Value Dore</b>	<b>1,443.00</b>	<b>/oz</b>	<b>A-E</b>
I	Process Recovery	92	%	
J	<b>Metal Value Feed</b>	<b>1,327.56</b>	<b>/oz</b>	<b>HxI</b>
<b>Operating Cost</b>				
K	Mining	154.85	/t	
M	Milling	46.15	/t	
N	General and Administration	53.85	/t	
O	<b>Total Operating Cost</b>	<b>253.85</b>	<b>/t</b>	<b>K+M+N</b>
<b>In-Situ Cut-off Grade</b>				
P	Cut-off Grade	0.19	oz/t	O/J
Q	Conversion	31.105	g/oz	
R	<b>Cut-off Grade</b>	<b>5.9</b>	<b>g/t</b>	<b>PxQ</b>
<b>Cut-off Grade used for MRE</b>		<b>6.0</b>	<b>g/t</b>	

### 5.9.5 Resource Statements

#### **Remaining Stopes**

The material remaining within the current underground infrastructure has been reported diluted to a 1.2 m mining width and at a 6.0 g/t Au cut-off grade.

#### **Mine Area**

The Mine Area has also been reported diluted to a 1.2 m mining width and at a 6.0 g/t Au cut-off grade.

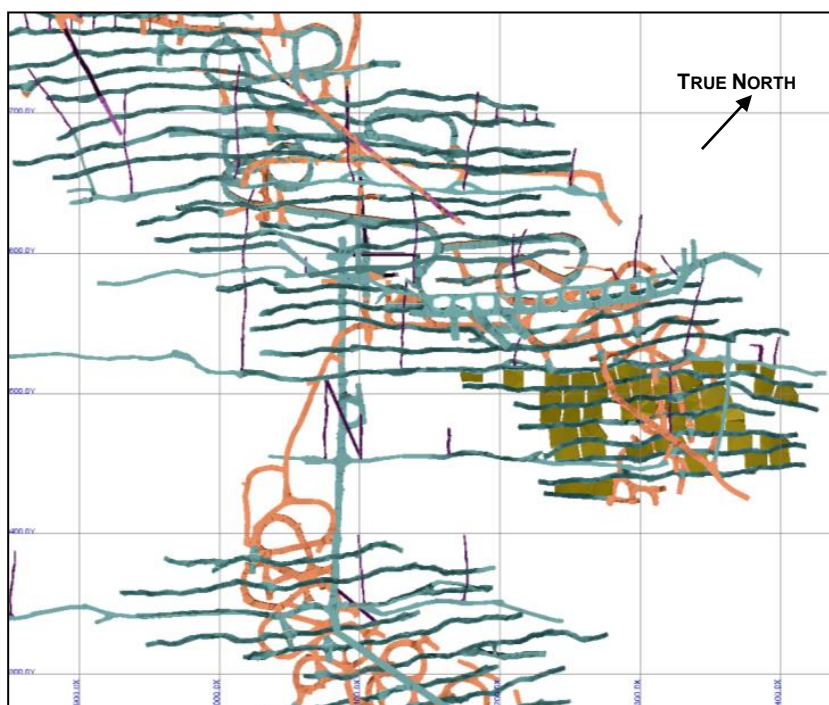
A full breakdown of the resources across the Mine Area is given in Table 5-22.

#### **Tailings**

Tailings material from the underground processing plant was redirected and stored in a series of open stopes, ramps and drives across 8 levels in the southwest corner of the Target Block (Figure 5-51). It is possible that Angel Mining documented the amount of tailings material produced on a monthly or annual basis, but detailed records have not been identified.

SRK ES estimated the tonnage of tailings material stored here in anticipation of any potential future tailing reprocessing programmes to be conducted by AEX. Table 5-21 outlines the estimated volume, tonnage and contained gold in the tailings material stored underground. A grade of 4.0 g/t Au has been used which is the average grade recorded for the tailings by Angel Mining in 2013. It is possible that due to lower recoveries, earlier tailings may have contained higher grades, but detailed records do not exist. A density of 1.29 g/cm<sup>3</sup> has been estimated following slurry calculations conducted by Jarrett Quinn Consultant Inc. on behalf of AEX, assuming a 70% settled solid and 2.9 g/cm<sup>3</sup> solid density, and based on historical particle settlement testwork included in the 2002 Feasibility Study (Kvaerner, 2002), .

SRK ES' estimate defines around 37,000 m<sup>3</sup> or 48.2 kt for 6,202 oz gold.



**Figure 5-51: Map Illustrating the Location of the Stopes Used for Tailings Storage (SRK ES, 2016)**

*Brown: stopes filled with tailings; Orange: ramps; Green: drifts; Purple: raises.*

**Table 5-21: SRK Contained Tailings Estimate (SRK ES, 2020)**

Section	Level	Volume (m <sup>3</sup> )	Density (g/cm <sup>3</sup> )	Tonnage (t)	Grade (g/t Au)	Contained Gold (oz)
Ramp	340 (50%)*	540.8	1.29	698	4	89.73
Ramp	330	1,176.3	1.29	1,517	4	195.17
Ramp	320	1,731.2	1.29	2,233	4	287.23
Ramp	300	1,708.8	1.29	2,204	4	283.52
Ramp	290	1,017.0	1.29	1,312	4	168.73
Ramp	280	1,065.0	1.29	1,374	4	176.69
Ramp	270	1,008.0	1.29	1,300	4	167.24
Adits	340	2,864.2	1.29	3,695	4	475.21
Adits	330	2,731.3	1.29	3,523	4	453.16
Adits	320	2,232.0	1.29	2,879	4	370.32
Adits	310	2,336.8	1.29	3,014	4	387.71
Adits	300	1,016.0	1.29	1,311	4	168.57
Adits	290	2,454.6	1.29	3,166	4	407.26
Adits	280	2,464.5	1.29	3,179	4	408.91
Adits	270	919.9	1.29	1,187	4	152.63
Stopes	340 (50%)*	1,143.7	1.29	1,475	4	189.76
Stopes	330	2,477.3	1.29	3,196	4	411.02
Stopes	320	3,915.2	1.29	5,051	4	649.60
Stopes	310	1,480.8	1.29	1,910	4	245.69
Stopes	300	-	1.29	-		-
Stopes	290	1,572.4	1.29	2,028	4	260.89
Stopes	280	849.7	1.29	1,096	4	140.98
Stopes	270	674.2	1.29	870	4	111.86
<b>TOTAL</b>		<b>37,380</b>		<b>48,220</b>		<b>6,202</b>

\* Stopes and footwall ramp on 340 L estimated as 50% filled with tailings

## 5.9.6 Compiled Mineral Resource Statement

The following tables constitute the 2020 Mineral Resource estimate for Nalunaq separated by area.

### *Diluted Resources*

**Table 5-22: Nalunaq Diluted Mineral Resource as of 26 June 2020 (SRK ES, 2020)**

Zone	Classification	Gross			Net Attributable			Operator
		Tonnes (t)	Grade (g/t Au)	Contained Gold (oz)	Tonnes (t)	Grade (g/t Au)	Contained Gold (oz)	
Remaining Stopes	Inferred	26,690	20.8	17,890	26,690	20.8	17,890	Nalunaq A/S
Mine Area	Inferred	396,080	18.3	233,080	396,080	18.3	233,080	Nalunaq A/S
<b>Total Inferred</b>		<b>422,770</b>	<b>18.5</b>	<b>250,970</b>	<b>422,770</b>	<b>18.5</b>	<b>250,970</b>	<b>Nalunaq A/S</b>

*Notes:*

10. Remaining Stopes reported at a cut off of 6.0g/t Au
11. Mine Area reported at a cut-off grade of 6.0g/t Au
12. Diluted to 1.2m true thickness at 0.0g/t Au
13. Gold price of US\$1,500
14. Total refining, transportation and royalties costs of US\$57
15. Total operating costs of US\$254/t.
16. All figures are rounded to reflect the relative accuracy of the estimate
17. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability
18. 100% of the Mineral Resource is attributable to Nalunaq A/S

### *Tailings Resource*

**Table 5-23: Nalunaq Tailings Mineral Resource as of 26 June 2020 (SRK ES, 2020)**

Zone	Classification	Gross			Net Attributable			Operator
		Tonnes (t)	Grade (g/t Au)	Contained Gold (oz)	Tonnes (t)	Grade (g/t Au)	Contained Gold (oz)	
Target SW	Inferred	48,220	4.0	6,200	48,220	4.0	6,200	Nalunaq A/S
<b>Total Inferred</b>		<b>48,220</b>	<b>4.0</b>	<b>6,200</b>	<b>48,220</b>	<b>4.0</b>	<b>6,200</b>	<b>Nalunaq A/S</b>

*Notes:*

1. Reported at a cut-off grade of 0.0 g/t Au
2. All figures are rounded to reflect the relative accuracy of the estimate
3. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability
4. 100% of the Mineral Resource is attributable to Nalunaq A/S

## 5.9.7 Mineral Resource Sensitivity

The total Inferred Mineral Resource estimate for Nalunaq is sensitive to both the reporting cut-off grade used (the cut-off grade estimate is most sensitive to the forward-looking gold price assumptions) and the minimum mining width applied.

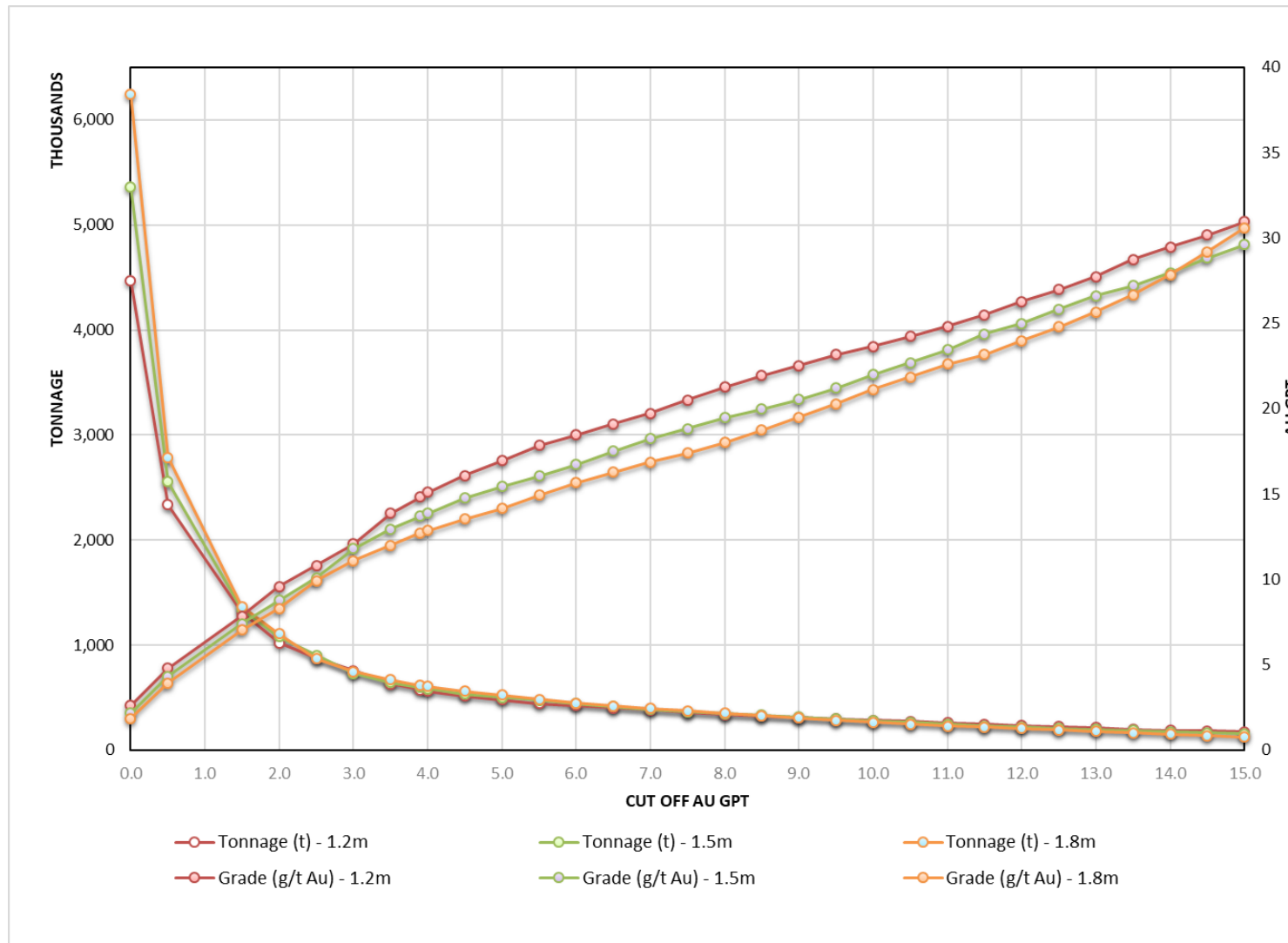
An average of 1.2 m mining width is currently being scheduled by AEX through their ongoing mining studies. However, and from historical evidence, the resource remains sensitive to the effectiveness of the various mining methods applied and to whether the targeted mining widths can be maintained during mining operations. Should more reliance on methods with wider mining widths be required then this may influence the average grade. Therefore, SRK ES has provided a sensitivity analysis to the 2020 Mineral Resource Estimate based on a 1.2 m, 1.5 m and 1.8 m average true mining widths for various cut-off grades (Table 5-24 and Figure 5-52).

**Table 5-24 Nalunaq Mineral Resource Estimate, 26 June 2020, at a Range of Cut Off Grades and Mining Width (SRK ES 2020)**

		1.2m Mining Width			1.5m Mining Width			1.8m Mining Width		
		Tonnage (t)	Grade (g/t Au)	Contained Gold (oz)	Tonnage (t)	Grade (g/t Au)	Contained Gold (oz)	Tonnage (t)	Grade (g/t Au)	Contained Gold (oz)
Cut off Grade (g/t Au)	8.0	339,560	21.3	232,240	347,360	19.5	217,510	352,890	18.0	204,560
	7.5	359,900	20.5	237,310	367,530	18.8	222,530	375,930	17.4	210,310
	7.0	382,440	19.7	242,560	387,480	18.2	227,190	396,890	16.9	215,200
	6.5	401,410	19.1	246,680	413,850	17.5	232,910	421,640	16.3	220,560
	6.0	<b>422,770</b>	<b>18.5</b>	<b>250,960</b>	443,800	16.7	238,920	449,010	15.7	226,070
	5.5	444,480	17.8	254,970	472,980	16.1	244,320	484,950	14.9	232,700
	5.0	478,360	16.9	260,680	502,610	15.4	249,310	526,990	14.2	239,790
	4.5	515,120	16.1	266,290	535,780	14.8	254,350	563,310	13.5	245,340
	4.0	561,670	15.1	272,620	585,790	13.9	261,190	606,950	12.9	251,300

Table stated on a 100% basis.

Figure 5-52 Nalunaq Mineral Resource Estimate, 26 June 2020, Grade Tonnage Curves, by Mining Width (SRK ES 2020)



### 5.9.8 Exploration Target

SRK ES has extrapolated their estimate from the Mine Area out across the rest of the known MV based on historic surface diamond drilling and channel sampling, as well as the acquired surface samples from 2015, 2016 and 2019 that demonstrate the continuity of the MV. This region has been defined as an Exploration Target. SRK ES considers this area as holding significant resource potential.

In an attempt to quantify the Exploration Target, SRK ES has used the relative proportions of the high and low grade domains seen across the Mine Area, as well as their average grades, and extrapolated this behaviour across the Exploration Target.

These data have been used to outline an exploration target of 200 koz gold to 2.0 Moz gold contained within 2.5 Mt to 10 Mt grading between 2.4 to 6.0 g/t Au.

The potential tonnages and grades are conceptual in nature and are based on previous drill and grab sample results that defined the approximate length, thickness, and grade of the MV away from the mine area. There has been insufficient exploration to define a Mineral Resource and SRK ES cautions that there is a risk that further exploration will not result in the delineation of a Mineral Resource.

From their geological review, SRK ES expects that some form of higher-grade mineralisation in the MV structure, un-sampled so far except via surface sampling, will exist in this area. This will likely only be defined through further exploration and, particularly, underground exploration.

### 5.9.9 Comparison to Historical Resources

Several historical resources have been stated for Nalunaq over the life of the project. The most recent is the 2016 MRE produced by SRK ES with the effective date of 16 December 2016. This current 2020 MRE is a relatively minor update to this earlier estimate taking into account the new drilling data and underground surveying as well as the removal of the material contained within the newly identified surface waste dump. The resultant change, when reconciled at a comparable mining width and cut-off grade, is a reduction of roughly 30 koz gold in the Inferred Resource. Other than the removal of the waste dump area, the main reason for this is due to the lower average grade intersections of MV achieved from the 2017 to 2019 drilling, mainly in the South Block domain. This is not unexpected given the high nugget characteristics of the mineralisation and the historical poor representativeness of surface drilling at Nalunaq; in-situ grades may be higher than those modelled using drilling data alone, as has been demonstrated by underground sampling and mining operations.

Prior to 2016, the most recent estimate that SRK ES has access to is Angel Mining's non-compliant December 2013 statement that defined around 19,000 oz gold at a zero cut-off grade in the Measured and Indicated categories, and a further 120,000 oz of gold in the Inferred category. SRK ES' new resource is larger. The main reasons for this are three-fold. Firstly, the Angel Mining estimate covers a smaller area than that included in the Inferred category in this case i.e. a smaller area has been assigned to the known extent of the MV. Secondly Angel Mining's estimate was more rudimentary and did not use all samples or the geostatistical behaviour of the three MV domains to estimate grade. Instead it was a basic extrapolation of the closest grades away from known areas. Thirdly, the Inferred resources in the Angel Mining estimate did not have the benefit of new evidence for MV extensions to the west and southwest that was obtained during the 2015 and 2016 exploration programmes and therefore encompasses a much smaller area than that applied to the Exploration Target area in the new estimate.

### 5.9.10 SRK ES Comment

The new MRE produced for Nalunaq provides an up-to-date estimate of the contained Mineral Resources taking into account the newly acquired survey and exploration data. The new block model has also been interrogated by a minimum mining width and resultant cut-off grade based upon the strategy to utilise a resale mining method in future operations.

The resultant Mineral Resource statement is a relatively minor change to that documented in 2016 and fully detailed in SRK ES (2016) An Independent Technical Report on The Nalunaq Gold Project, South Greenland, and the reader is encouraged to review this document if further details are required.

## 5.10 Mineral Processing and Metallurgical Testing

Gold ore at Nalunaq contains a high proportion of coarse gold which makes gravity recovery an effective method to recover a significant proportion of the total contained gold. As outlined by the Feasibility Study (Kvaerner, 2002), testwork has shown up to 89% gravity gold recovery using standardised procedures. Other heavy minerals such as arsenopyrite and copper sulphides are also present in the ore and may concentrate along with gold in the gravity concentrate. However, historical studies have shown that doré of acceptable quality is achievable with good flowsheet design, appropriate equipment selection and effective operation (Kvaerner, 2002). Audits carried out on Angel Mining's processing operation by SGS clearly describe several shortcomings that explain why gravity concentration was not successful and why the potential of this method was not realised (SGS, 2010).

Previous studies have considered flowsheets which include gravity separation to recover coarse / free gold followed by cyanidation of the gravity tailings stream, or direct cyanidation.

Initial operations by Crew Gold (2003-2006) involved direct shipping of Nalunaq ore to Rio Narcea Ltd.'s El Valle plant for processing. The flowsheet included gravity recovery, flotation and cyanidation. On average, roughly 65% of gold was recovered to a clean concentrate at El Valle with overall recovery ranging from 96-98%. From 2006-2009, Nalunaq ore was processed at the Nugget Pond direct cyanidation plant in Newfoundland (now owned by Rambler Metals and Mining) with overall gold recoveries ranging from 92-94%.

The past flowsheets have also demonstrated that the ore at Nalunaq is highly amenable to flotation, with a total gold recovery of gravity and flotation in the range of 92-95%.

### 5.10.1 Historical Metallurgical Testing

The 2002 Feasibility Study (Kvaerner) reported on metallurgical testwork by several parties including Lakefield Research, Falcon, Gekko, and André Laplante which supported development of the processing flowsheet. The report considered a process plant which included:

1. A two-stage crushing circuit followed by a single-stage ball mill;
2. Gekko jigs, in-line spinners and a shaking table to recover ca. 80% of the gold by gravity;
3. Tailings from the gravity circuit were processed via a conventional leach and carbon-in-pulp (CIP) circuit with a 60-hour leach retention time and one-hour retention time per tank in the CIP circuit. Oxygen addition was found to improve leach kinetics, and six leach stages were recommended;
4. A split AARL elution circuit;
5. Detoxification of the CIP tailings using the INCO process.



### 5.10.2 Recent Metallurgical Testing

SGS Minerals Services UK Ltd. (SGS) was commissioned by Angel Mining in 2011 to carry out metallurgical testwork on samples from Nalunaq in order to investigate the ore’s amenability to cyanide leaching. The objective was to obtain data relating to potential gold recovery from plant feed material at different grind sizes, densities, and cyanide strengths, thereby determining the optimum operating parameters for the underground processing plant at Nalunaq. Angel Mining had also considered the use of gravity methods followed by cyanide leaching of the gravity concentrates, but ultimately constructed a plant using only direct cyanide leaching.

The following conclusions were reached by SGS following this work (SGS, 2011):

- The head grade of the material provided was 9.67 g/t gold and 1.67 g/t silver;
- The optimum grind size is a D<sub>80</sub> of 75 µm or below (Figure 5-53);
- A review of all final gold recovery results for all tests shows that the gold and silver readily leach at a grind D<sub>80</sub> of 75 µm and at a density of between 30% and 47% solids (Figure 5-54);
- There was a significant percentage of coarse nuggety gold in the sample which was recoverable by gravity. SGS noted the presence of other heavy minerals which might hamper efficient separation or direct smelting of the concentrates in plant;
- The leach recovery of the gold over 24 hours suggests a 95% recovery on the current density of 30% solids and cyanide strength of 0.5 g/l NaCN at a grind size of 75 µm (Figure 5-55);
- Silver recovery is also high between 85% and 95% at a grind size of 75 µm;

Leach kinetics testing on gravity tailings would be a worthwhile investigation if gravity were deemed to be a viable process route.

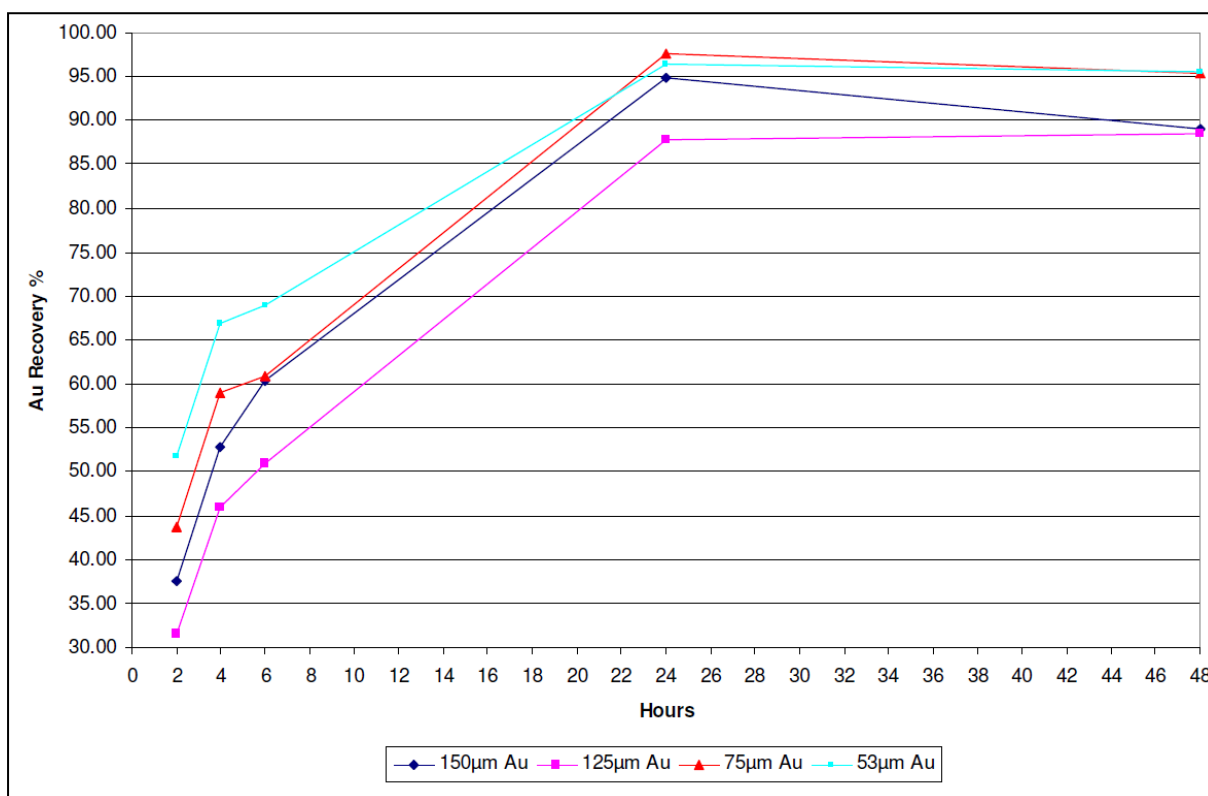


Figure 5-53: Effect of grind size on gold recovery in cyanide leaching (SGS, 2011)

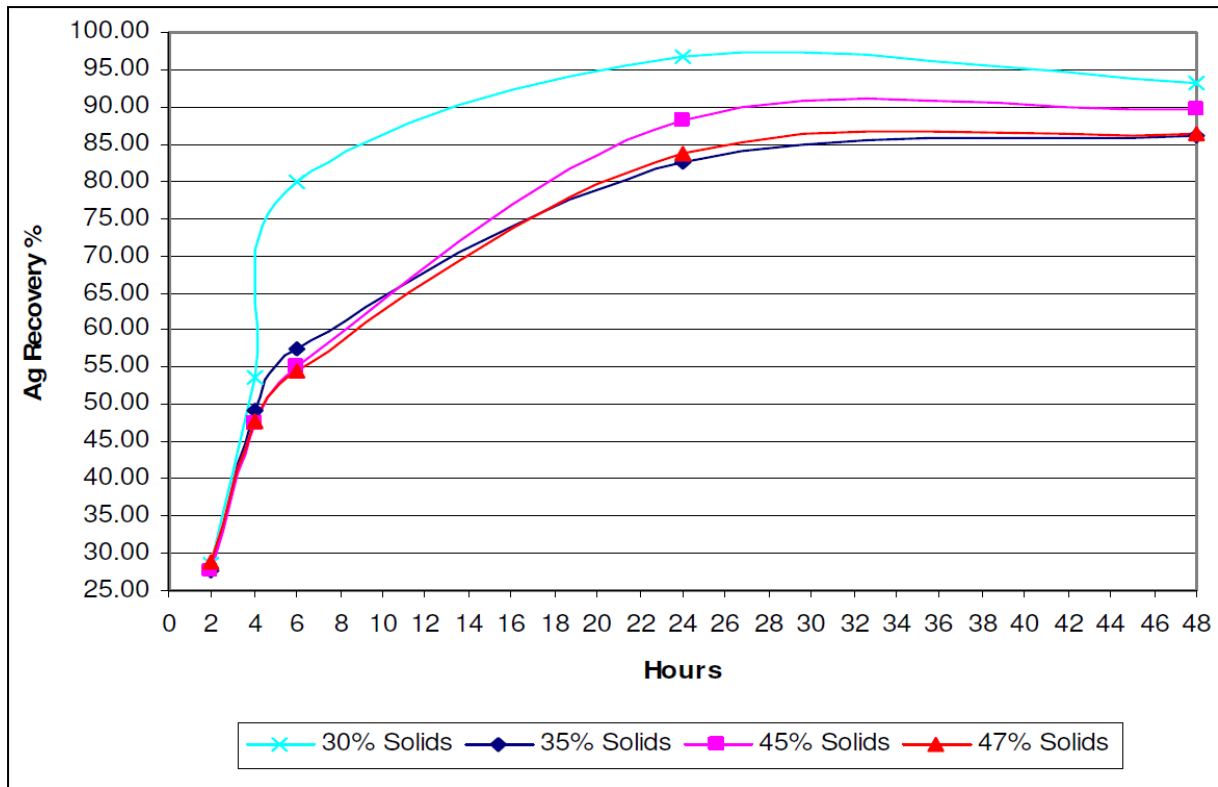


Figure 5-54: Effect of feed density on gold recovery in cyanide leaching at a grind size  $D_{80}$  of 75  $\mu$ m (SGS, 2011)

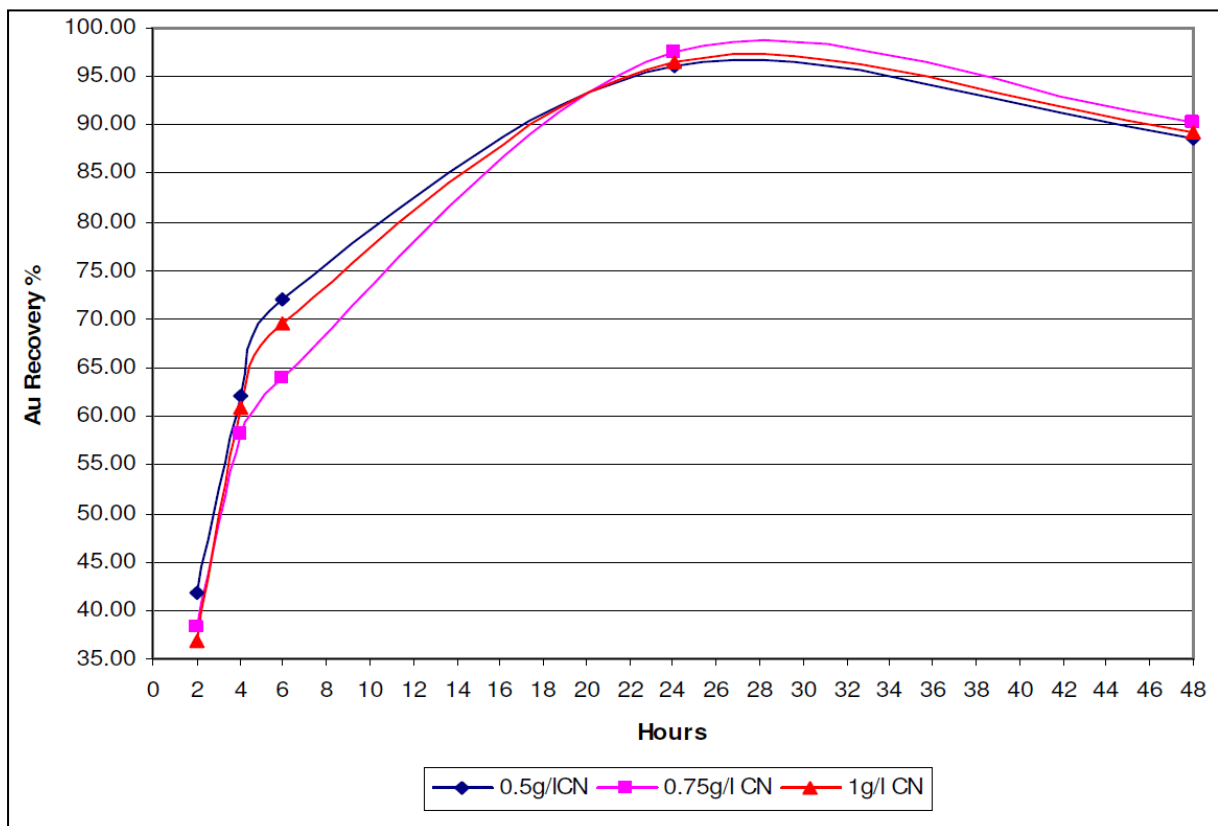


Figure 5-55: Effect of cyanide solution strength on gold recovery in cyanide leaching at a grind size  $D_{80}$  of 75  $\mu$ m and a density of 30% solids (SGS, 2011)

In 2019, AEX sent a 500 kg sample to a facility operated by TOMRA in Germany to assess the potential of ore sorting. The sample was taken from the 460 level in Target Block and comprised broken material that was hand-picked from the drive. 28% of the sample mass was mineralised quartz vein material whilst the remainder was unmineralised amphibolite and granite. AEX considered the sample to be representative of the relative proportions of rock types on this level. The preliminary tests demonstrated that ore sorting could be effective in rejecting 58% to 71% of the waste upstream of the milling circuit and increasing head grades by a factor of up to 2.6.

In 2020, AEX Gold Inc. initiated a metallurgical testwork programme with SGS Canada Inc. in Lakefield, Ontario, Canada. The objectives of the programme are to further evidence the high gravity-recoverable gold results of historical testwork, and provide additional results for the potential of flotation; the 2002 Feasibility Study demonstrated a very high gold recovery, comparable to cyanide leaching. Results from AEX's current testing programme are not yet available.

### 5.10.3 SRK ES Comment

Kvaener (2002) reported that 80% of the free gold is recoverable with gravity methods, and reasonable recovery of a clean concentrate was demonstrated on an industrial scale at El Valle in Spain. Although the previous gravity concentration circuit operated by Angel Mining was not successful due to the high impurities in the doré, an audit by SGS in 2010 indicated that this was a result of important design flaws and operating issues. As was reported by Kvaerner (2002), SGS recommended the implementation of a calcination process ahead of smelting to remove the impurities in the doré, making it easier to refine.

Additionally, in 2019 AEX undertook a mechanical and process audit on the existing underground processing plant that was installed and operated by Angel Mining. AEX recorded various operating and design issues which explained the poor plant performance and metallurgical recovery. Addressing the identified issues, as well as implementing a calcinating process ahead of smelting, may allow AEX to reach the metallurgical performance achieved in the historical testwork and at offshore plants where the ore was processed in Spain and Newfoundland.

## 5.11 Proposed Nalunaq Project Development

AEX has informed SRK that it intends to recommence mining and processing operations on site early in 2022 at a rate of 300 tons per day. This will be implemented in such a way that initial capital costs are minimised and the potential for gold recovery by gravity from mined material is maximised; the processing plant will initially consist of a two-stage crushing circuit, followed by ball milling and gravity recovery. The gravity concentrate will be upgraded by shaking table, and the tabled concentrate will be roasted in a calcination oven, and then smelted to produce doré on site. The gold recovery from the gravity only plant aims to be between 65-70%. The mining method will be a combination of longhole open stoping and more selective mining methods to mine the sublevels, although the definitive mining methodology will be decided by a mining study based on the Mineral Resource that should be identified through further exploration and development.

AEX intends to use cashflow from this operation to refurbish the underground cyanide plant for longer term operation to increase the overall gold recoveries to 95%, while investigating the potential of flotation to replace cyanide leaching with a similar total gold recovery of nearly 95%. Alternatively, the company, through its ongoing testwork program, may opt to substitute cyanide leaching by a simpler flotation process as the total gold recoveries are comparable for both

options.

Tailings from the gravity circuit will be dewatered, filtered and disposed of on a surface Dry Stacked Tailings Facility (“DTSF”). Since the tailings of the gravity circuit will still hold an economic value as the gravity tailings will have a grade of 30-35% of the feed head grade, AEX will design its DTSF so that the gravity tailings can be easily reclaimed in the future. The DTSF will be subject to approval as part of the exploitation plant to be submitted to the Greenland Government.

In order to re-establish production based on an initial gravity recovery operation, AEX has summarised their plant, equipment and infrastructure requirements as follows:

- 100-person camp with associated facilities (e.g. medical facility, water treatment, sewage treatment, incinerator);
- Fuel storage facility;
- Power generators for camp and for process plant/mine;
- Process Plant (300 tpd):
  - New primary crusher (jaw);
  - New screening and secondary crusher (cone);
  - Ball Mill;
  - Gravity Concentrators;
  - Shaking tables;
  - Small concentrate calcining and smelting area;
- Surface support equipment.

AEX envisages a contractor mining operation, with mining equipment, staff and maintenance being provided by the contractor.

## 6 NALUNAQ EAST

### 6.1 Property Geology

The geology of Nalunaq East is, broadly speaking, an eastward continuity of that seen at Nalunaq (see Section 5.1). Some key differences reported by AEX include the fact that the amphibolites, exposed on the steep northern face of Ship Mountain, have a vertical dip and are conformably overlain by green metamorphosed lapilli tuffs that form the mountain's summit (Figure 6-1). The greater abundance of volcanoclastic rocks implies that the metavolcanic package at Ship Mountain could be stratigraphically higher than that at Nalunaq. Gold-mineralised features may therefore also be displaced.

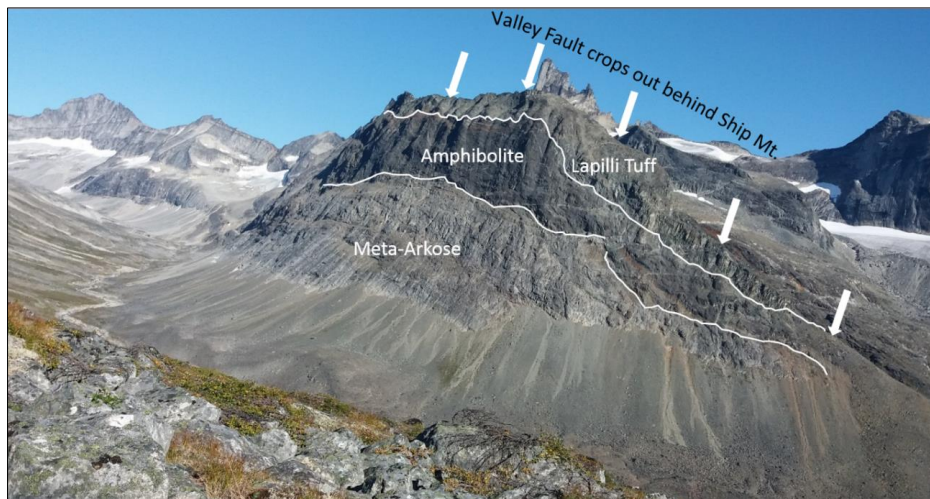


Figure 6-1: View of Ship Mountain taken from northern side of the Nalunaq valley (AEX field photograph, 2018)

### 6.2 Mineralisation

The geological map of the area shows that the same amphibolite that hosts MV within the Nalunaq Mine continues east, across the valley into Nalunaq East (Figure 5-1). The mineralisation identified at Nalunaq East has historically been associated with small quartz veins within this amphibolite unit. However, to date, MV or a similar continuous high-grade gold bearing horizon associated with varying degrees of quartz veining has not been identified.

The Valley Fault that separates Nalunaq and Ship Mountain is very poorly understood due to the lack of exposure within the valley. It is not clear what effect this fault has had on the stratigraphic levels or if it is directly related to the mineralisation phase which formed the MV.

### 6.3 Historical Exploration

Historical exploration within Nalunaq East has primarily consisted of limited geological mapping and grab sampling programmes. The aim was to identify a similar style of mineralisation as that found across the valley at Nalunaq during the initial exploration of Nalunaq by NunaOil and Crew Gold from 1990-mid 2000's (see Section 5.3.1 for further details). No systematic sampling or drilling has been undertaken at Nalunaq East.

### 6.4 AEX Exploration

AEX undertook a grab sampling programme in 2017 targeting the main amphibolite exposure, across the valley from Nalunaq on Ship Mountain. Due to the very steep/vertical nature of the terrain, a team of four professional mountaineers were employed to undertake the sampling. They were supervised by a geologist using radios and observing through telescope and

binoculars from vantage points situated across the valley. Where the terrain allowed, the geology team did land on the mountain to reconnoitre the area, make geological observations, and guide the samplers.

### 6.4.1 Mountain Sampling

The sampling was executed by a team of professional climbers assisted by a geologist, who guided the climbers using telescope/binoculars and radios (Figure 6-2). They targeted quartz veins situated within calc-silicate altered amphibolite. The possibility of finding the same or similar structure in the amphibolites cropping out in the face of Ship Mountain has obvious implications. Similar work had been conducted in the 1990's when some gold values were found in quartz veins. Inspections of the face from a helicopter revealed that a great number of sub-horizontal quartz veins occur at different elevations within the amphibolite. It was decided that the face would be traversed using vertical drops. This is not the ideal way of following and sampling sub horizontal quartz veins, but the terrain dictated that access from the summit or ridge line was the only way to get to the veins. The face is about 600 m long and a total of twelve drops were completed as well as one horizontal traverse. It was hoped that through this method any MV type mineralisation could be identified between traverse lines which would then be followed up with closer spaced sampling.

The veins targeted followed the same sub-vertical orientation as the amphibolite host rock. Increased calc-silicate alteration was observed at inter-unit boundaries within the amphibolite. A great number of late stage aplite intrusions, referred to locally as dykes but more appropriately termed sills, occur within the amphibolite and on lithological boundaries. Great care was taken not to sample these features as they are historically known to be barren and are generally unaltered (they post-date the main mineralisation event in the area).



**Figure 6-2: Geologist guiding the sampling team. Mine access road seen in valley bottom and Sarqa Fjord in background**

A total of 89 rock samples were collected by the climbing team. All were hewn from hard rock outcrop using hammers and chisels. Where possible, dips and strikes of the quartz vein were taken.

Each sample was approximately 2 kg in size. The following data was recorded at each sample

location:

- GPS location of the sample (mountaineer);
- Dip and strike of the feature (mountaineer);
- Lithological description of sample (geologist); and
- Mass of sample (geologist).

The samples were assayed using a screened fire assay to capture any coarse gold such as that found across the valley at Nalunaq.

### 6.4.2 Results

In summary, Ship Mountain consists of three major geological units which all strike NE-SW and are near vertically dipping. From NW to SE these units are pale grey meta arkose sediments, amphibolites, and lapilli tuffs. All these units are crosscut by later felsic aplite dykes. The amphibolite is interpreted to be the same unit which hosts the MV at Nalunaq and is considered to be prospective for hosting gold bearing quartz veining. Again, like Nalunaq, the amphibolites contain multiple alteration zones of calc-silicate and iron minerals.

From a total of 89 grab samples taken, seven samples returned Au results over the detection limit for Au (0.05 g/t Au). The highest-grade sample came from a 10-12 cm altered quartz vein with some iron staining that was likely caused by the breakdown of contained sulphide minerals (Table 6-1 & Figure 6-4).

**Table 6-1: Results over 0.05 g/t Au detection limit**

Sample ID	Easting*	Northing*	Elev	Sample Type	Au (g/t)	Sample Description
18503	510335	6692667	617	GRAB	0.06	Thin 2-5 cm discontinuous quartz vein
18570	510295	6692559	635	GRAB	0.5	Thin partially iron stained quartz vein
18573	498610	6679988	628	GRAB	0.09	Large white quartz vein
19018	510484	6692823	826	GRAB	2.1	10-12 cm thick quartz vein with calc silicate inclusions and some iron staining
19023	510810	6693083	887	GRAB	0.06	10-15 cm thick quartz vein hosted in calc silicate
19025	510626	6692875	910	GRAB	0.21	15 cm thick quartz vein
19031	510715	6693027	841	GRAB	0.05	~20 cm thick quartz vein

\*CRS WGS84 UTM Zone 23N

Due to the very steep, almost vertical, nature of the terrain sampled, plotting results onto a standard 2D view plan/map is not effective, with many of the points plotting on top of each other. Therefore the results were plotted on a series of detailed field sketches of the northwest face of Ship Mountain in order to better display the relative positions of the sample data points (Figure 6-3 and Figure 6-4).

With regards the QAQC samples, all blanks returned below the detection limit for Au. The three CRM's all assayed within 2SD of the expected grade.

Sampling of Ship Mountain during the 2017 field programme has shown that gold mineralised quartz veins do occur. It is also clear that many of the veins are discontinuous in nature. The veins occur within the amphibolite unit and have associated calc-silicate alteration in the same style as that seen at Nalunaq mine. It is interpreted to be contemporaneous.

A total of seven of the 89 samples taken returned gold grades greater than the detection limit.

However only one sample assayed over 1 g/t Au. This was from a relatively thin quartz vein which was thought to have a limited strike extent—although the aforementioned limitations with vertical access drops precluded thorough exploration of this observation.

The sampling did not encounter a structure that carries mineralisation comparable to the MV in the Nalunaq mine. This is not to say that such a structure does not exist at Nalunaq East.

At the current spacing of the samples it is also not possible to say if the anomalous samples form linked zones of mineralisation or are isolated and discontinuous.



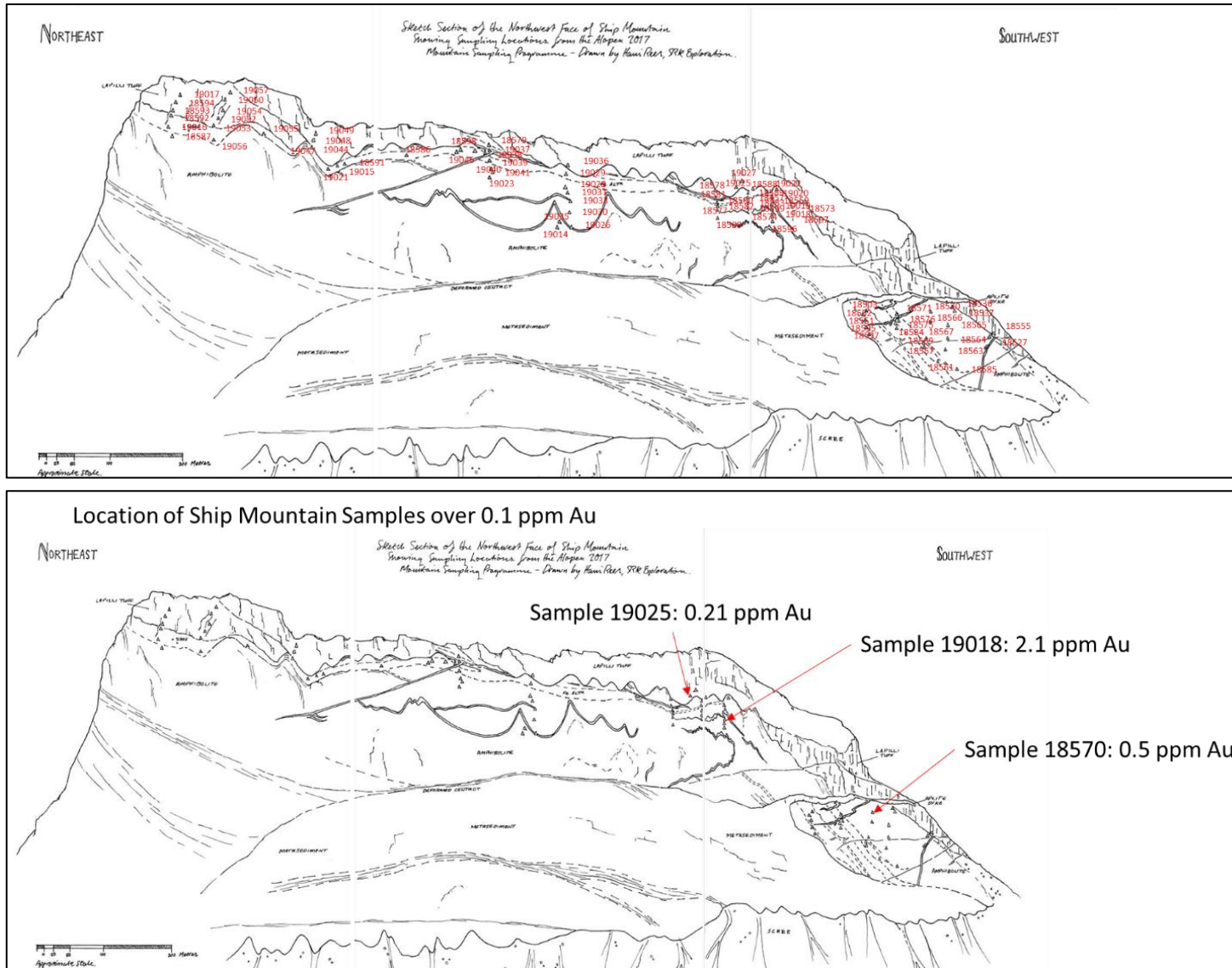


Figure 6-3: Top: Sketch of ship mountain sample locations; Bottom: Samples over 0.1 g/t Au (AEX field sketch, 2017)

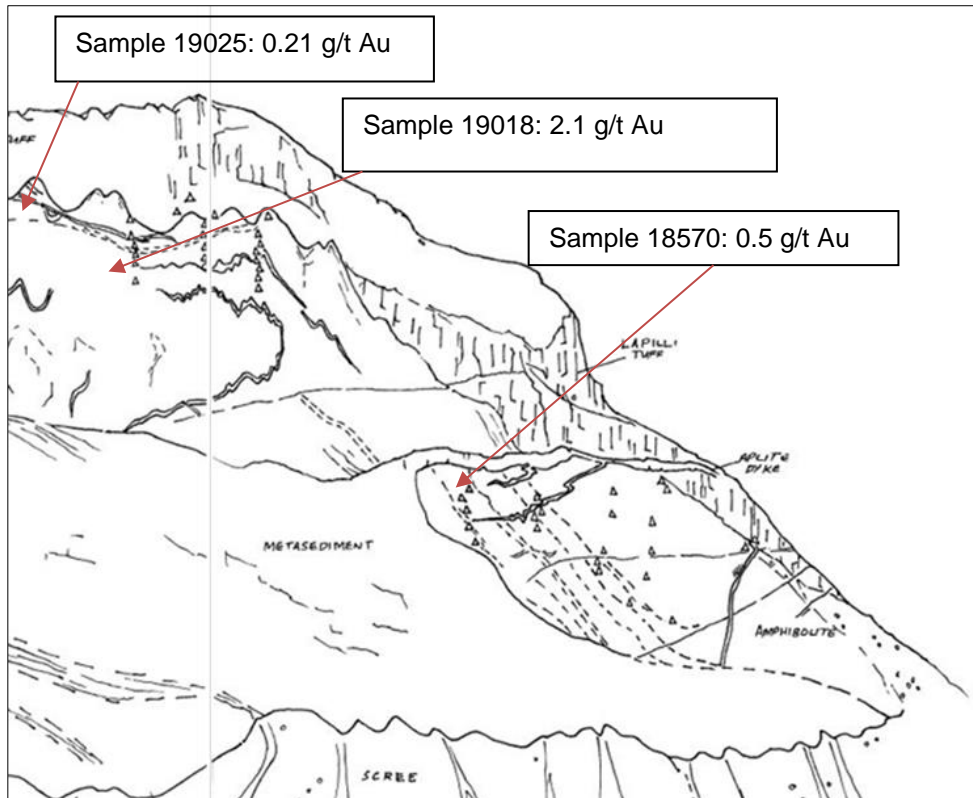


Figure 6-4: Close up of highest-grade results on Ship Mountain

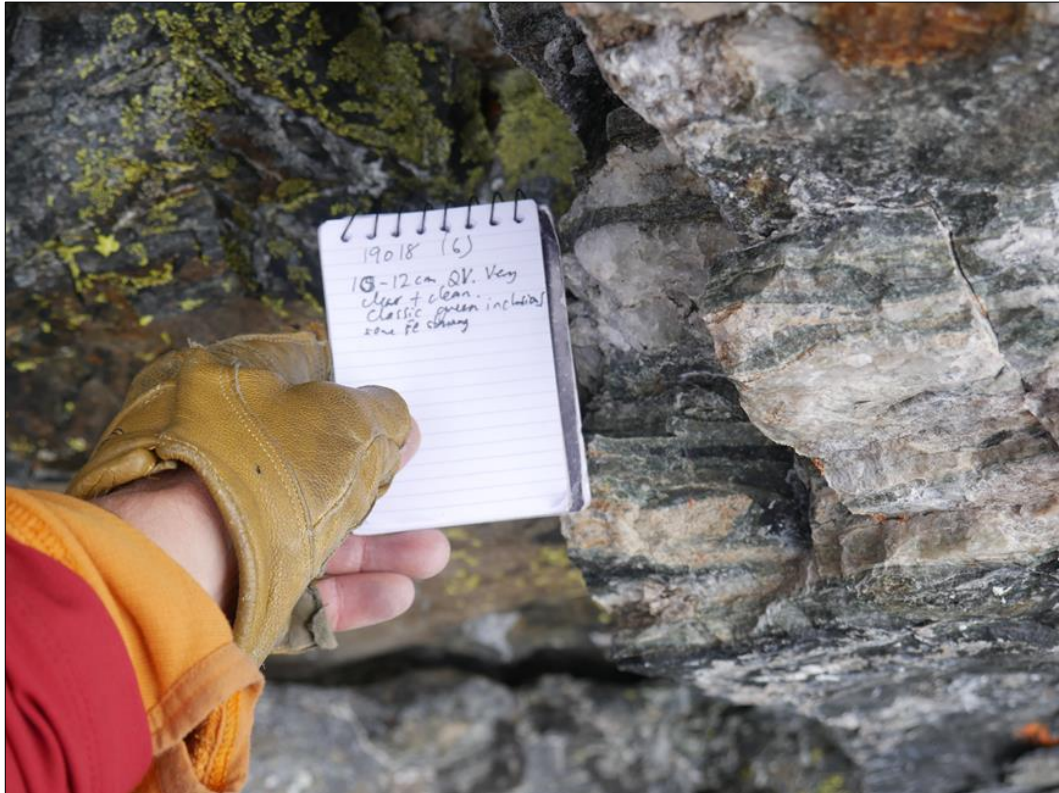


Figure 6-5: Sample 19018 quartz veining surrounded by calc silicate alteration assaying 2.1 g/t Au

## 7 NIAQORNAARSUK PENINSULA

The Niaqornaarsuk Peninsula (NP) target is a combination of two sub-areas, MEL 2006-10 (known as Niaqornaarsuk) and MEL 2019-113 (known as Søndre Sermilk). The target is situated along the Niaqornaarsuk Peninsula, giving it its name, occupying the eastern shore of the Søndre Sermilik fjord. The area held under the MEL 2006-10 sublicence has historically been known as the Vagar Gold Project.

### 7.1 Property Geology

The NP target is within the Julianehåb Batholith Zone comprising mainly granodiorite, on the boundary with the Psammite zone to the southeast (Figure 4-1). Other rock types such as diorites, gabbros, quartz-diorites, and felsic volcanics are subordinate. Amphibolite units that are known from Nalunaq are not present in the Niaqornaarsuk Peninsula or occur only as small dykes or xenoliths within granitoids (Figure 7-1). Six principal prospects are covered by the NP target. These are listed below namely:

- Greater Amphibolite Ridge (GAR): divided into several discreet areas: Vein 1, Vein 2, Femøren, Øresund, West Ridge, Bella, Christianshavn, Kastrup, Ørestad, and Crown (Figure 7-3)
- LGM Showing (or Laila's Showing)
- Quartz Swarm
- UFO Mountain
- Tom's Vein
- Qoorormiut North

Descriptions relating to geology and the nature of mineralisation herein have been extracted mainly from exploration reports prepared by NunaMinerals A/S (NunaMinerals).

The most explored NP prospects and the focus of this historical and current work are within the GAR area. The other prospects are at an early stage of exploration and are referred to as the "Outlying Prospects". No additional prospects have been defined since NunaMinerals relinquished the licence.

The GAR area is located at the southern side of Qoorormiut Valley and includes Amphibolite Ridge itself, along with the area known as Tributary Valley. The ridge is steep sided and narrow, running roughly north-south between two glacial valleys (Figure 7-2). The ridge is dominated by potassium-feldspar altered granodiorites with subordinate quartz-diorite, and enclaves of mafic rocks described as potassium-feldspar rich alkali lamproites (Schlatter et al., 2013, Figure 7-3). At least two steeply dipping ductile-brittle shear zones transect the ridge obliquely and are associated with auriferous quartz veining hosted locally within sheared amphibolite material.

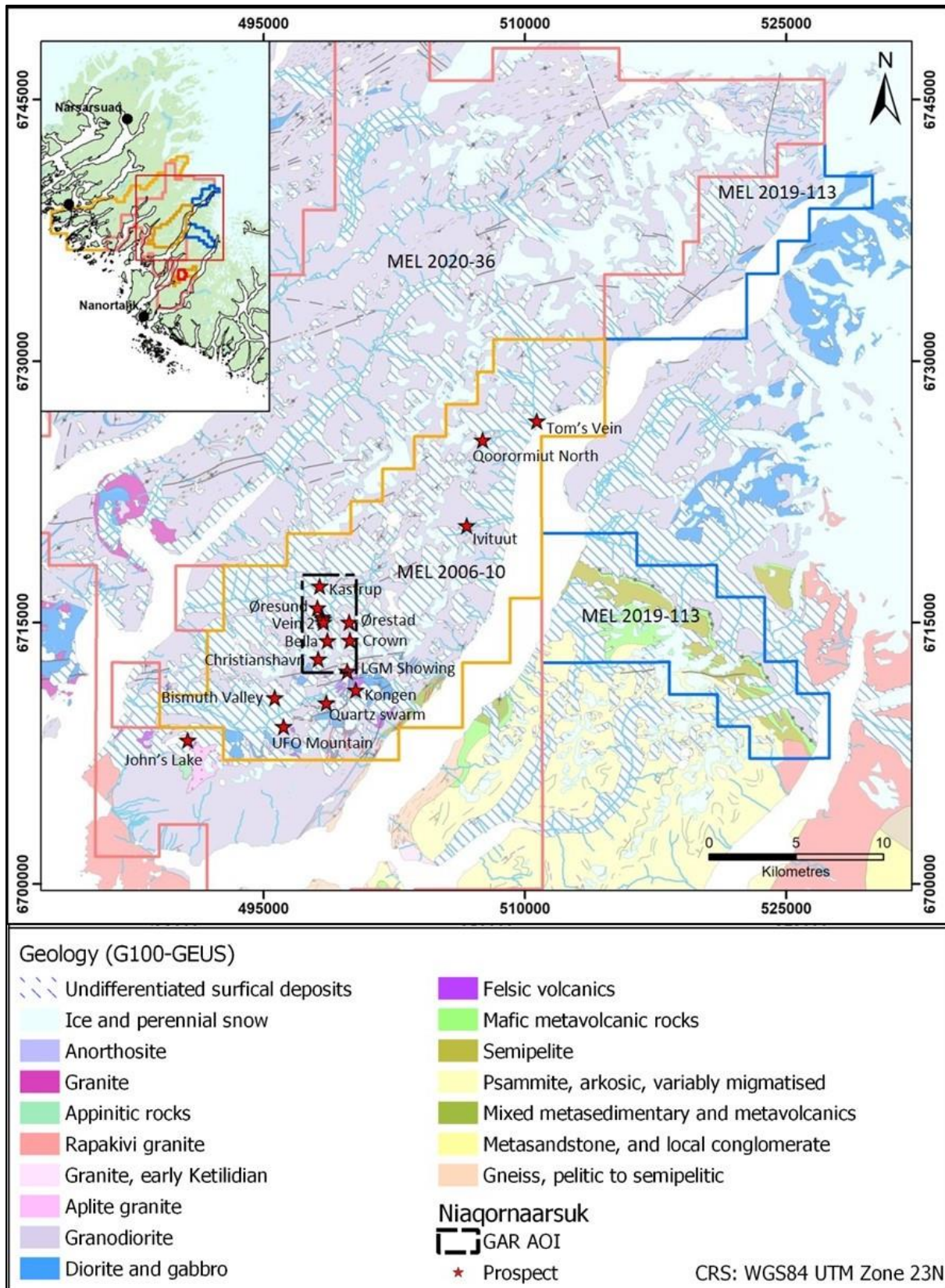
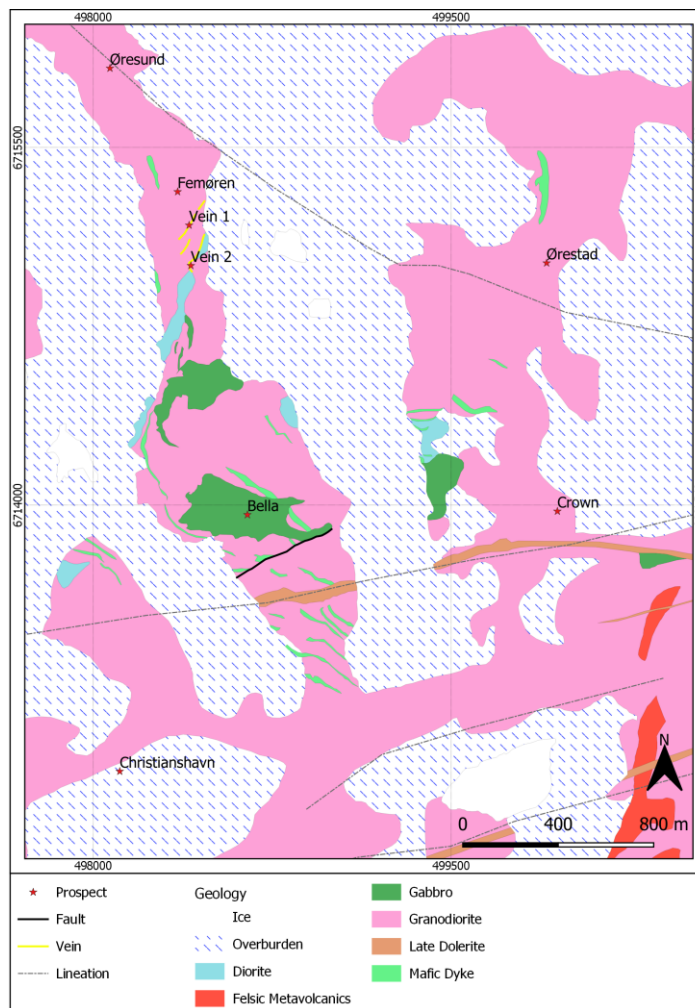


Figure 7-1: Geological map of the Niaqornaarsuk Peninsula and Ippatit sub-area



**Figure 7-2: Aerial view of Amphibolite Ridge looking due east at the steep western face\***

*\*Veins 1 and 2 outcropping on the opposite side of the ridge in the saddle (centre left of image). Gabbro and quartz-diorite enclaves in granitoid host visible at the south end of the ridge (right of image) (SRK, 2012)*



**Figure 7-3: Geology of GAR and associated prospects (modified from Schlatter et al., 2012)**

## 7.2 Mineralisation

The following section has been summarised from the NI 43-101 report written by SRK Consulting (SRK, 2013).

Gold mineralisation in the Niaqornaarsuk Peninsula area is mainly associated with two sets of sporadically developed structures, which are thought to be part of a regional compressional deformation event. Two types of brittle-ductile shears have been identified: Set 1-type (NNE 010-45 striking, sinistral) is seen on Amphibolite Ridge, with Set 2-type (WNW 100-135 striking, dextral) mapped at outlying prospects within the Niaqornaarsuk sub-area.

In general, gold mineralisation is thought to be associated with weak sulphide mineralisation, potassium-feldspar alteration, and silicification within granitoids and quartz veining (plus or minus mafic enclaves) within brittle-ductile shear zones. Mineralisation is likely to have a strong structural control, although an overall structural model incorporating these prospects is yet to be developed.

Gold in the Greater Amphibolite Range area has been identified in association with two steeply dipping/subvertical shears zones typically from 0.5 to 4 m in width (locally exceeding 20 m in structurally controlled pods, Figure 7-4). These zones show weak sulphide mineralisation with silicified and potassium-feldspar altered granitoids proximal to the veins. The movement vectors on the shears are shallow plunging, sub-horizontal to 30° northeast. The implication of this is that exposed sections of gold-bearing structures on steep mountain sides are oblique sections through the structures and that high-grade sections of veins (shoots) will tend to plunge steeply i.e. normal to the shear vector. The mineralised shears are discrete, narrow zones of high ductile-brittle strain in relatively undeformed host rocks of granite containing enclaves of mafic rocks and quartz veins. The shears appear to be single structures with no splays and are not in zones of parallel or anastomosing shears, which would be typical of larger, wider shear zones.

Mineralised shears tend to be focused at contact zones between amphibolites and granites, which localise shearing. Based on outcrop mapping and drill core intersections, two gold-bearing shears have been identified on Amphibolite Ridge, namely Vein 1 (north) and Vein 2 (south) (Figure 7-5). Both Vein 1 and Vein 2 structures belong to Set 1-type dipping steeply and striking north-northeast. Through drilling and outcrop mapping, Vein 2 has been traced over a strike length of roughly 600 m and to a down-hole depth of 300 m. Both structures appear to be open along strike and at depth. Within these structures, gold occurs in syn-tectonic quartz veins, within a zone of high strain, typical of many of the features of Archaean-Palaeoproterozoic orogenic gold deposits.

Veins have developed during shearing and have become rotated and deformed to different degrees during shear development. The quartz veins are dominantly massive quartz, with varying amounts of inclusions. Two, possibly three, steeply plunging pipe-like shoots are developed in Vein 2.



Figure 7-4: L: Amphibolite Ridge looking south. R: Vein 2 outcrop at Main Pod, containing visible gold. The upper part of the Tributary Valley in the background (SRK, 2012)

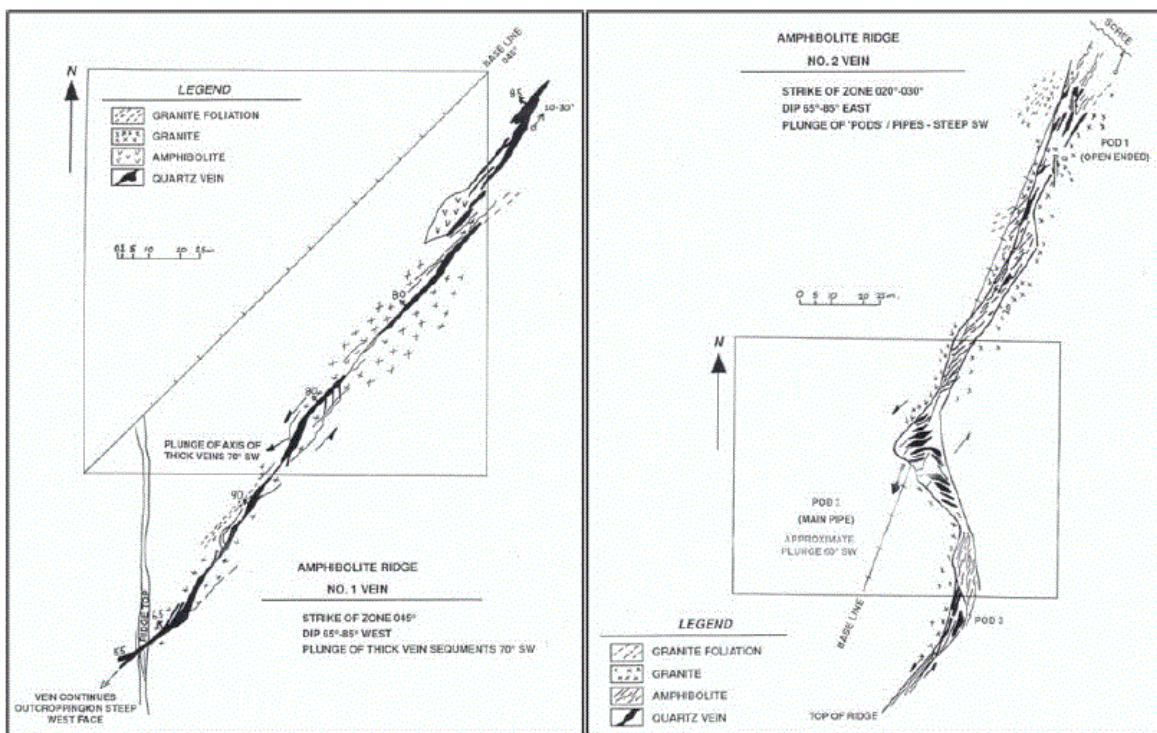


Figure 7-5: Outcrop map of gold-bearing structures on Amphibolite Ridge. LHS: Vein 1, RHS: Vein 2 (modified from ERA-Maptech report, 1994)

Alteration of the host granites and granodiorites is characterised by potassium-feldspar, silicification, quartz veining, pyrite and pyrrhotite (occurring in both patches and fine stringers), calc-silicate, biotite, and epidote alteration. These rocks contain numerous small scale ductile-brittle shears and cataclastic zones with the same trend and sense of shear as Veins 1 and 2. Both historical drill intersections and grab samples indicate that gold mineralisation is present

within the host granodiorite associated with hydrothermal alteration fluids. The presence of bismuth-rich tellurides implies that the fluids responsible for the introduction of gold were also enriched in Bi and Te (Schlatter et al, 2013).

Schlatter et al (2013) presented the theory that the gold mineralisation found at Amphibolite Ridge could be associated with an Intrusion-Related Gold System based on the alteration within the granodiorites, weak sulphide mineralisation, and bismuth-rich tellurides. Recent work into the mineralisation of the host granitoid units, predominantly at the Femøren prospect, indicate that mineralisation may instead have a structural origin and is limited to relatively narrow structural controls.

The other historical prospects within the area are related to similar types of mineralisation, however these remain relatively poorly understood.

### 7.3 Historical Exploration

The following section has been summarised from the NI 43-101 report written by SRK Consulting (2013) and details the work carried out by previous holders of the area.

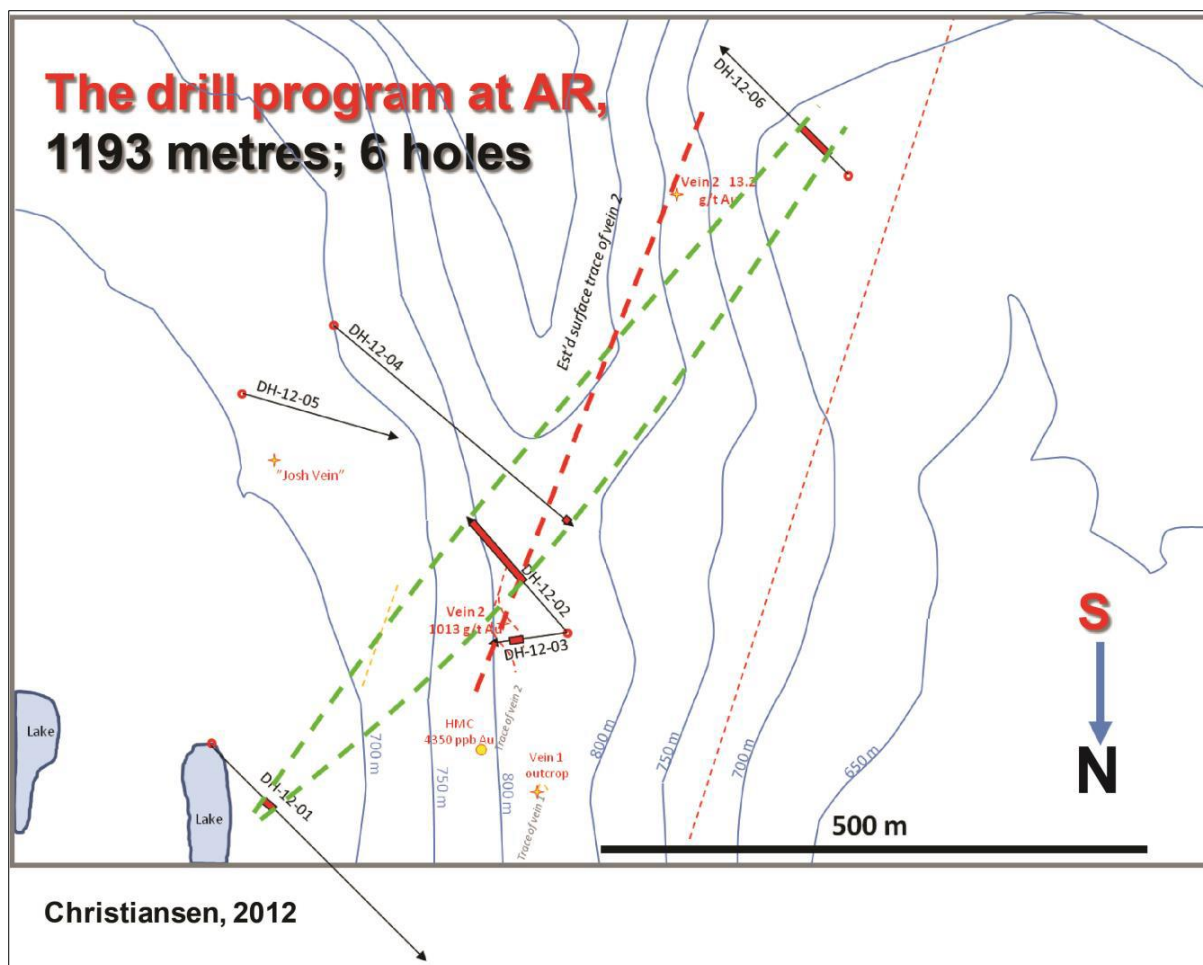
GEUS (formally GGU) conducted regional geochemical uranium exploration between 1979 and 1980. During the 1980s, the municipality of Nanortalik reported visible gold in several rivers in the area. NunaOil re-assayed the pulps from the GEUS uranium campaign for gold in 1989 and conducted regional geochemical gold exploration covering the entire southwest Greenland during 1990/1991. In the following years exploration activity was focused on the Niaqornaarsuk and Nanortalik Peninsula, interrupted by more detailed work at Nalunaq (on the Nanortalik Peninsula) which resulted in the discovery of the Nalunaq gold mine in 1992. Discovery of gold prospects in the historical Vagar Licence, including Amphibolite Ridge, were to a large extent based on work carried out by NunaOil during the 1990s and NunaMinerals from 2008-2013. This work is summarised below in Table 7-1.

**Table 7-1: Summary of exploration (pre AEX)**

Year	Operator	Work Undertaken
Pre-1990	GEUS (GGU)	Collection of sediment samples for uranium exploration. A minor fraction was analysed by Platinova (1987 – GGU open file report). All samples were analysed by NunaOil for gold and associated pathfinder elements in 1989 (Steenfelt, 1990).
1990	NunaOil	NunaOil acquired a license covering in part the current Vagar Licence and conducted heavy mineral concentrate (HMC) sampling (Olsen & Pedersen, 1990) and reconnaissance mapping (Grahl-Madsen & Petersen, 1990).
1991	NunaOil	Follow-up work was carried out on identified gold anomalies with prospecting and supplementary HMC sampling (Grahl-Madsen, 1991 and Olsen, 1992). Gold was located at the UFO Mountain prospect and at "Laila's showing" (Grahl-Madsen, 1991). In the autumn, follow-up work led to the discovery of gold at Amphibolite Ridge (Pedersen & Olsen 1991).
1992	NunaOil	NunaOil continued sampling and providing descriptions of the gold found at Amphibolite Ridge and inner Sermilik (Gowen and Robyn 1993).
1993	Atlas Precious Metals Inc (JV with NunaOil)	Mapping and sampling in the general Vagar area. Supplementary sediment sampling also took place
1994	NunaOil	Mapping, structural mapping, and sampling at Tributary Valley and Amphibolite Ridge (Olsen, 1995 and Coller, 1994).



Year	Operator	Work Undertaken
1995	NunaOil	Focused sampling on Vein 2 over 170 m strike length over a width of 3 to 5 m reportedly returned an average grade of 1 to 2 g/t Au (Coller, 1995).
1996	NunaOil	Sediment sampling and prospecting in the southeast corner of Niaqornaarsuk peninsula.
2008-2009	NunaMinerals	Investigated alluvial gold in stream sediments and deltas. Surface sampling (mini-bulk sampling), RC drilling, and bulk sampling of the Qoororimiut and Niaqornaarsuk delta valleys. Work indicated limited potential for economic alluvial gold deposits, however, indicated prospectivity of the areas for hard rock primary gold.
2009-2010	NunaMinerals	Surface mapping and sampling.
2010-2013	NunaMinerals	Niaqornaarsuk sub licence, surface sampling campaigns included: rock channel and rock chip sampling, grab sampling, scree sediment sampling, and stream sediment sampling. A total of 2,809 samples were collected and assayed for Au. This work suggested that the GAR is highly prospective. Rock chip results range from 0 to 2,533 g/t Au, sediment sampling results ranged from 0 to 1.36 g/t Au. Surface samples confirmed gold mineralisation and extended the strike length of Vein 2 on Amphibolite Ridge. The highest-grade quartz vein grab samples range from 24 to 2,533 g/t Au. Gold was also found in altered granodiorites several hundreds of meters from the main veins (Veins 1 and 2) with grab samples returning 11.6 to 12.1 g/t Au. NunaMinerals also undertook sampling over other prospect areas.
2012-2013	NunaMinerals	Eight hole, 1,916 m diamond drill programme on Amphibolite Ridge to test the depth and lateral continuity of Vein 1 and Vein 2 and gold association with granitoids (Figure 7-6). Drilling in 2012 tested the central area over 600 m strike length based on surface sampling. Significant intersections include 1.2 m at 3.76 g/t Au to 79 m at 0.90 g/t Au. Drilling is believed to have intercepted Vein 2 and the depth extension of the "Main Pipe". Vein 1 was not intersected. A third vein was suggested to have been intersected that had not identified by surface mapping or sampling. Drilling also identified gold mineralisation to be within the altered granitoid rocks returning grades > 1 g/t Au.
2013	NunaMinerals	Verifications of historical rock chip sampling by NunaOil, 1995. 71 m of channel sampling over same locality. Visible gold identified and gold mineralisation was confirmed, assays exceeding historical assay. For example, 8 m at 105.6 g/t Au compared to 8 m at 24.9 g/t Au. The work confirmed Vein 2 gold mineralisation occurs in quartz veins and within the host altered granitoids.



**Figure 7-6: Map showing the 2012-2013 exploration drilling at AR (Schlatter et al., 2012)**

The exploration drilling by NunaMinerals in 2012-2013 verified that Vein 2 contained significant gold grades at depth. SRK ES note that the drilling was insufficient to gain a robust 3-Dimensional geological model and the best intersection came from a drill hole which intersected Vein 2 at an oblique angle (Figure 7-7), with the true width of the intersection being significantly less than the intervals reported. It is unclear at this time if the elevated grades reported outside of the quartz vein lithology are representative of a wider mineralised system, or high grade associated with a limited halo proximal to the vein.

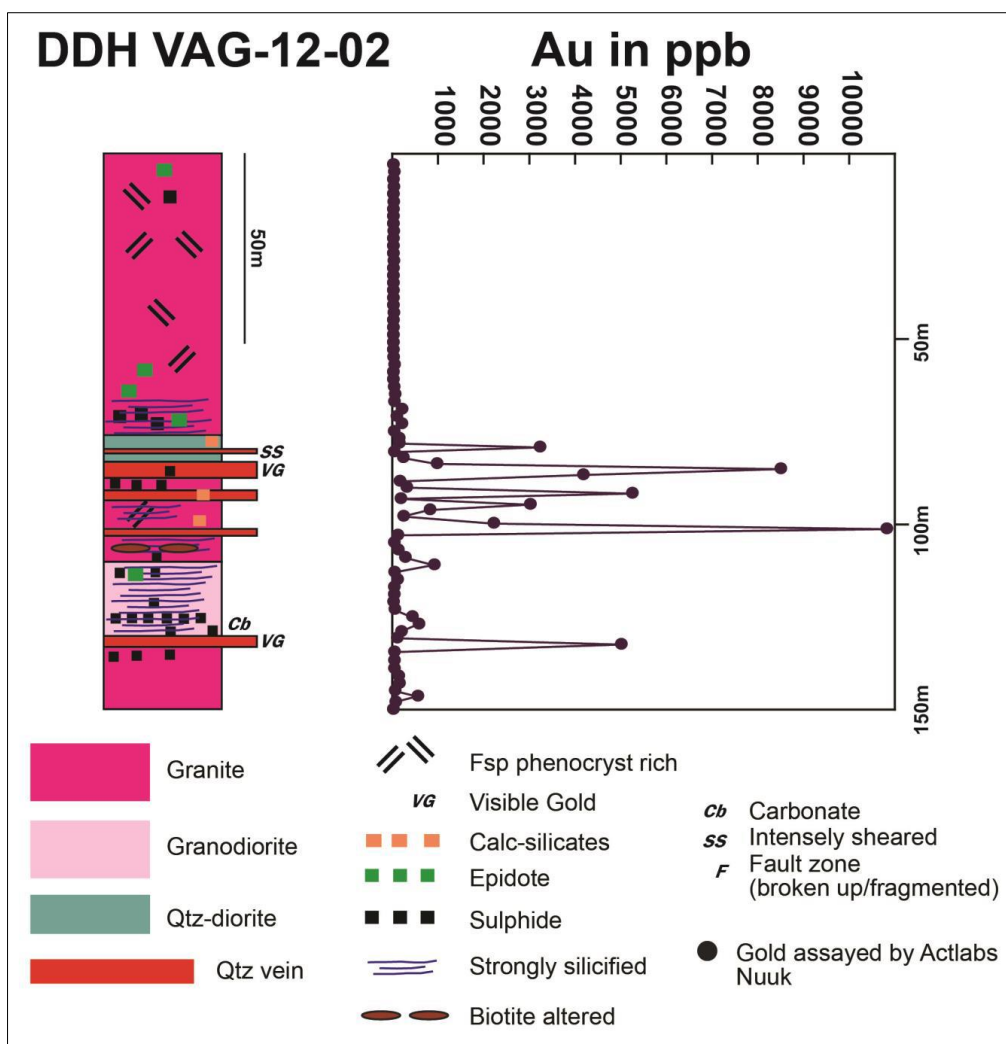


Figure 7-7: Geological log and results from DDH VAG-12-02 (Schlatter et al., 2012)

SRK’s previous NI 43-101 report (SRK, 2013) identifies that uncertainty remains in some cases over the location of sampling stations from early campaigns, sampling techniques employed, sample preparation protocol, and quality control aspects of historical work undertaken prior to NunaMinerals. SRK (2013) identified possible contamination of NunaMinerals’ 2012-2013 drilling assay results, based on blank material which returned highly anomalous Au grades. The effect of the contamination is considered limited.

### 7.4 AEX Exploration

AEX paid a short visit to the main Amphibolite Ridge prospects in 2019 to familiarise themselves with the terrain and geology and undertook a small grab sampling programme over the main prospects at GAR. In total, 22 samples were collected, six of which reported grades above 0.1 g/t Au, up to 8.98 g/t Au. The high grades were associated with the previously identified quartz veins (Vein 1 & 2) and the sheared, altered granodiorite at Femøren (Figure 7-8). This sampling was primarily aimed at testing the prospectivity of the granodiorite host unit found to be mineralised at Femøren and to scout the logistics required for future work programmes.

The results showed that the host granodiorite is mineralised at Femøren. However, the high grades are restricted to narrow altered zones that show brittle deformation—not like the shearing seen in relation to the quartz vein mineralisation in the area.

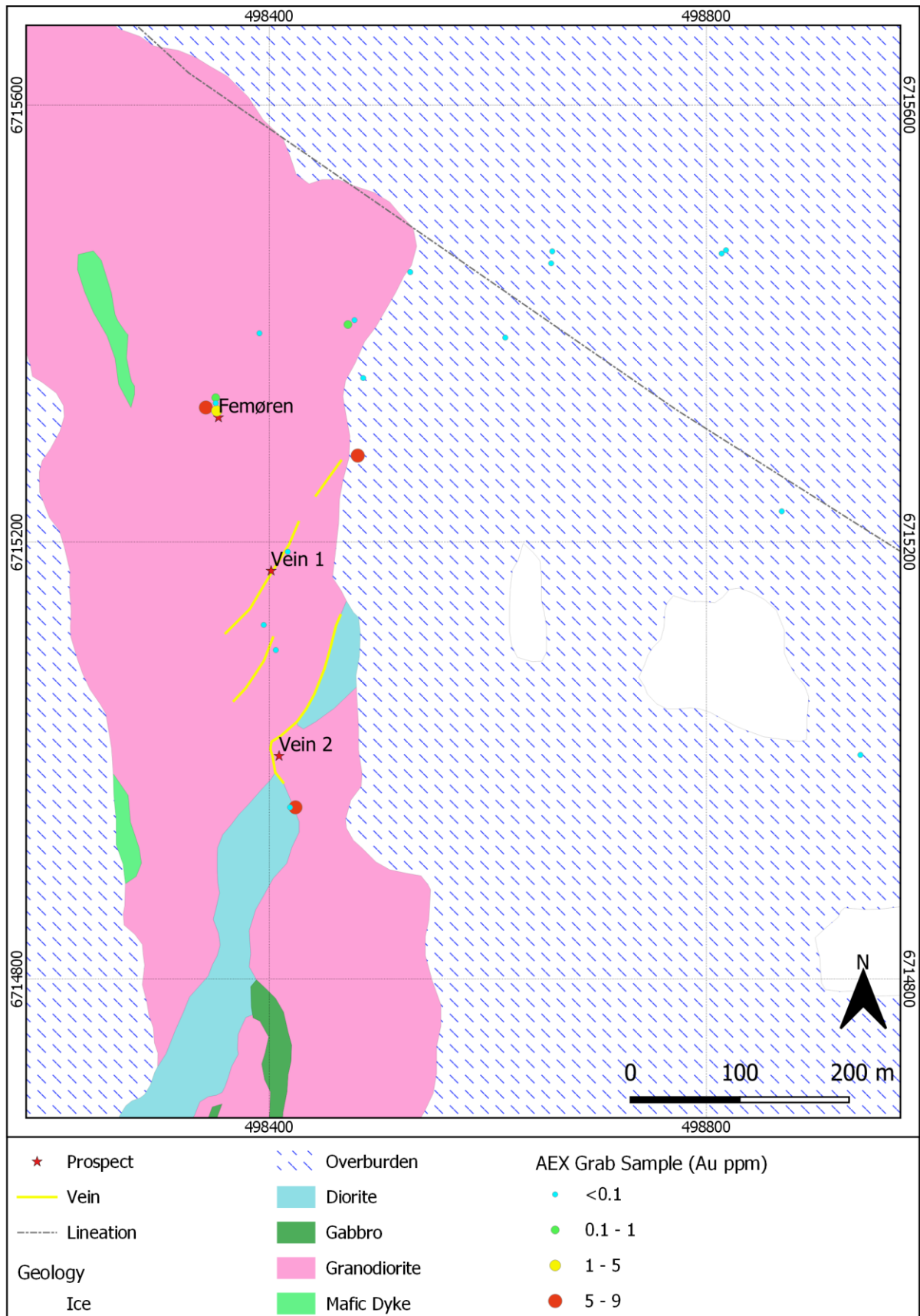


Figure 7-8: AEX grab samples at Amphibolite Ridge

## 8 KANGERLULUK

### 8.1 Property Geology

The property lies on the southern side of Kangerluluk Fjord and the rocky terrain slopes steeply down to the fjord from an icecap along the southern edge of the licence block at 500-600 m.a.s.l.

The Kangerluluk gold prospect lies at the northern edge of the Psammite Zone of the Ketilidian Mobile Belt (Figure 4-1) and has been mapped and described by Mueller and Stendal (Stendal et al. 1997; Mueller et al. 2000). Supracrustal rocks occur over an area of about 4 km<sup>2</sup> and consist of a 200-300 m thick volcano-sedimentary sequence that rests unconformably on the Julianehåb Batholith (Figure 8-2 and Figure 8-3). Mueller et al. (2000) divide the supracrustal sequence into a complex associate of five rock suites: (1) conglomerate-sandstone lithofacies; (2) pyroclastic lithofacies; (3) volcanic lithofacies; (4) mixed lava with sediment lithofacies; and (5) syn- to post-volcanic dykes and sills. The sequence dips north at about 30° and is tightly folded. It has a low amphibolite facies metamorphic grade but sedimentary textures and volcanic features such as pillow lavas are well-preserved (Figure 8-4).

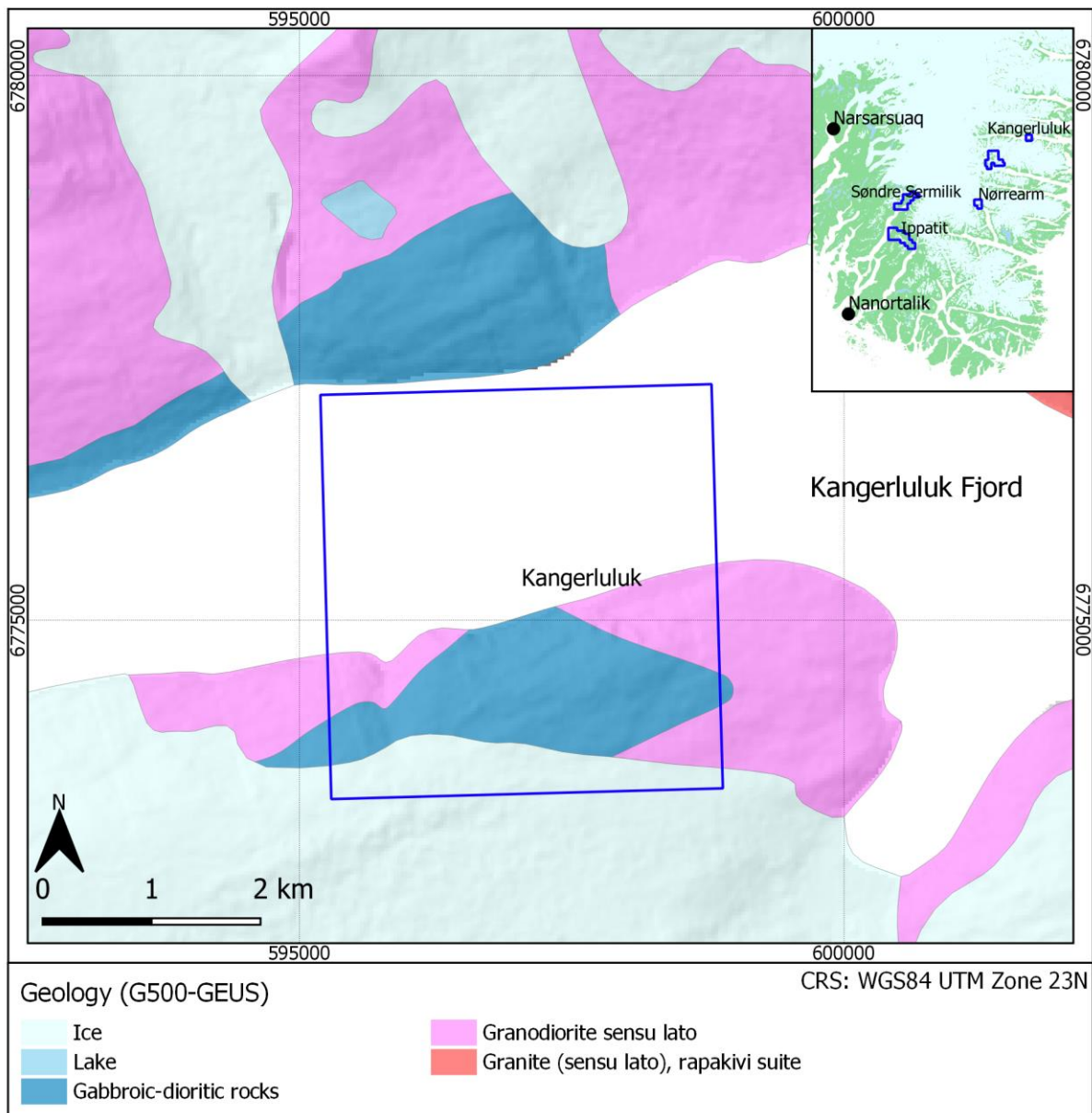


Figure 8-1: Published geology for the Kangerluluk sub-area

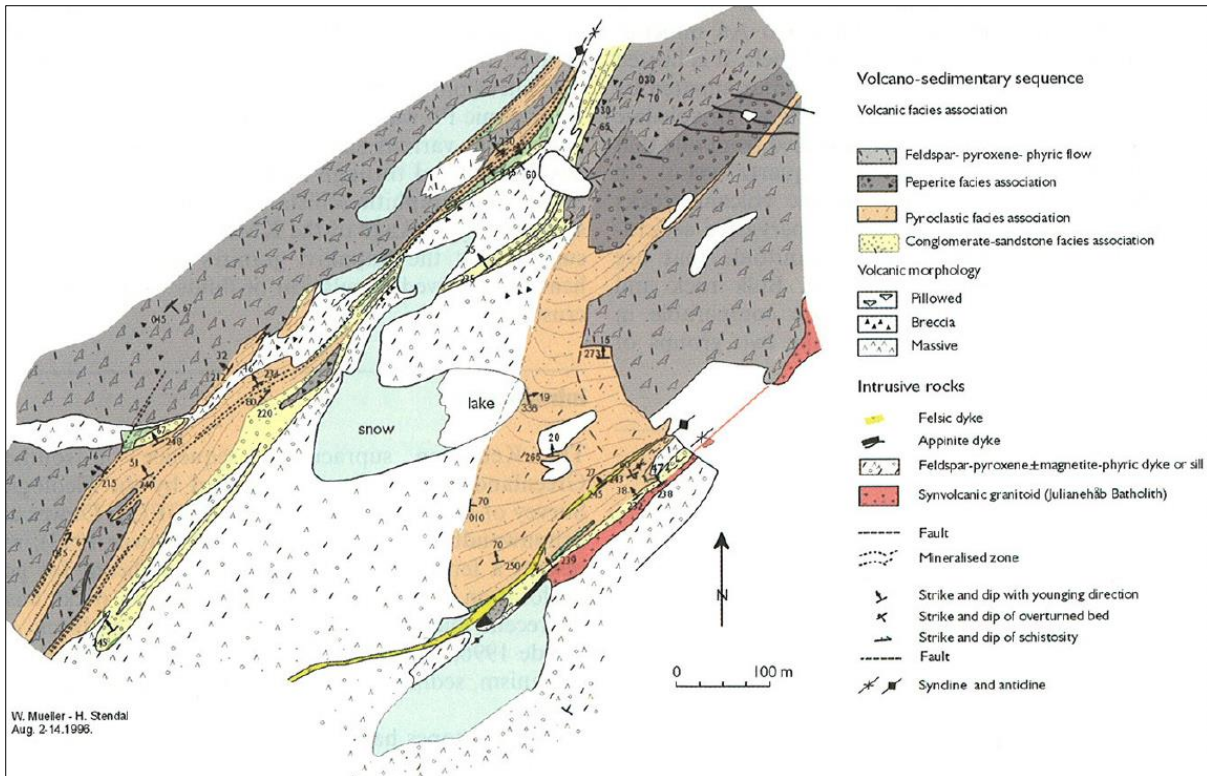


Figure 8-2: Geological map of the Kangerluluk property (Stendal et al., 1997)

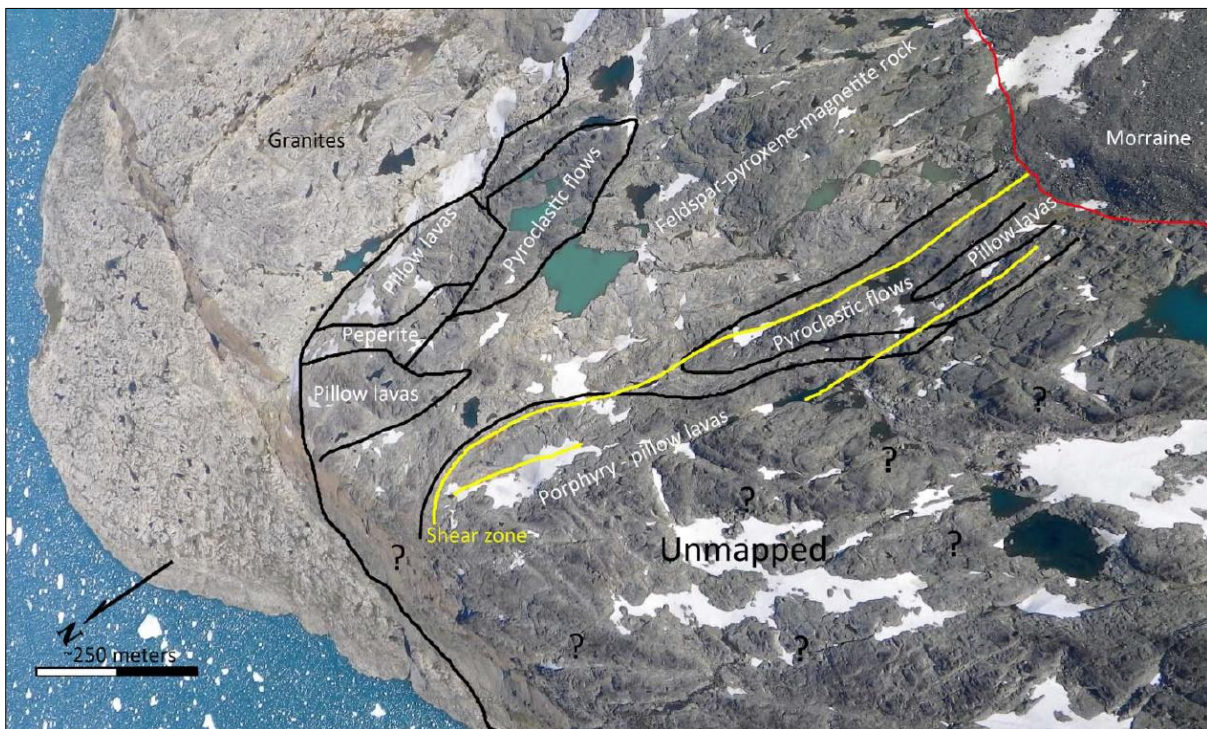


Figure 8-3: Aerial photo of the Kangerluluk occurrence with geology superimposed (Pedersen, 2010)

The general geology (black) and the location of the shear zones (yellow) are outlined. In the southern end the shear zone is covered by Holocene moraine deposits



**Figure 8-4: Epidote-altered basaltic pillow lavas at Kangerluluk (Hughes et al., 2014)**

*Photographed during NunaMinerals' exploration in 2010*

## 8.2 Mineralisation

Gold has been reported in samples from the Kangerluluk property that are closely related to NNE-striking, steeply dipping quartz-bearing shear zones in the supracrustal sequence (Stendal et al., 1997). An alteration halo characterised by silicification and epidotisation is found along these zones. The most prominent shear zone is over 1 km long and up to 20 m wide, cutting across the western side of the mapped area (Figure 8-2 and Figure 8-3). Gold is associated with copper and only occurs in quartz and zones of hydrothermal alteration that are 2-5 m wide.

Stendal et al. (1997) described three groups of alteration types, each with associated mineralisation:

### **Group I: syn-volcanic alteration**

Alteration is dominated by epidote and relates to extensive, pervasive hydrothermal interaction of seawater with basalts during or shortly after solidification. It is not structurally controlled. Pyrite-pyrrhotite associations formed at this stage, with sulphides disseminated throughout the rock mass. Gold and copper concentrations are low at 20-31 ppb and 35-463 g/t

### **Group II: early-stage, post-volcanic alteration**

Gold mineralisation in this type of alteration is spatially associated with larger faults and shear zones that cut the supracrustal rocks (Figure 8-5 and Figure 8-6) and varies according to the host rock type: quartz veins occur in sedimentary rocks (quartz-association) whilst epidote alteration occurs in mafic volcanic rocks (epidote-association).

Quartz-association gold mineralisation contains pyrrhotite and pyrite, locally with massive pyrrhotite layers up to 5 cm thick at the contacts of quartz veins. Silicified alteration halos up to 40 cm wide are found along the veins and can contain very high gold grades (e.g. 118 g/t Au in

a grab sample; Figure 8-5). This type of mineralisation is also found in NE-striking shear zones as *en echelon* sets of quartz veins, 1-2 m wide, 3-10 m long, and containing iron sulphides and grades up to 1.15 g/t Au. Stendal et al. (1997) report grades of 7.5 g/t Au over 5 m from chip sampling across one such quartz-rich shear zone.

Epidote-association gold mineralisation is found with pyrite and chalcopyrite mineralisation along ESE- and NNE-trending faults. Grades of 1.1 g/t gold and 1.6% copper over 0.5 m, and 3.3 g/t gold and 1.6% copper have been reported from chip sampling (Stendal et al. 1997).



**Figure 8-5: The northern part of the central shear zone looking north (Pedersen, 2010)**

*The rusty coloured areas contain massive quartz veining with pronounced sulphide mineralisation surrounded by epidote altered pillow lava. The location of the 118 g/t Au sample is marked with a red dot.*



**Figure 8-6: Gold-bearing quartz veins in the main shear zone at Kangerluluk (Hughes et al., 2014)**

*Photographed during NunaMinerals' exploration in 2010.*



### Group III: late-stage, post-volcanic alteration

The final phase of alteration can be observed as several different types:

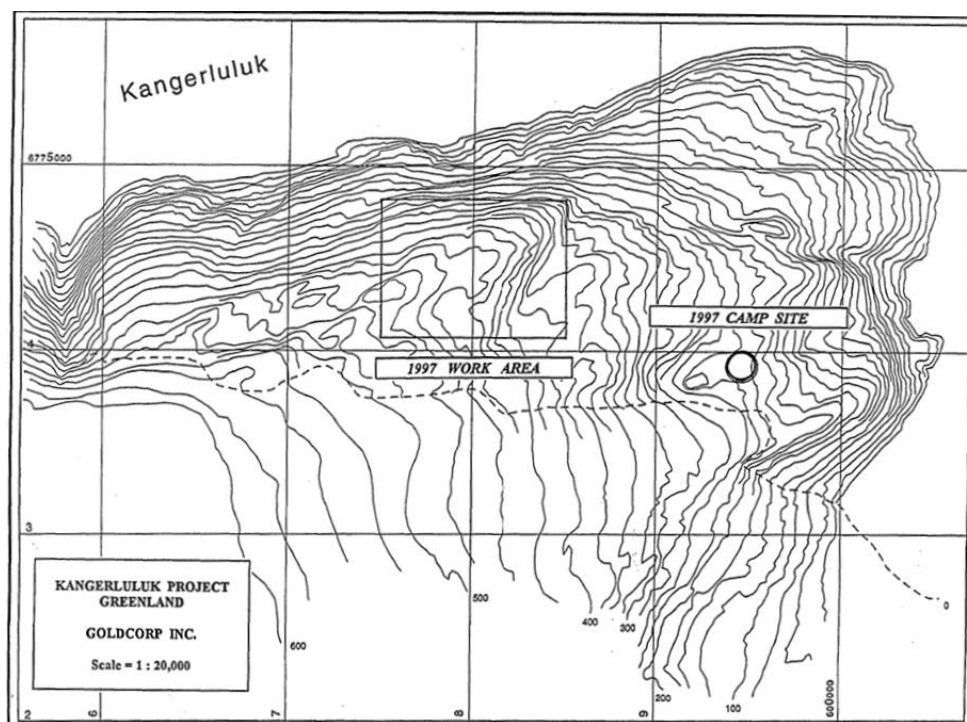
1. "Bleaching" due to sericitisation of host rocks along ESE- and NNE-trending faults with hairline veinlets of quartz and opaque minerals;
2. Calc-silicate alteration comprising garnet, epidote, and amphibole recrystallised in former epidote veins of group II alteration. Ore minerals and quartz occur interstitially;
3. Copper-gold mineralisation in veinlets, breccias, and faults/shears. In pillowed sequences, crosscutting veinlets contain chalcopyrite, bornite, and minor chalcocite, and most copper-bearing samples grade 0.1-1.0 g/t Au (and one sample of 6.2 g/t Au). Some aplites in the batholith have also been altered and contain up to 5 vol% pyrrhotite with associated gold (up to 1.39 g/t Au);
4. Late carbonatization in brittle faults in both supracrustal rocks and the batholith. Haematite, iron and copper sulphides, galena, and sphalerite may be found, but this alteration type does not contain gold.

Stendal et al. (1997) propose that gold mineralisation occurred at about 1,800 Ma, around the same times as late phases of emplacement of the Julianehåb Batholith and just after the deposition of the supracrustal volcano-sedimentary sequence. Gold was then concentrated into brittle structures during subsequent deformation, becoming associated with copper sulphides in mafic rocks, and found as native gold with iron sulphides in quartz veins. This remobilisation of gold in the supracrustal rocks may have been aided by heat from emplacement of Rapakivi granites at about 1,740 Ma.

### 8.3 Historical Exploration

Prospective supracrustal rocks were identified at Kangerluluk in 1992 during the SUPRASYPD project. SUPRASYPD took place between 1992 and 1996; it was Government-funded and aimed to assess the economic potential of the Ketilidian Mobile Belt via a series of geological, geophysical, and geochemical work programmes. Mapping and sampling by GEUS in 1995 and 1996 identified gold mineralisation, reporting grades in grab samples of up to 118 g/t Au, and 12 of 74 grab samples graded over 1 g/t Au (Stendal et al. 1997). These results were announced by GEUS in April 1997 and an exploration licence was granted to Goldcorp Inc. in July of the same year after several competing applications were considered (Sannes, 1998).

Goldcorp Inc. immediately undertook a short programme of reconnaissance, mapping, and sampling in August 1997. They collected 112 rock samples of which 105 were from the main mineralised NE-trending shear structure identified by GEUS, including 82 channel samples taken with a diamond rock saw. Their working area is shown in Figure 8-7 and channel sampling locations are shown in Figure 8-10 and Figure 8-11.



**Figure 8-7: Map of the Kangerluluk project area showing Goldcorp Inc.'s working area in 1997 (Sannes, 1998)**

*Coordinates in WGS84 UTM Zone 23N. The main prospective shear structure runs through the working area from SW to NE.*

It was reported that, in the north-eastern third of the shear structure, quartz veins were discontinuous and averaged less than 1 m thick (locally up to 2 m). In some places the veins are folded and have extensive dip slope exposures that make them appear much larger than they really are. Widespread rust staining from the weathering of sulphides in the veins and the wallrock also gives a misleading impression of the extent of mineralisation.

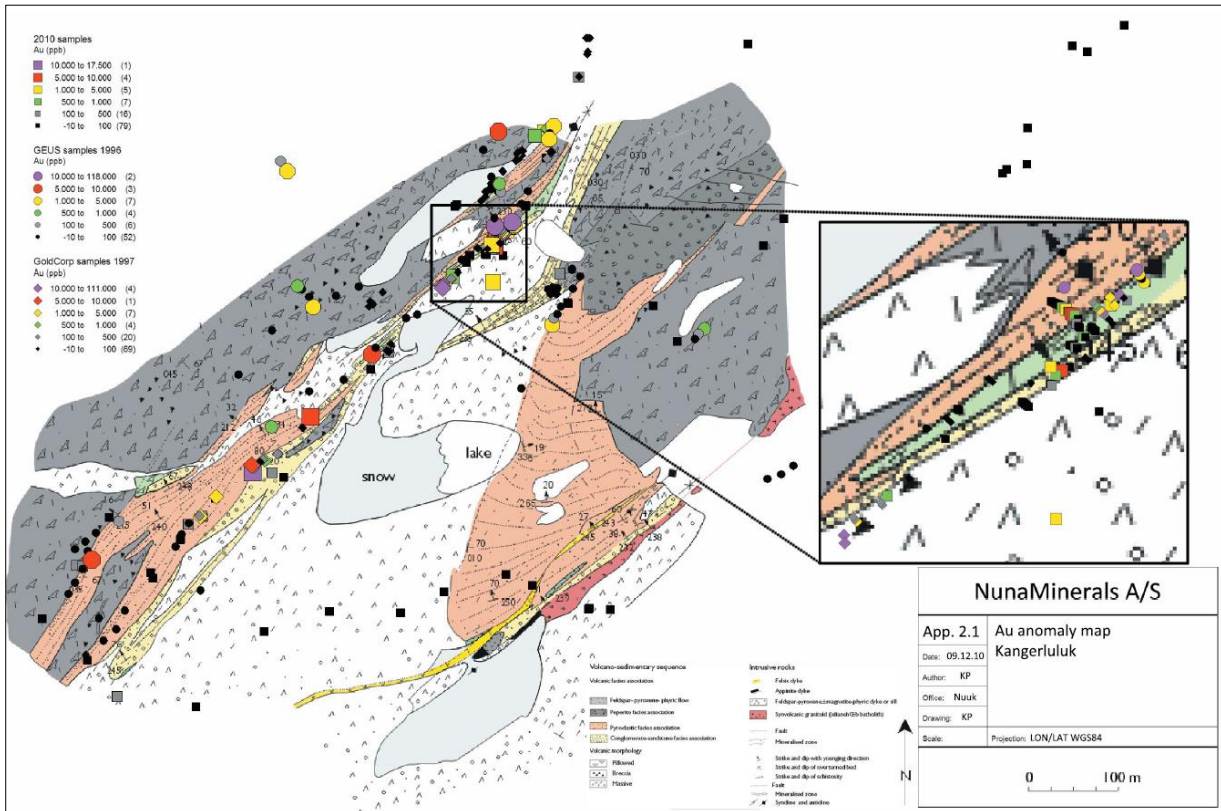
The remainder of the shear structure to the southwest reportedly contains much less quartz, occurring as thin sheeted veins or, rarely, as larger veins and pods of up to 1 m thick. Locally, however, more favourable veining can be found but with very erratic gold grades. Thicker veining, up to 1.5 m, was found in the final 100 m of the shear before it disappeared beneath moraine at the edge of the icecap although grab samples contained no gold.

As may be expected of this style of gold mineralisation, Goldcorp's sample results include very erratic gold grades (high nugget effect). About a third of their samples were below the detection limit for gold, whilst the average grade for 100 channel and chip samples was about 2 g/t Au (max. 110 g/t Au over 80 cm true thickness in one channel sample). If the five highest grade samples were eliminated, the average would be 0.23 g/t Au.

Goldcorp considered the prospect to be intriguing on account of its strong structural setting and acknowledged that the extent of mineralisation at depth and below the icecap was unknown, and that there was potential to improve continuity along strike. However, given the highly erratic nature of mineralisation, the remote location, and high cost of further exploration, they decided not to proceed and concentrated on other gold prospects in South Greenland. It is not known when they relinquished the licence area.

In 2010, the Kangerluluk prospect was included in a new exploration licence (number 2010/39)

owned by NunaMinerals A/S. They undertook a very short (four day) field programme in August of that year, aiming to follow up and expand on Goldcorp's work. In order to improve the geochemical understanding of the area they undertook rock sampling of the shear and fault zones as well as material beyond these. NunaMinerals took 63 rock samples, 10 of which graded more than 1 g/t Au from a rusty shear zone with massive quartz veins (Figure 8-8) and reported that the mineralised zone was some 20 m wide and more than 700 m long. NunaMinerals also noted that low gold grades (less than 0.2 g/t Au) were found in pillow lavas along the shear zone, possibly indicating potential to expand the width of prospective material (Pedersen, 2010). They recommended further sampling and structural assessment to increase the understanding of grade continuity and controls on mineralisation.



**Figure 8-8: Compiled rock sampling locations and gold grades (Pedersen, 2010)**

*Includes sample locations and results from programmes by GEUS (1996), Goldcorp (1997), and NunaMinerals (2010).*

### 8.4 AEX Exploration

AEX has not yet carried any of their own exploration on the Kangerluluk prospect.

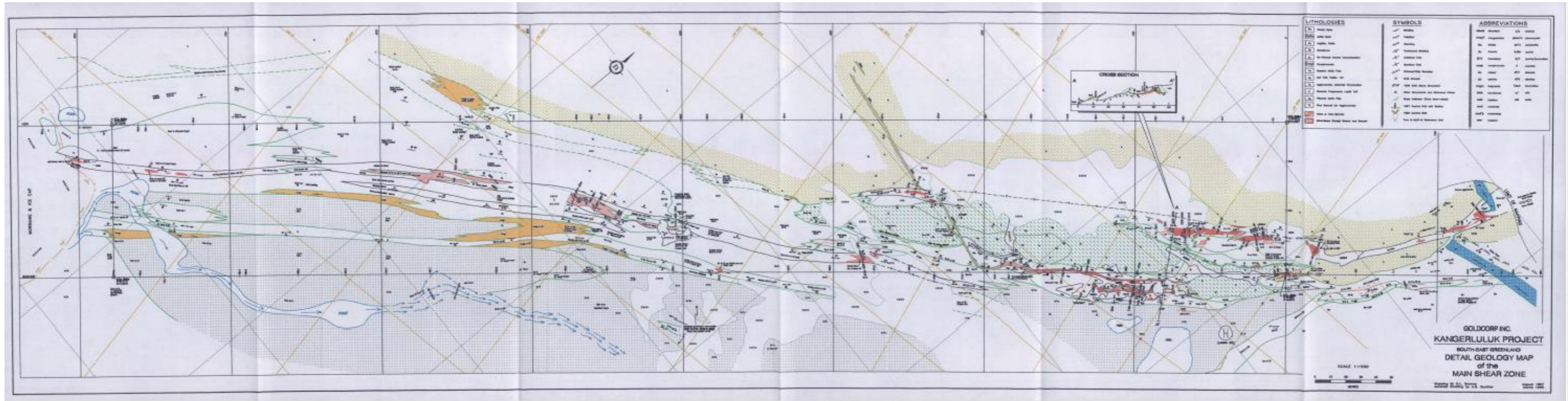


Figure 8-9: Detailed geological map of the main shear zone, Kangerluluk (Sannes, 1998)





## 9 IPPATIT

### 9.1 Property Geology

The Ippatit project area is covered by the largest sub-area of AEX's exploration licence number 2019-113. The licence boundary covers mountainous terrain on the southern side of the Ippatit Kua valley that runs in a south-easterly direction between the large fjords of Søndre Sermilik Tasermit. A major feature of the area and a focus of much historical exploration is the 1,775 m high Ippatit mountain which is in the western part of the licence.

The area's geology has been described by Petersen and Olsen (1995) and, broadly speaking, represents an enclave of Paleoproterozoic amphibolites overlying the meta-arkose sediments that are extensive on the central Nanortalik peninsula (Figure 9-3). Along the Ippatit Kua valley, granodiorite of the Julianehåb Batholith is found between the amphibolites and the underlying meta-arkose rocks, increasing in thickness towards the east.

The amphibolites are considered to be the main gold-prospective target in the area, and Petersen and Olsen (1995) state that there are three varieties of them:

1. Thick piles of **pyroclastic amphibolites** form most of the metabasic rocks in the area. These are very variable in terms of clast size, deformation, and texture, but typically contain cm- to dm- size andesitic clasts with light green colour and flattened forms. These deposits dominate the southern outcrops of the amphibolites;
2. **Fine-grained amphibolites** are found as more massive basic rocks, especially along the northern side of the amphibolite outcrop. These rocks are quite homogenous and black in colour with pronounced, sometimes schistose, foliation due to deformation, leaving little evidence of primary structures. They have been interpreted as metabasalts grading into andesites.

Calc-silicate alteration may be found although is patchy and confined to specific 2-5 m wide horizons that can be traced for several hundred metres, usually parallel to the foliation. Silicification is limited, but ankerite alteration and veinlets are locally abundant; and

3. **Metadolerites** occur near the summit of the Ippatit mountain and along the northwest border of the amphibolite occurrence. The authors confidently interpreted these as being intrusive metagabbroic rocks; their appearance parallel to foliation and their conformable borders suggest an origin as dolerite sills. Similar amphibolitic sills occur in the surrounding meta-arkose rocks and may be of the same generation.

Underlying metasediments consist of two types:

- Thinly laminated **meta-pelitic and meta-psammitic biotite schists** often with rusty, stratiform sulphide- (pyrrhotite) and graphite-bearing horizons. These rocks are particularly abundant in the northwest part of Ippatit Kua.

The contact between the amphibolites and the meta-psammites is marked by a thick, continuous, very rusty horizon. This contains strongly folded graphite-pyrrhotite schists and several 0.5-1 m thick chert beds separated by micaceous and graphitic schists. The contact dips gently to the south and is proposed by Petersen and Olsen (1995) to be tectonically modified or even purely tectonic;

- A thick pile of homogenous, coarsely-bedded **meta-arkose** rocks (sandstones) with abundant primary sedimentary features, including regular sub-horizontal layering, despite having been deformed and metamorphosed to a grey biotite gneiss. These rocks are found along the southern border of the amphibolites.

The contact between the meta-arkose and the amphibolites is steeply dipping (Figure 9-1) and very sheared, and a higher degree of migmatitisation and recrystallisation has occurred along it. It is a high-angle fault contact. In places, amphibolite has been detached to form enclaves within the meta-arkose (Figure 9-2). The steep dip of foliation gradually flattens away from the contact, becoming sub-horizontal in the south. In the central Ippatit area, an unusual conglomerate (or possibly a felsic agglomerate) occupies the contact between the meta-arkose and the amphibolite.

Subconcordant aplite veins, 0.3-2 m thick, are found in the meta-pelites. They are parallel to low angle thrust contacts and have clearly exploited these zones of weakness. Aplites may also be found in the amphibolites where they are again sub-concordant or form en echelon veins in sheared parts of the pyroclastic amphibolites. Dolerite dykes are also found; these strike northwest and represent late magmatic events.

Structurally, the principal features of the area are (in order of formation) sedimentary lamination/foliation, folding, low-angle thrusting, and high-angle faulting.



**Figure 9-1: View towards the WSW along the southern flanks of Ippatit mountain (AEX field photographs, 2019)**

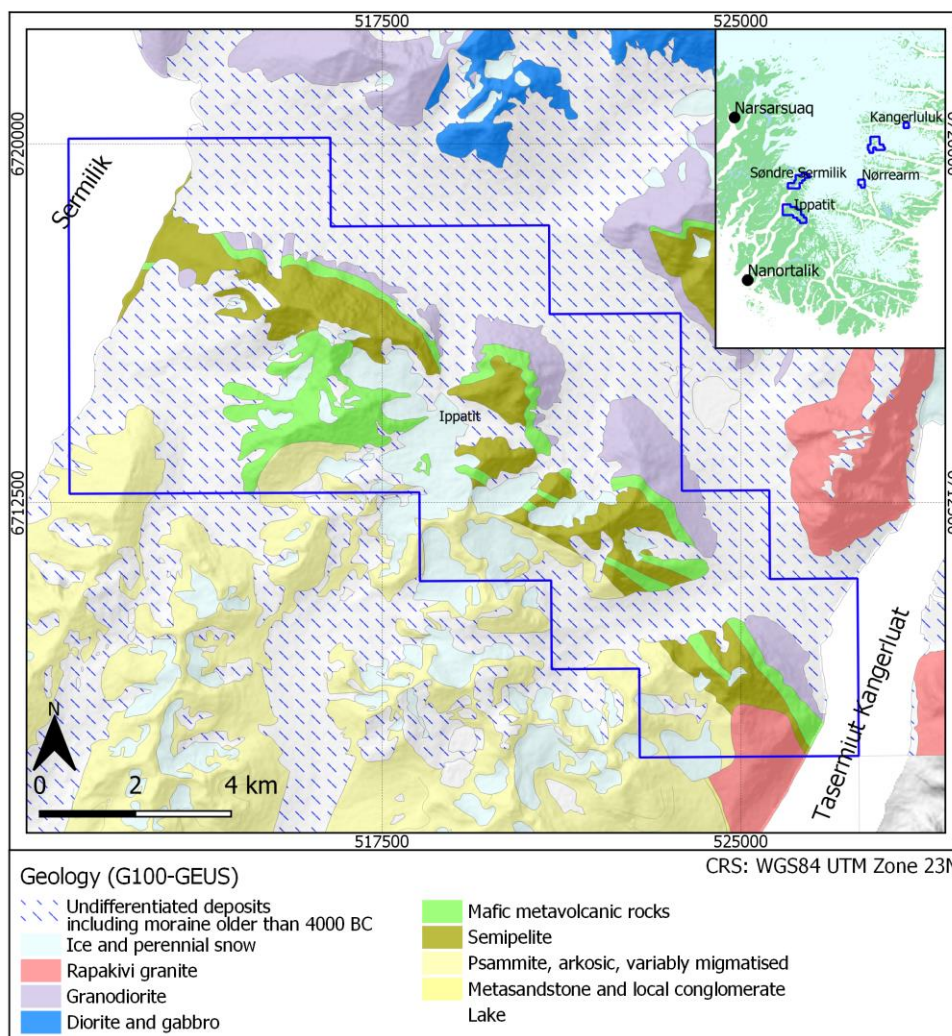
*Ippatit mountain is on the right of the photograph. The steep contact between meta-arkoses and overlying amphibolites is seen at the very top-right of the photograph as the change from lighter to darker coloured rocks. A gold occurrence is reported by GEUS in the high ground to the right.*





**Figure 9-2: View towards the ENE along the southern flanks of Ippatit mountain (AEX field photographs, 2019)**

The contact between meta-arkoses and overlying amphibolites is seen as the change from lighter to darker coloured rocks. Note possible sheared-off enclaves of amphibolite within the meta-arkoses. A gold occurrence is reported by GEUS in the amphibolites here.



**Figure 9-3: Published geology for the Ippatit sub-area**

## 9.2 Mineralisation

Petersen and Olsen (1995) describe three types of mineralisation in the Ippatit area to which gold mineralisation could potentially be associated:

1. Stratiform iron sulphides occur at a few stratigraphic horizons, particularly the contact of the meta-pelites and the amphibolites where they are found within a very rusty and strongly folded sequence together with chert and graphitic schists. This is 0.5-3 m thick, but locally can reach more than 50 m due to deformation. It is a similar feature, if not the same, as that which contains abundant iron sulphides between amphibolites and underlying meta-arkoses in the Nalunaq area.

Thinner sulphide horizons can be found in the amphibolite sequence. Sulphides occur as layers or lenses of massive pyrrhotite with disseminated pyrite, often accompanied by abundant graphite. These layers show consistently low gold grades of 5-10 ppb and are not thought to be important targets;

Near the summit of Ippatit mountain, there is a similar rusty section of chert and graphitic schists. This is 40 m wide and overlain to the south by thick sericite schists. In places, strong silicification has occurred to form zones 20 m thick and 200-300 m long. It contains sparse disseminations of arsenopyrite and may be of more interest; grades of 20-120 ppb gold and 500-2,000 g/t arsenic have been reported.

2. Several quartz veins are found in the area, many of which are single fracture fillings in the amphibolites or along sheared margins of the meta-arkose rocks. Some veins occur in *en echelon* fracture features and a 2 m wide example with a well-developed sheeted structure has been reported on the northern side of Ippatit mountain summit. Gold grades in this, however, were very low (9-12 ppb) and the same is true for other amphibolite-hosted quartz veins in the area.

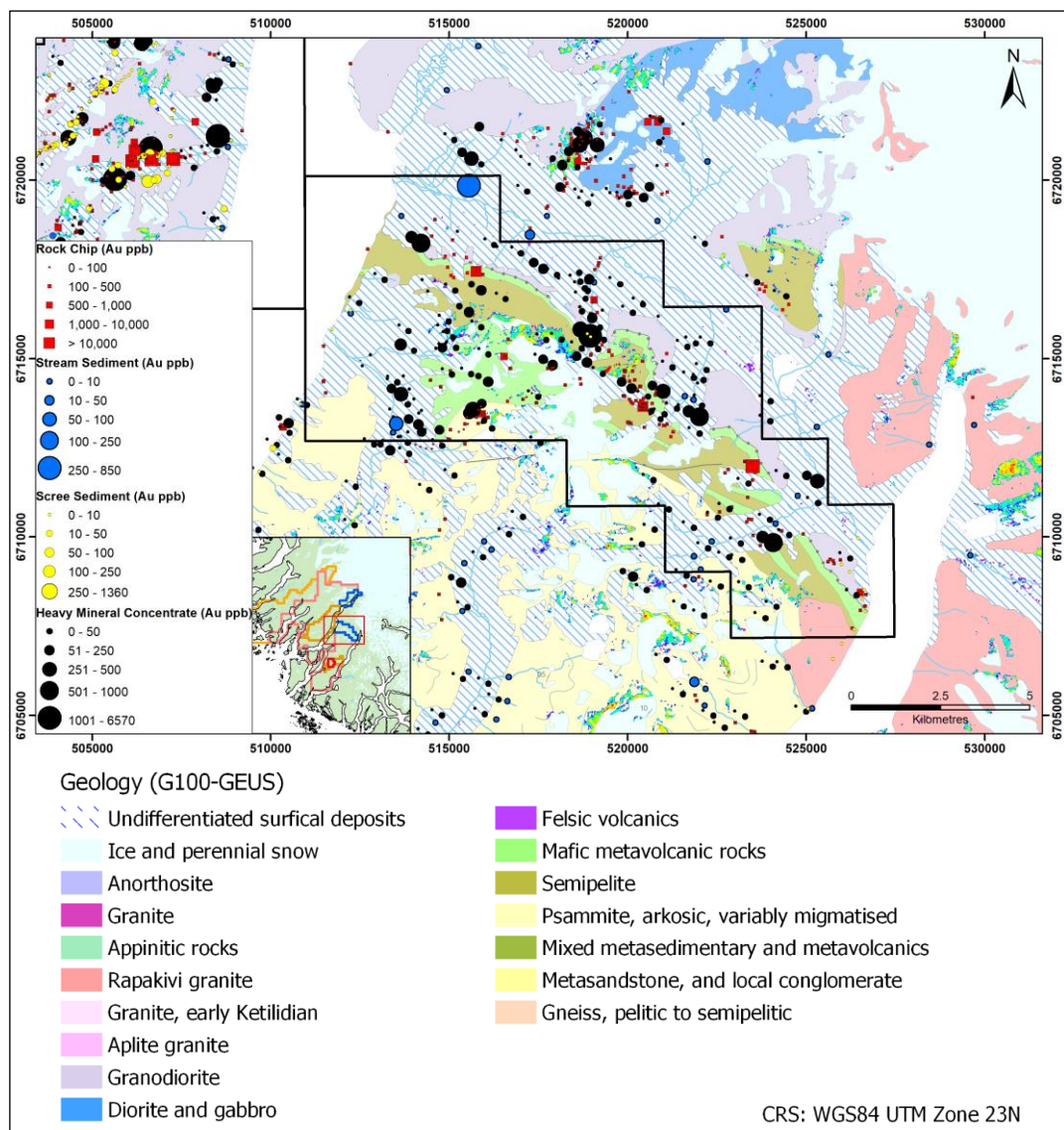
One location with more a promising gold grade of 832 ppb was reported from a vein in meta-pelites in Ippatit Kua. This was found as part of a series of minor discontinuous veins, 0.3 x 3 m in size, immediately above a rusty chert horizon. Samples from other veins did not contain gold. The possibility of more widely occurring minor gold-bearing veins in the meta-pelites may provide some explanation for gold anomalies in heavy mineral concentrates in this area.

Blomsterberg (2005) reported several occurrences of quartz veining in amphibolites in areas east of Ippatit mountain, describing one area as a swarm of veins. The veins were reported to have limited strike length and usually less than 0.5 m thick. Notably, it was proposed that they are found along a structure that shows continuity for several kilometres. The highest grade reported from this type of mineralisation was one grab sample from a quartz vein with epidote, garnet, and sulphides graded 1.14 g/t Au. More information is provided in Section 9.3.

3. Localised sulphide mineralisation with some silicification and ankerite was found along the steeply dipping southern contact between the amphibolites/pyroclastics and the meta-arkose rocks. Gold grades in these features are slightly elevated at 26-37 ppb.

## 9.3 Historical Exploration

The Ippatit area has been subject to several short exploration programmes and included in regional geochemical sampling. Figure 9-4 shows a compilation of historical sampling results (Steenfelt, 2001) overlain onto the 1:100,000 geological map and includes anomalies for alteration minerals (jarosite and haematite) derived from Sentinel satellite data (SRK ES, 2019).



**Figure 9-4: Compiled sampling results from historical sampling in the Ippatit area (AEX, 2020)**

In 1991, the Ippatit area was included in regional geochemical sampling and geological prospecting carried out by NunaOil. This programme included the collection of 1,691 samples of heavy mineral concentrate (HMC) samples from stream sediments and scree cones within a 5,000 km<sup>2</sup> area. In the Ippatit area, 76 HMC samples were collected, 16 of which contained gold grades of more than 100 ppb and three graded more than 1 g/t Au (Olsen, 1992). This area was also anomalous for Ag, As, Sb, and W. The strongest gold anomalies were found in northern and southwestern areas, especially south of the Ippatit mountain.

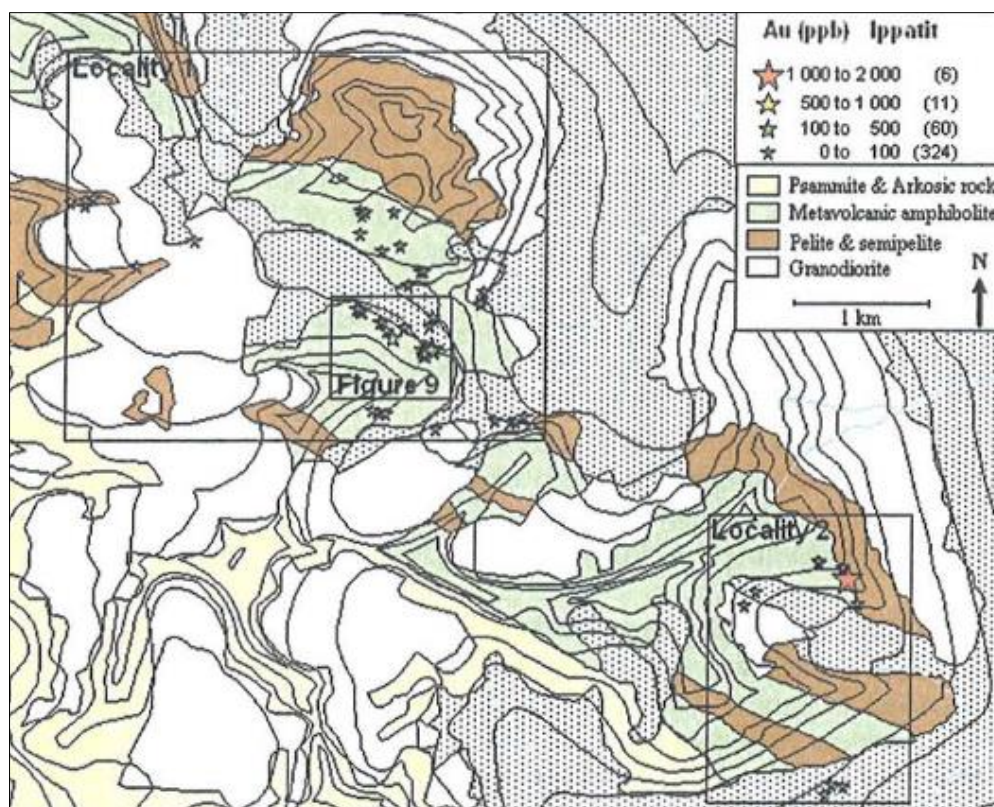
Geological reconnaissance and prospecting were carried out by a small team from NunaOil over nine days in August 1994. This focused on the amphibolites around the 1,775 m high Ippatit mountain and aimed to determine structural relationships between lithological units and mineralised veins. Petersen and Olsen (1995) report descriptions and results of 37 rock grab samples that were taken in areas that appeared to be mineralised. Only two of these contained gold grades over 100 ppb: 832 ppb in a quartz vein in meta-pelites, and 120 ppb in silicified sericite schists with arsenopyrite. It was their opinion that gold-in-HMC anomalies in the area could, in part, relate to minor gold-bearing veins in the meta-pelite, and that the stratiform iron-

sulphide horizons in the amphibolites were too low grade to be the source. NunaOil considered the area to have low potential for significant gold deposits and no further work was recommended, although it was acknowledged that consistently gold-mineralised rocks may not have been properly identified.

Despite this recommendation, NunaOil returned to Ippatit in 1995 and undertook further rock sampling and some Bulk Leach Extractable Gold (BLEG) analysis. The best result from this was 495 ppb Au in a grab sample of a quartz vein in a tributary valley that drops into Ippatit Kua northeast of Ippatit mountain (Wulff, 1995). Again, it was recommended that any further work should be a low priority.

Crew Gold were the next to explore Ippatit. The prospect was included in one of the company's exploration licences in the region and they conducted a short programme in 2004. Work focused on two areas about 3 km and 6 km southeast of Ippatit mountain, respectively referred to as Locality 1 and 2 (Figure 9-5). These were locations that Crew Gold believed had not been investigated before (Blomsterberg, 2005).

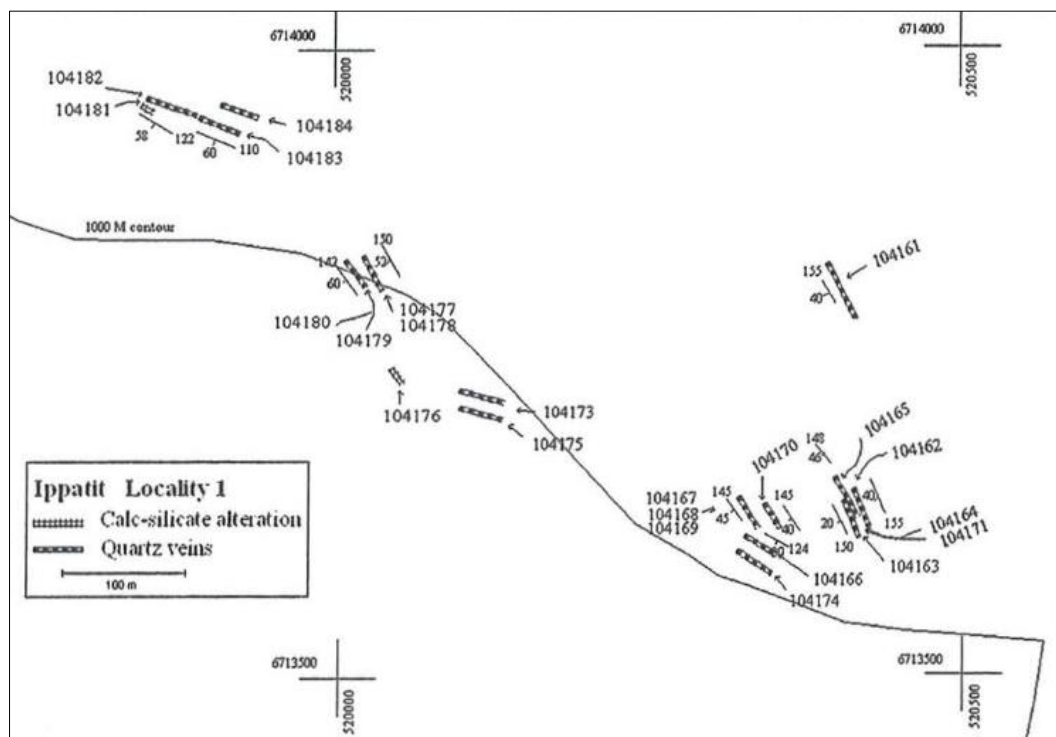
The geology at Locality 1 comprises amphibolites thrust over meta-pelites, separated by the major rust zone that marks this contact throughout the region. Two generations of quartz veins were described in the amphibolites: veins that have been folded and sheared with the amphibolites (100-120/30S) and veins that cut the foliation at an angle of 35° (145-155/30-40SW). Their thickness is on average 20-30 cm, 80 cm in one case, and they have limited strike length, typically 5-10 m and up to 60 m.



**Figure 9-5: Locations of samples taken by Crew Gold in 2004**

*Note that Crew Gold modified the original digitised geological map for this area, produced by Schjøth et al. (2000). Blomsterberg (2005) believed that metavolcanic and pelite units had been switched for one another in the original mapping. The current online geological map shows the original version. Small outlined area in Locality 1 is shown in detail in Figure 9-6.*

Blomsterberg (2005) reported that quartz vein grab samples from the southeast part of Locality 1 (Figure 9-6) seemed to contain more gold than those from the northwest part. Nine of the 13 samples from the southeast graded more than 100 ppb Au, whilst only one of nine samples from the northwest graded over 100 ppb Au. South-eastern quartz veins were reported to have a distinct mineralogy, containing tourmaline, malachite, and “bright yellow, dodecahedron-shaped crystals”. Calc-silicate alteration is found within the veins but it appears that no relationship has been established between the intensity of alteration and gold grade.



**Figure 9-6: Map of a swarm of quartz veins in the southeast part of Locality 1, Ippatit (Blomsterberg, 2005)**

Several quartz veins were found in the northern part of Locality 2. These had the same mineralogy as those in Locality 1 and also the same strike (although a steeper dip), and it was suggested that there could be continuity of vein-hosting structures between the two. One grab sample from a quartz vein with epidote, garnet, and sulphides graded 1.14 g/t Au.

Highlights from Crew Gold’s sampling are shown in Table 9-1.

**Table 9-1: Highlights of Crew Gold’s 2004 rock sampling at Ippatit (Blomsterberg, 2005)**

Sample	Year	Type	Northing	Easting	Loc.	Description	Au	Ag ppm	Cu ppm
104161	2004	RCO	6 713 817	520 409	IPP 1	Chip over 1m, py and calc-silicate alteration	30	27	130
104163	2004	RCO	6 713 649	520 424	IPP 1	Chip over 2m along strike, py in calc-silicate altered rock, thickness 10-25cm, strike length 7m	390	<0.3	<1
104164	2004	RCO	6 713 649	520 424	IPP 1	Local zone in Qz vein with py,cpy,malachite	830	10.3	3295
104171	2004	RCO	6 713 646	520 425	IPP 1	Intensely calc-silicate altered zone with malachite, no Qz	330	3.5	3237
104235	2004	RCO	6 711 989	523 501	IPP 2	Qz veins with epi, gt and a few sulphides	1140	<0.3	77
104240	2004	RTR	6 711 894	522 809	IPP 2	20cm Qz vein with 8cm py and po	60	2	2578

#### 9.4 AEX Exploration

AEX paid a very short visit to Ippatit mountain in 2019 to familiarise themselves with the terrain and geology. No sampling or mapping was carried out.

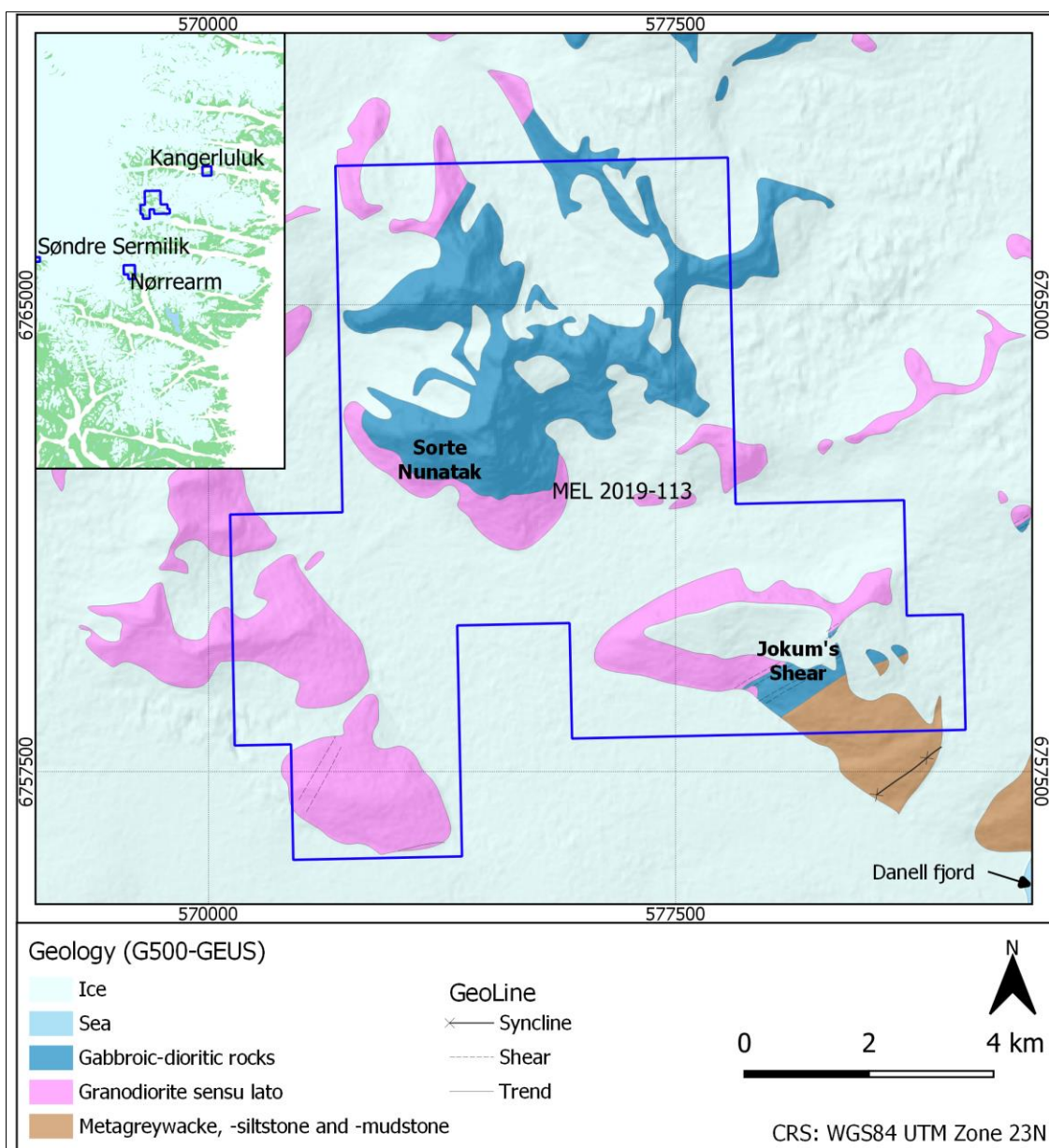
### 10 JOKUM’S SHEAR & SORTE NUNATAK

#### 10.1 Property Geology

##### 10.1.1 Jokum’s Shear

Jokum’s Shear lies 2-3 km inland from the head of Danell Fjord in very steep terrain on the northern side of a large tidewater glacier.

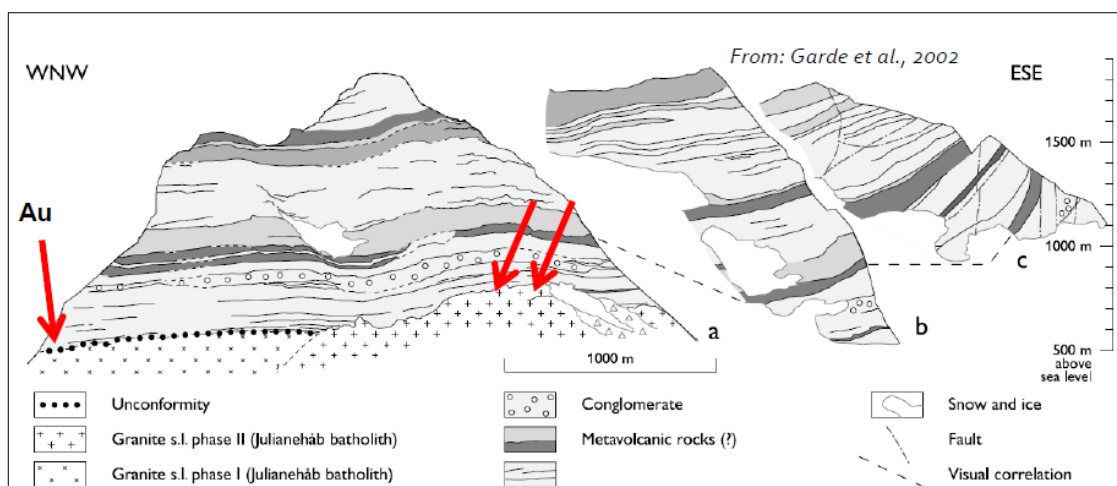
The geology of the Jokum's Shear area comprises granodiorite of the Julianehåb Batholith, pelite and semi-pelite, gabbroic-dioritic amphibolites, and granite (Figure 10-1). These are of Paleoproterozoic age and relate to events of the Ketilidian orogen, and the granites are interpreted to be the result of melting of metasediments (Schlatter and Hughes, 2012; Garde et al., 1998). Other rocks include monzo- to syeno-gabbro, which appear to be the host to mineralisation (Schlatter and Hughes, 2012), and Paatusoq syenite which form part of the Mesoproterozoic Gardar Alkaline Igneous Province (Garde et al., 1998).



**Figure 10-1: Geological map and historical sampling results for the Jokum's Shear and Sorte Nunatak targets**

### 10.1.2 Sorte Nunatak

Sorte Nunatak is found a further 6 km inland to the northwest of Jokum's Shear. The target is on a very steep mountain which is surrounded by glaciers (Figure 10-3). Geological descriptions of Sorte Nunatak are limited due to its inaccessibility and severe terrain; a detailed stratigraphy has not yet been established. The GEUS mineral occurrence datasheet for the locality (GEUS Occurrence id: 370) states that the prospective geology comprises a c. 500 m thick supracrustal sequence of basalts, andesites, ignimbrites, and volcanogenic sediments. Petrographic descriptions have been derived from samples collected from scree and on the glacier south and east of the nunatak (Chadwick and Garde, 1996; Stendal et al., 1997; Swager et al., 1995). On the south face of Sorte Nunatak and on nunataks to the north, the meta-volcanic sequence rests on a thick polymict conglomerate that, in turn, rests unconformably on the Julianehåb Batholith basement. A sketch of the geological sequence by Garde et al. (2002) is shown in Figure 10-2.



**Figure 10-2: Sketch of the geology at Sorte Nunatak looking northwards (Garde et al., 2002, modified by Hughes et al., 2014)**

Red arrows show the locations of samples taken by NunaMinerals in 2013. The arrow labelled 'Au' shows a sample that assayed at 5 g/t Au.



**Figure 10-3: View of Sorte Nunatak looking northwards from helicopter (Hughes et al., 2014)**

Photograph taken in 2013. Red arrows show the locations of samples taken by NunaMinerals in 2013. The arrow labelled 'Au' shows a sample that assayed at 5 g/t Au.

## 10.2 Mineralisation

### 10.2.1 Jokum's Shear

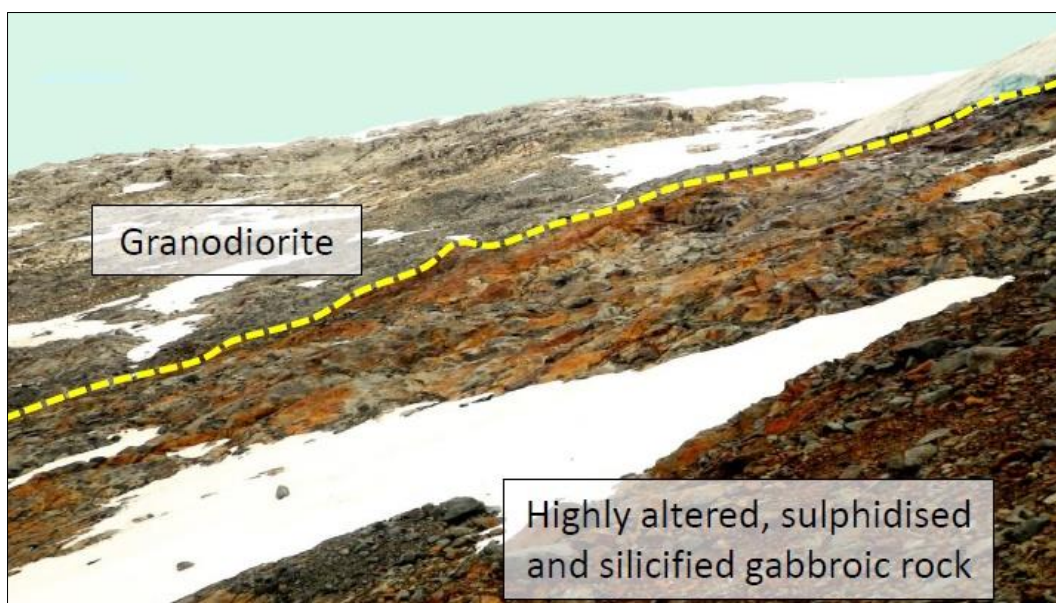
At Jokum's Shear, gold mineralisation is found in a northeast-trending shear zone system is described by Swiatecki (1997) as being 1,000 m wide (although mineralised zones may be narrower) and has a strike length of about 2 km between approximately 250 m and 1,150 m elevation. It is possible that the strike length could be considerably longer; extensions of it to the northeast have been exposed by retreating ice and it has even been proposed that the structure continues for about 25 km and hosts gold mineralisation at the Kangerluluk prospect



(Schlatter and Hughes, 2012; see Section 8).

The mineralised material is found in strongly altered, sheared, and sulphidised rocks of gabbroic composition. These gabbros are not shown on the regional GEUS geological map for the area. Rust staining is common (Figure 10-4) and the gabbro shows variable degrees of hydrothermal alteration in the form of silicification, biotite-chlorite alteration, traces of chalcopyrite, and pyrrhotite (Schlatter and Hughes, 2012).

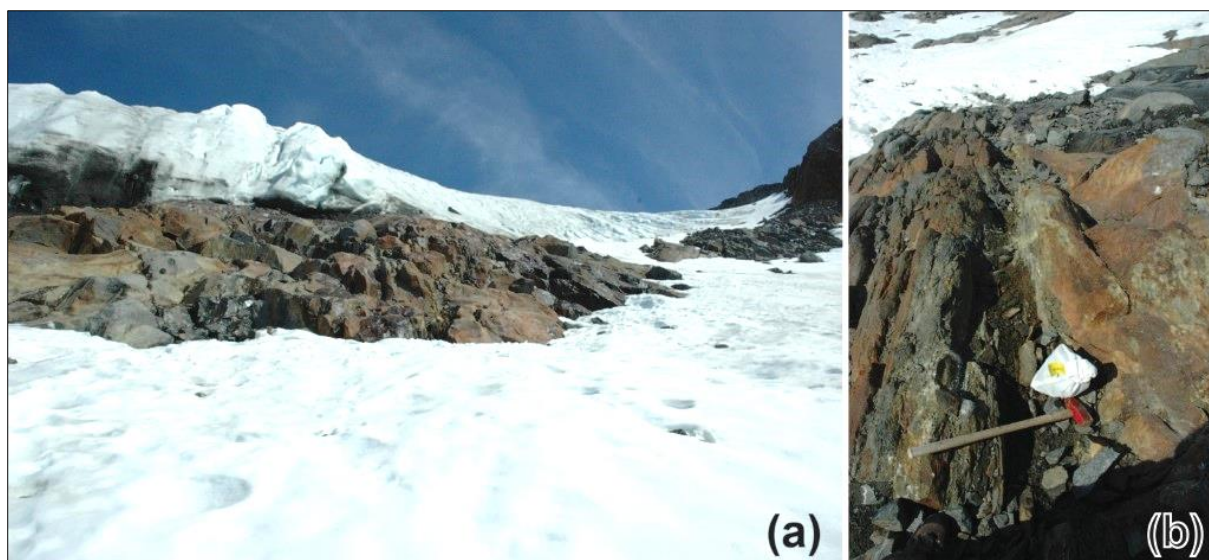
Hughes et al. (2014) suggest that secondary structures to the main shear zone may be the main host of gold mineralisation, and that the primary shear itself is barren.



**Figure 10-4: View of the contact between altered gabbroic rock and granodiorite at Jokum’s Shear (Hughes et al., 2014)**

Swiatecki (1997) states that pyrrhotite and minor chalcopyrite is found as disseminations in the gabbroic rocks, and float of up to 20 x 20 cm of semi-massive pyrrhotite have been found. Rust-stained zones, 10-20 m wide and trending ENE-WSW contain small veins and fractures mineralised with pyrrhotite and chalcopyrite. In places there is extensive epidote (low temperature) alteration in the shear.

Previous workers make little mention of quartz veining in the area, apart from a few cm-wide veins with molybdenite mineralisation (Swiatecki, 1997). By contrast, Schlatter and Hughes (2012) describe quartz veining 10-50 cm wide in the gabbro, sometimes with sheeted quartz veins forming zones up to 20 m wide. The length of these is not reported, and they have not yet been found to contain gold.



**Figure 10-5: Outcrop of a location on the shear zone where a sample graded 4 g/t Au in gabbroic rocks (Schlatter and Hughes, 2012)**

*Hydrothermal alteration is expressed by strong silicification and sulphidation. Photograph (a) is looking northeast and shows the spectacular retreat of a small glacier, photograph (b) is looking southwest.*

### 10.2.2 Sorte Nunatak

At Sorte Nunatak, gold mineralisation has been found in slightly deformed and variably epidotised, carbonatised, and veined volcanics and volcanogenic sediments, sampled as boulders in surface moraines at the base of the nunatak. On the western side of the nunatak, and to a lesser extent its south and east sides, the lower 100 m of the volcanic succession has been described from aerial observations as being pervasively epidotised and veined. The gold-copper type mineralisation appears to be of similar type as the Kangerluluk gold occurrence discussed in Section 8 (Stendal, 1997; Stendal and Schönwandt, 1997).

## 10.3 Historical Exploration

### 10.3.1 Jokum's Shear

Slightly anomalous gold grades, with one sample up to 239 ppb Au, were recorded from rock samples collected during the SUPRASVD programme from the northeast part of the shear zone where there is extensive low temperature alteration at about 1,000 m.a.s.l. (Swager et al., 1995).

These observations were followed up in 1997 by Softrock Petroleums Ltd. who completed less than one day's work in the western part of the shear zone, taking 16 grab samples. Six of these samples were described as being anomalous for gold, with grades of between 0.24 g/t Au and 3.22 g/t Au (Swiatecki, 1997). Some correlation between Au, Cu, Mo, and Bi was noted, thus sharing some similarity with Au-Bi-W-Cu-(Mo-Sn) associations seen in other gold-bearing regional shears along the southeast margin of the Julianhab Batholith (Swager et al., 1995; Garde and Schönwandt, 1994 and 1995), although the presence of significant quartz veining is notably absent from reports.



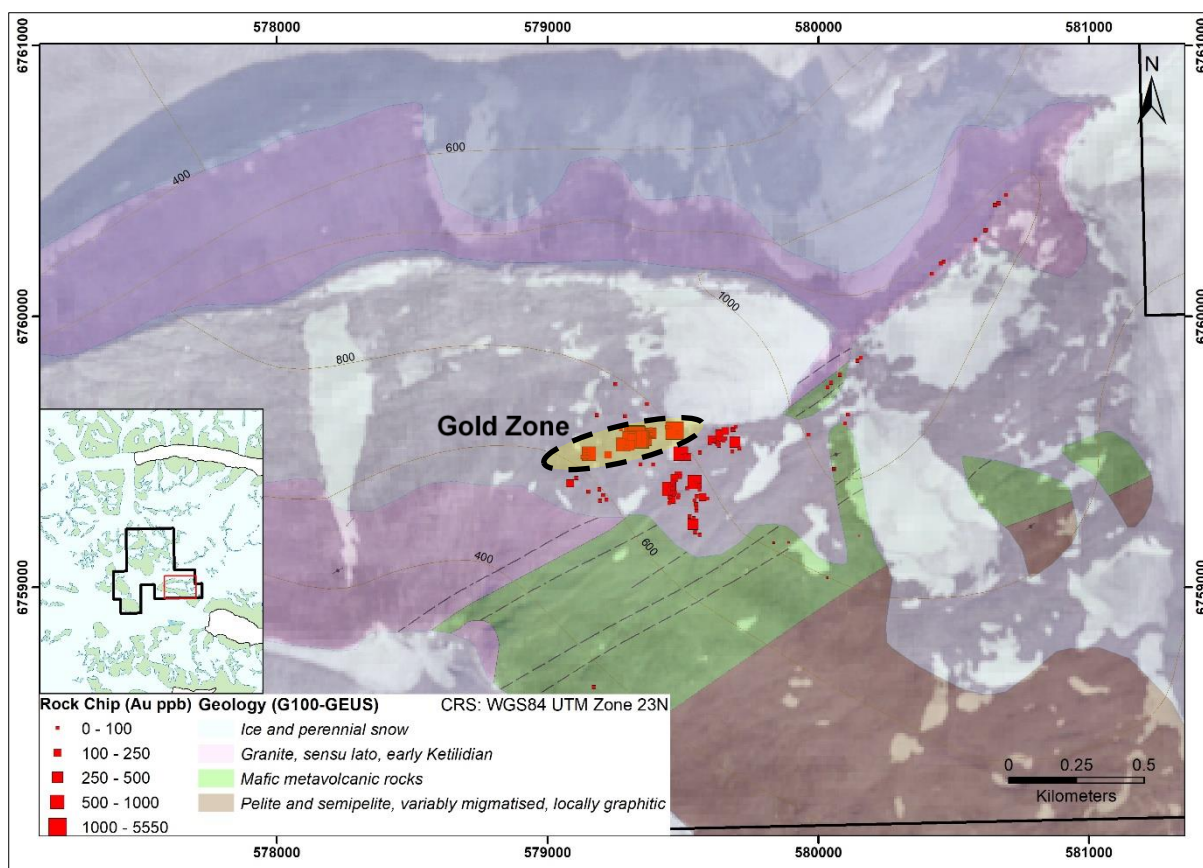
**Figure 10-6: Oblique aerial photo of Jokum's Shear showing the upper part of the shear zone and locations of gold-anomalous grab samples (Swiatecki, 1997)**

There are no records of further exploration work having taken place on the prospect until 2010 when it was included in NunaMinerals' exploration licence number 2010/39. NunaMinerals spent one day on Jokum's Shear that year and collected 61 rock grab samples. These were located along traverses that were orientated across a rust-stained alteration zone that included anomalous gold grades reported by previous exploration. Of these samples, eight graded more than 0.5 g/t Au, with a maximum grade of 2.45 g/t Au. NunaMinerals also reported that the gold was found in sulphide-mineralised granodiorite, the main sulphides being pyrrhotite and pyrite, and appeared not to be related to quartz veining (Pedersen, 2010).

NunaMinerals completed a further four days of sampling at Jokum's Shear in 2012, taking 36 rock chip samples on the shear zone in an area between 650 and 1,150 m.a.s.l. These provided further evidence of gold mineralisation, and identified new occurrences to the northeast, on the same structure but in an area that was newly exposed by a retreating glacier. Highlights from the 2012 sampling were as follows (Schlatter and Hughes, 2012):

- 3.1 m at 9.3 g/t Au;
- 2.0 m at 3.7 g/t Au;
- 2.7 m at 3.4 g/t Au;
- 3.0 m at 2.1 g/t Au.

Schlatter and Hughes (2012) recommended that further work at Jokum's Shear should be carried out, including channel sampling to better understand the extent and grade continuity of gold mineralisation. They suggested that large portions of the rock along the shear could be mineralised, and that gold mineralisation remains open in all directions.



**Figure 10-7: Geological map of the Jokum's Shear "Gold Zone" target and the locations and gold grades of rock samples taken in 2010 and in 2012 by NunaMinerals**

### 10.3.2 Sorte Nunatak

The locality was first noted during the SUPRASYPD programme that took place between 1992 and 1996 (Garde and Schønwandt, 1994; Garde and Schønwandt, 1995; Nielsen et al., 1993; Stendal and Schønwandt, 1997). Boulder sampling has produced anomalous grades of up to 9 g/t Au and 4% copper, hosted by narrow quartz and/or carbonate veins in weakly deformed metabasalts (Swager et al., 1995).

NunaMinerals visited the location very briefly (for two hours) in 2013 and managed to obtain a sample of in-situ mineralised rock containing gold in quartz veins with carbonate alteration. The sample was taken near the unconformable contact between Julianehåb granites and the overlying metavolcanics and assayed at 5 g/t Au. It was suggested that gold mineralisation was associated with the unconformity.

### 10.3.3 Geophysical Surveys

Jokum's Shear and Sorte Nunatak were included in a DIGHEM<sup>V</sup> airborne geophysical survey in 1997, performed on behalf of Softrock Petroleum Ltd. as part of a kimberlite exploration programme. DIGHEM<sup>V</sup> was a multi-coil, multi-frequency electromagnetic system supplemented by a caesium magnetometer, allowing maps to be produced of the areas' magnetic and conductivity properties. The parameters and outcomes of this survey are described by Smith (1997) and summarised below.

At Sorte Nunatak, the electromagnetic data did not show anything of interest or use, probably on account on the severe terrain. The magnetic data was described as showing several linear, accurate, and elongate highs and lows, reflecting complex underlying geology and representing

structural breaks that may have some control on mineralisation.

At Jokum's Shear, both the magnetic and electromagnetic data show distinct northeast-trending linear features that probably reflect the general grain of the geology and, more importantly, the shear zone that hosts gold mineralisation. Further examination of this data may be useful to identify any localised structural controls on mineralisation.

## 11 NØRREARM

### 11.1 Property Geology

The prospect is located on steep terrain at the head of Nørrearm Fjord at about 500 m.a.s.l. Published geological maps for this area (Figure 11-1) show fairly conflicting information with respect to the stratigraphy. However, satellite imagery, observations by AEX, and reporting from earlier work (Garde et al., 2002) suggest that the principal units include granodiorite (possibly of the Julianehåb Batholith) overlain by migmatized metasediments of the Psammite Zone that are intruded by some unaltered mafic dykes. The contact between the granodiorite and the metasediments appears to be a large, regional scale thrust that strikes northeast and dips about 45° to the northwest.

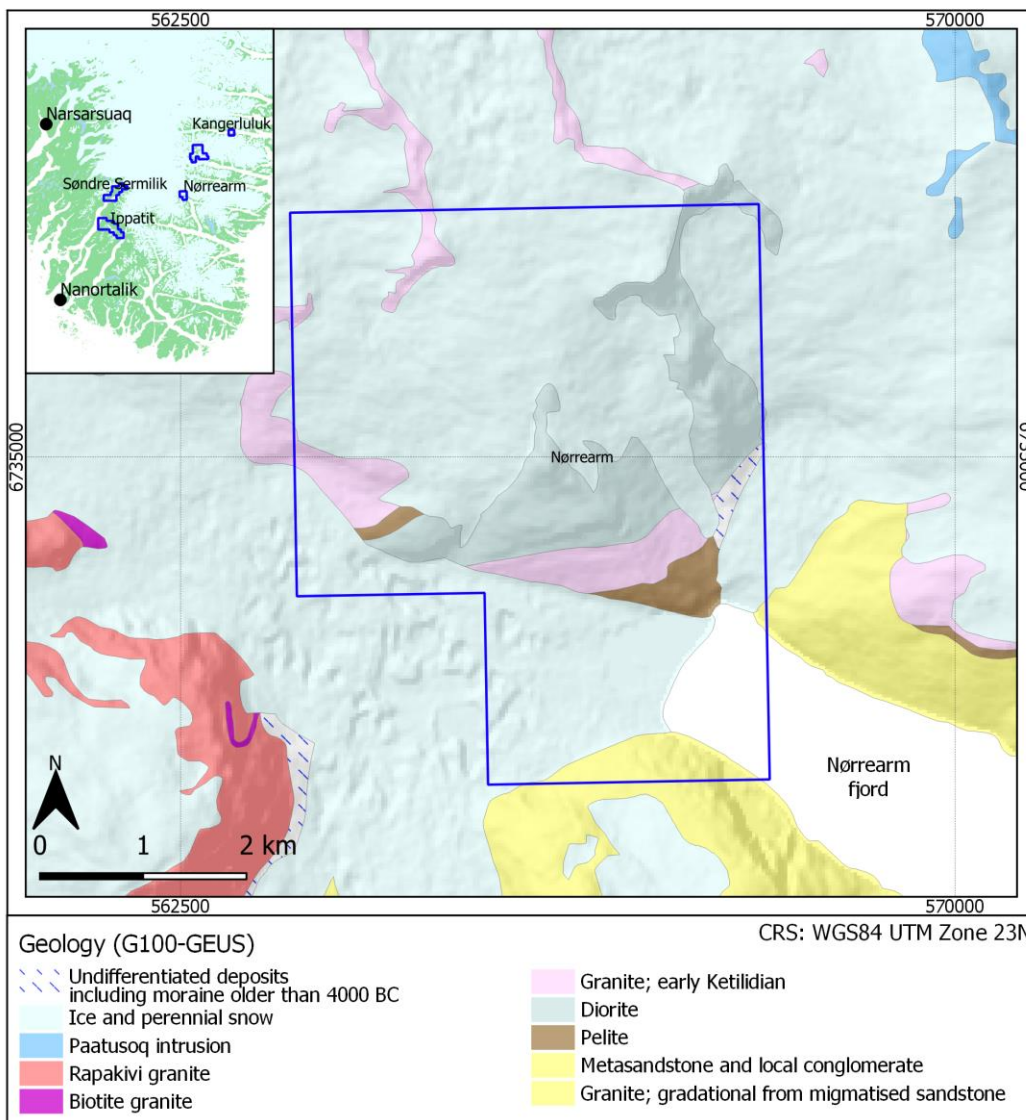


Figure 11-1: Published geology of the Nørrearm sub area

## 11.2 Mineralisation

The feature of interest is a large and distinctive zone of rust staining that is visible in satellite imagery and defines a horizon at the thrust contact between the granodiorite and the metasediments above the northern shores of Danell Fjord (Figure 11-2), and also visible 2 km to the east before it disappears below an icecap (Figure 11-3). Massive iron sulphides are found at the base of this horizon with thicknesses of 1-5 m. Minor copper staining has been observed in some rock samples and up to 50% flake graphite in others (AEX 2019 exploration notes; Gray, pers. comm., 2020). There are also some rust-stained quartz lenses, but none have any lateral continuity.

This type of feature in this geological setting is quite commonly seen in South Greenland, and AEX believe that the Nørrearm occurrence could be one of the larger examples. It may be the regional thrust that forms a distinctive marker horizon between amphibolites and underlying lithologies in many places in the Psammite Zone close to its border with the Julianehåb Batholith.



**Figure 11-2: Rust-stained horizon at Nørrearm at the contact between granodiorites (below) and metasediments (above). Massive sulphides found at the base of the horizon (AEX field photographs, 2019)**

*Photograph taken by drone. View is towards the southwest. White helicopter circled in yellow provides scale.*



**Figure 11-3: The same structure as that shown in Figure 11-2 but seen 2 km to the east (AEX field photographs, 2019)**

*Photograph taken by drone. View is towards the east.*

### 11.3 Historical Exploration

SRK ES has found no reports of exploration having been undertaken on this prospect before AEX's tenure.

### 11.4 AEX Exploration

The prospect was visited by AEX for one day in 2019 when they conducted reconnaissance and rock chip sampling. Samples were analysed for gold by fire assay and multi-elements by ICP-MS. No elevated grades for gold or other metallic elements of economic interest were reported, suggesting that the massive sulphides are dominated by pyrite.

## 12 SAARLOQ

### 12.1 Property Geology

Licence 2020-31 is predominantly underlain by granites and granodiorites belonging to the Julianehåb Batholith (Figure 12-1). The oldest rocks are gneisses which are mainly granodioritic or quartz dioritic with biotite and hornblende and are located in the southwest and north-easterly areas of the licence. These units are enclosed within an early granite of the batholith. Elsewhere there are late-stage granites which are described as biotitic, biotitic foliates, biotitic-rich enclaves, hornblendic, hornblendic foliates and with amphibolitic enclaves. Throughout the licence are small areas of basic intrusives, diorites and appinitic rocks. Microsyenite and dolerite dykes of Gardar age are mapped, particularly in the western part of the licence.

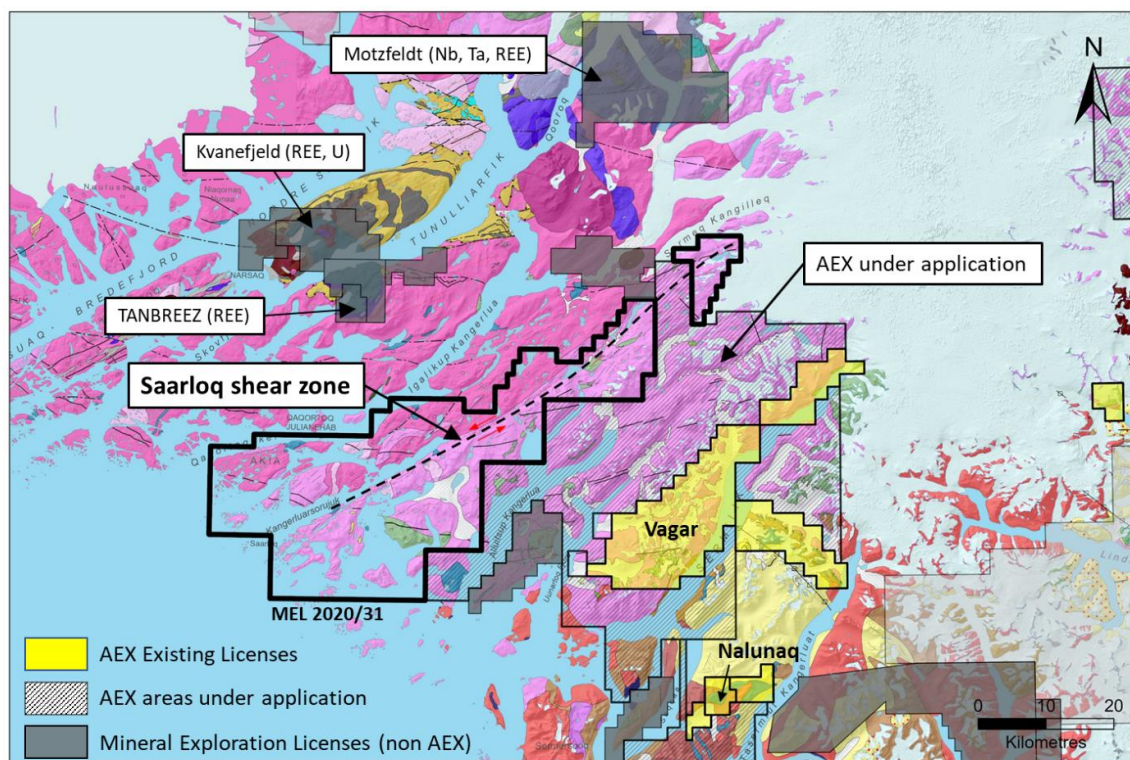
Steep to vertical shear zones are an important feature of the Julianehåb Batholith in this area. Descriptions of them are given by Chadwick et. al., (1994) and Chadwick and Garde (1996). They have widths of a few centimetres up to more than one kilometre and trend towards the northeast, parallel to the schistosity of the granitoid rocks. The principal structure of interest here is the Saarloq Shear Zone which runs through the licence area in a north-easterly direction. This is the largest shear in the region (Chadwick et. al., 1994) and occupies a 1.5 km wide zone.

It can be traced for at least 50 km along strike and appears to link with intensely deformed rocks in the Saarloq area at the southwest end of the shear (Windley, 1966).

Deformation along the Saarloq Shear Zone appears to have been intense. Mineral textures indicate crystal-plastic solid-state deformation, and mineral lineations suggest transcurrent displacement probably relating to the subduction event in the area. Deformation has led to the formation of mylonites and ultramylonites derived from the granitic rocks adjacent to the shear zone. Partial melting may have been a result of localised shear heating. Within about 100 m of the shear zone the regional schistosity of the granites becomes more intense. Mylonitic rocks are not shown on the geological map for the area, possibly because their occurrences are too small to be included on the 1:1,000,000 scale geological maps.

The displacement along shear zones in this area is not known, but it was probably many kilometres in the case of the Saarloq Shear Zone, as suggested by its width and the intensity of the mylonitisation.

Some shear zones may have been reactivated as brittle faults in the Gardar period.



**Figure 12-1: Geological map and licence boundary for the Saarloq area**

*The area labelled as “AEX under application” has now been granted and forms the Anoritoq licence (2020-36)*

## 12.2 Mineralisation

According to Chadwick et. Al., 1994, the emplacement of the southern part of the Julianehåb Batholith in a sinistral transpressional regime not only led to intense plastic deformation along the shear zones but also to significant quartz veining, brecciation and hydrothermal alteration. Quartz veins can be 0.5 – 5 m wide and can be followed discontinuously for up to 200 m, although individual veins rarely exceed 10 m (Stendal and Frei, 2000). Hydrothermal alteration is characterised by bleaching, silicification, chloritisation, epidotisation and pyritisation. Locally, magnetite and arsenopyrite with associated gold may be found.

All three settings, particularly quartz veins and adjacent silicified rocks from shear zones, have



been shown to host slightly elevated gold contents. Analytical results from 128 chip and grab samples taken by GEUS from quartz veins in sheared areas in the north-eastern part of the main sub-area of the licence (Figure 12-2) had a grade range of <2 ppb to 1,000 ppb gold. The average was 37 ppb gold, but most samples had a gold content below the detection limit. This represents only minor elevations in gold content. This sample data is from the GEUS database (Geochemical Atlas of West and South Greenland); no further information on the source of these samples or detailed descriptions of the sampled lithologies has been found.

Stendal and Frei (2000) state that chemical associations with gold mineralisation in this setting are Au-Bi-(Ag-As-Cu-W-Mo). This type of gold mineralisation has been identified on the Niaqornaarsuk Peninsula (see Section 7).

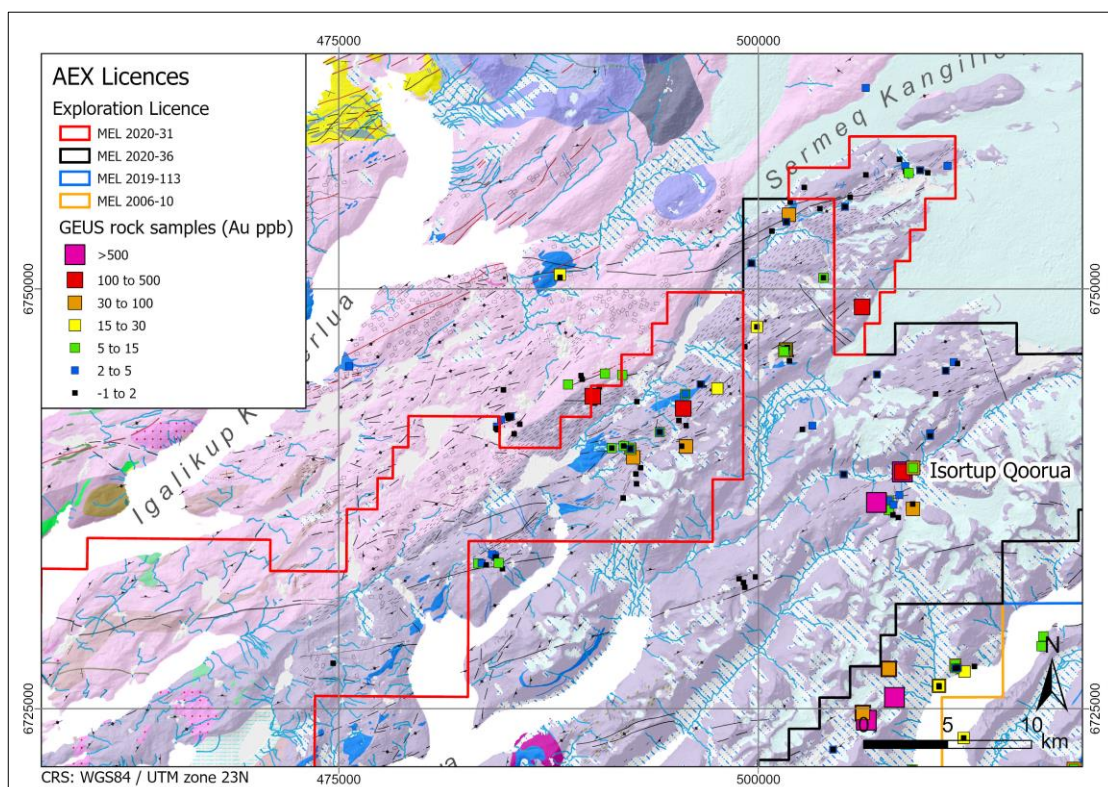


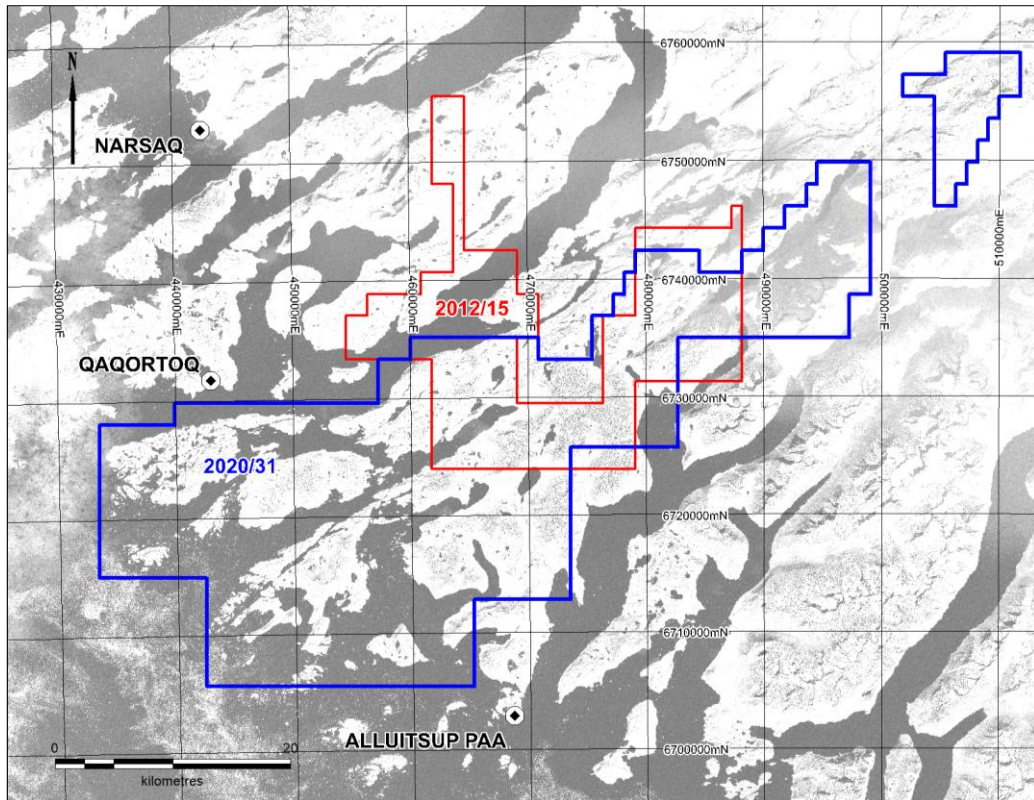
Figure 12-2: Plot of historical rock sampling results from the GEUS database

### 12.3 Historical Exploration

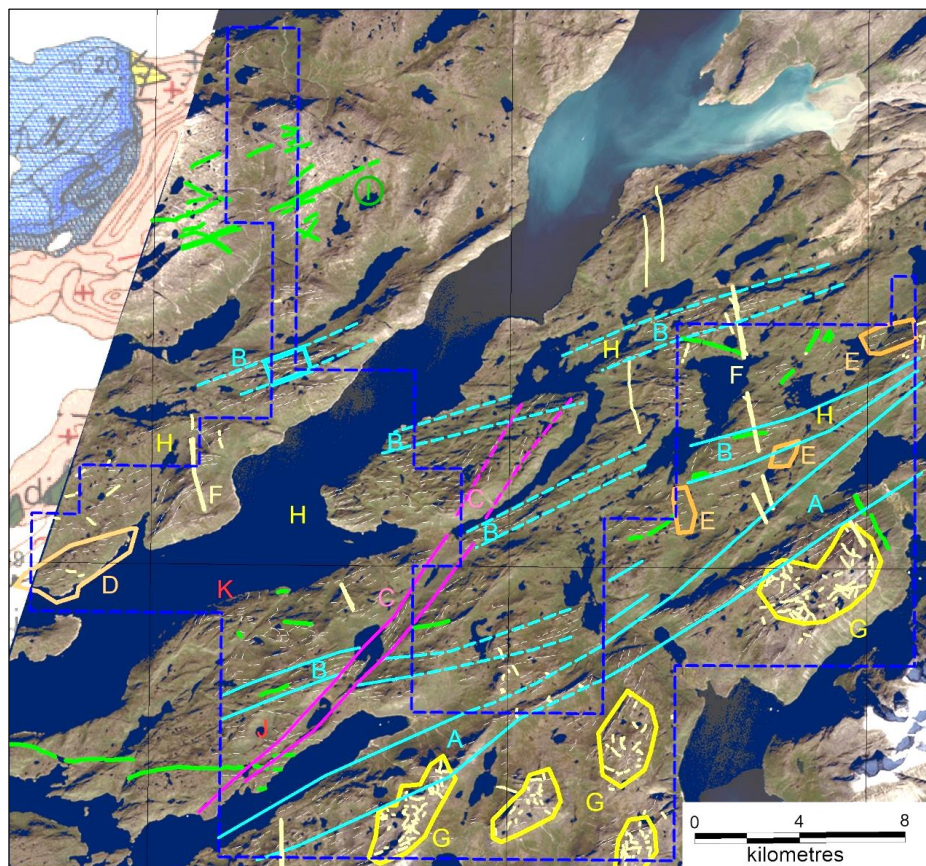
An exploration licence, number 2012-15, that covered part of AEX’s Saarloq licence was held by Rare Earth Minerals PLC (REM). This covered the part of AEX’s licence, and a comparison between the two areas is shown in Figure 12-3.

In 2012, REM commissioned SRK ES to carry out a data review and prospectivity assessment for rare earth elements and gold mineralisation in the area. This work included a detailed structural assessment using 3D photogrammetry, historical data review and a field visit to inspect areas of interest.

Several targets were selected based on their structural setting or on anomalies in historical geochemical data and these were explored by REM in 2014. These targets are shown in Figure 12-4 and the labelling indicates the various types of prospective feature identified by aerial photo interpretation. Licence 2020-31 is substantially larger than REM’s, but it is possible that similar features may be found elsewhere along the Saarloq Shear Zone in areas now covered by licence 2020-31.



**Figure 12-3: Comparison between REM's former licence 2012-15 (red) and AEX's licence 2020-31 (blue)**



**Figure 12-4: Exploration targets defined by REM from aerial photo structural interpretation**

**A – The Saarloq shear zone.** Shear zones in general are considered targets for gold exploration. Along shear zones, dog-legs, dilatation sites, bends and splays may have enhanced gold potential due to such features permitting flow of mineralised fluids and sites for precipitation. The Saarloq shear zone has been reactivated as a brittle fault and the 1 km wide zone north of the fault is of particular interest, especially in the middle of the area where it becomes narrower;

**B – Smaller shear zones/foliated zones** in the area, striking 60-70°, both splays off the Saardloq shear zone and isolated zones further north form exploration targets. Shear zone related structures that are slightly off the main shear zone may be considered prospective for gold mineralisation, and four of such zones were recognised in this area.

**C – The fault zone in the south-west** of the area striking c. 045°. Formation of a new more brittle fabric in the rocks, associated with the abundant faults, may have allowed for hydrothermal fluid flow and is an exploration target. It is clearly distinct from the shear zones of target B, both in orientation and in character, being more brittle than these. The intersection of this with the foliated zone is considered a prime exploration target.

**D – Area of conjugate brittle faults.** This area is distinct in the way the rocks are cut by set of closely-spaced conjugate brittle faults, striking 70° and 130° respectively. The area is underlain by mafic rocks, but the faults are not restricted to the mafic rock type, and the mafic rocks extend outside the heavily faulted area.

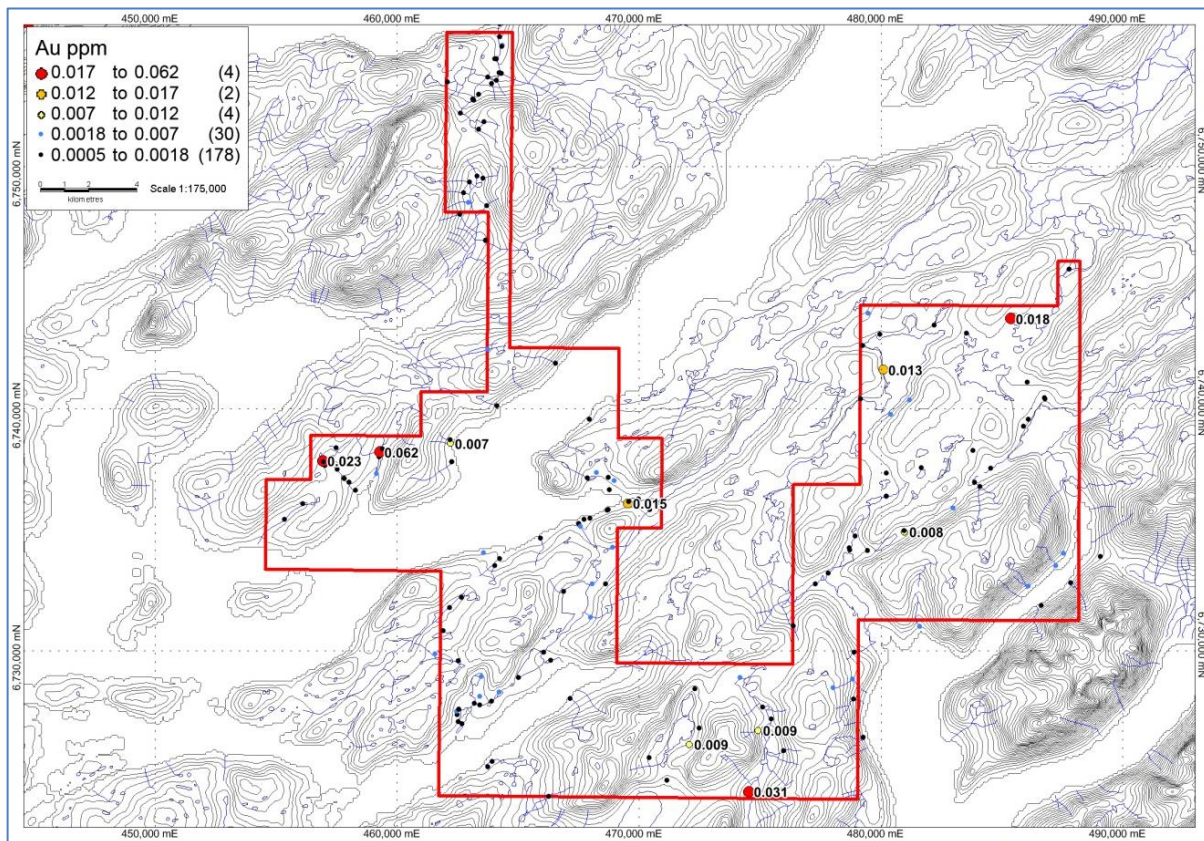
**E – Zones with a new brittle fabric.** Several areas are cut by very intense fracturing, forming a new fabric. This is similar to the fabric in the fault zone described as target C, but less wide-spread and less continuous. Several other smaller areas of such intense fracturing exist.

**F – Potential alteration zones along dykes.** The long, slightly pale zones that strike about 170° and slightly protrude in the landscape may have undergone some type of alteration, potentially contact metamorphism. It could be that these zones have a slightly different mineralogy than the surrounding rocks. These zones could follow either thin dykes (not identified as such in the aerial photographs) or fracture zones, as was tentatively identified in a few of them. These zones are worth further investigation.

**G – Bleached zones.** The areas of higher elevation south of the main shear zone that show pale weathering colours along some of the faults should be investigated to determine whether this bleaching is a weathering effect or is due to mineralogical differences such as alteration.

**H – Quartz lens zones.** The zones in which white patches in the rocks were noted are of interest for their potential to be quartz lenses. Gold occurrences south of the licence area, such as the Vagar project and the Nalunaq gold mine, are associated with quartz veins. The most prospective areas would be where possible quartz veining occurs in strongly foliated or brecciated rocks. The location in the north-western corner of the eastern part of the licence area is of particular interest. Here, possible quartz veins occur in a foliated zone that is cut by faults with different orientations, and an area (albeit very local and slightly outside the zone) with a SSE-trending brittle fabric. The GEUS stream sediment geochemistry database shows a sample with a grade of 102 ppb Au in this area.

REM's 2014 programme included the collection of 160 stream sediments sample, 199 panned concentrate samples and 137 grab samples of rock, focussed on the types of target described above. The samples that were taken in what is now covered by the Nalunaq A/S exploration licence showed weak anomalies for gold in the southern part of licence 2012-15, appearing to surround a mountain (Figure 12-5). Further exploration in this area was recommended. REM's rock sampling did not show any elevated gold grades in the area now covered by licence 2020-31.



**Figure 12-5: Stream sediment sampling results for gold from REM's 2014 exploration programme**

*Note the group of three anomalous samples in the southern part of REM's licence area that suggest the mountain between them may be of interest for further prospecting.*

### 13 ANORITOOQ

The main sub-area of the Anoritooq licence area (number 2020-36) covers parts of the Niaqornaarsuk, Akuliaruseq and Nanortalik peninsulas in South Greenland (Figure 13-1). A smaller sub-area of this licence covers Kangerluluk fjord in Southeast Greenland. The most advanced gold exploration target in this licence is known as Lake 410, located on the Nanortalik Peninsula.

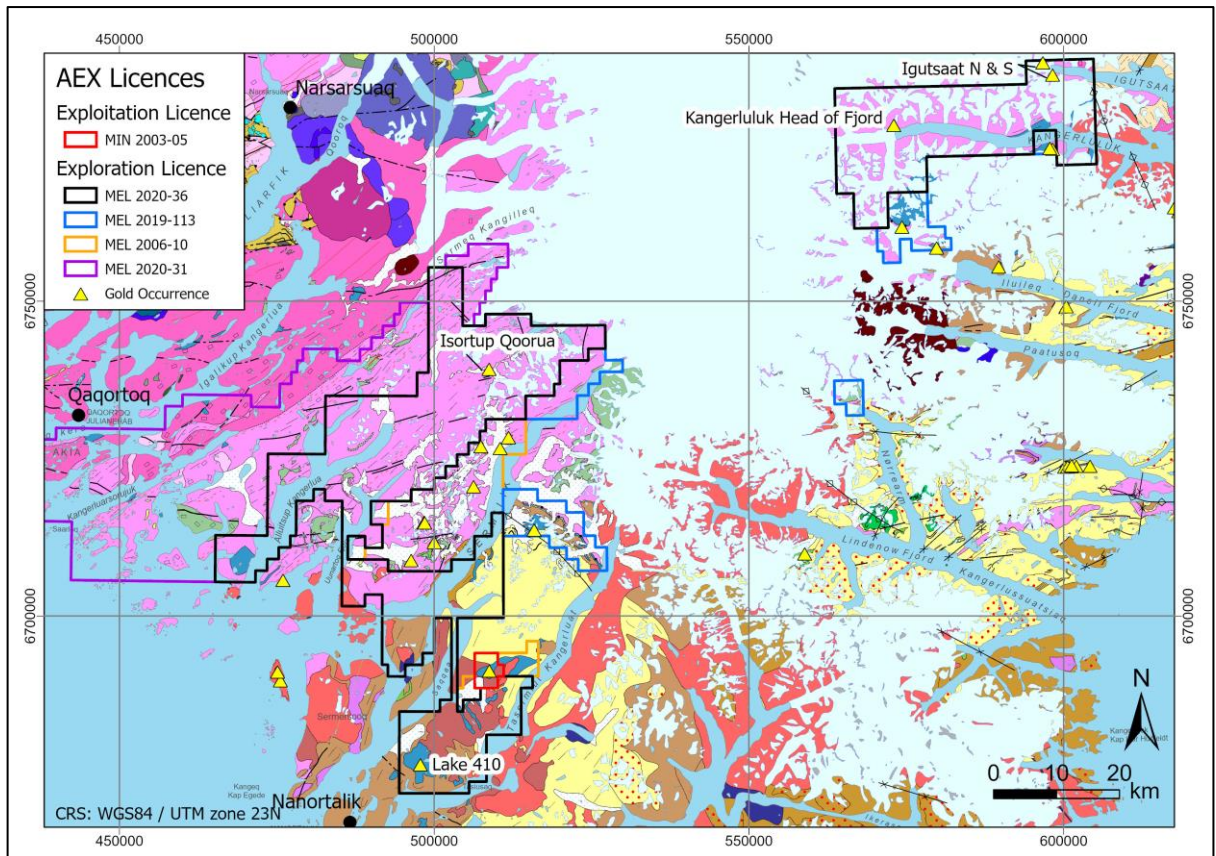


Figure 13-1: AEX mineral licences, with the Anoritoq licence 2020-36 shown in black

## 13.1 Property Geology

### 13.1.1 Lake 410

The Lake 410 prospect constitutes a large 5 km x 5 km enclave of mainly amphibolitic rocks occurring in the southwestern part of the Nanortalik Peninsula. The area’s geology has been described by Olsen and Petersen (1995); it shows many similarities to the Nalunaq area and can be considered part of the same sequence of metavolcanics rocks from which it has been separated and partly engulfed by younger Ilua Suite granites. Large internal thrust planes, often focused along graphitic sulphide horizons, cause local repetition of the stratigraphy and, towards the south, the amphibolites appear to have been deposited on a thick package of metapelitic and metapsammitic schists. The amphibolites are cut by numerous aplite veinlets and granite dykes.

The amphibolites are considered to be the main gold-prospective lithology in the area, with a fine-grained black amphibolite being the most common rock type. Relict pillow structures can be recognised in several locations confirming that the amphibolites are predominantly submarine volcanic rocks. The rocks are generally massive with a faint foliation, but locally appear more schistose. The general orientation is flat lying, but steeper orientations are present near the granite boundaries.

Calc-silicate alteration is abundant in certain horizons, usually with a large lateral extent. Intensely altered amphibolites are overlain by fresh-looking black amphibolites in places, and a 20-40 m wide medium-grained metadolerite can be seen at the contact. Calc-silicate alteration appears to follow thrust planes implying that fluids were emplaced after or during deformation. Several banded stratiform iron-sulphide horizons with chert beds and graphite form prominent

rust zones and are a characteristic feature of both the metapelitic and amphibolitic successions. These can often be traced for several kilometres and are presumed to be of exhalative origin. Similar iron-sulphide horizons are present at Nalunaq and Ippatit.

The amphibolites are underlain by meta-arkosic and metapelitic micaschists. In the southwestern part of the area the boundary is sharp and apparently not tectonised. Minor folding can be seen in the amphibolite but not in the underlying metasediments which consist of a sandy, meta-arkosic, slightly migmatized gneiss. The amphibolites show calc-silicate alteration along a 4-6 m wide zone at the contact. Below the meta-arkose is a thick (more than 500 m) pile of metapelites. The metapelites are only slightly migmatized but occasionally show complex folding.

A large intrusive mass of granite borders the amphibolites to the north and northeast. The granite is medium-grained with 2-5% biotite and locally appears porphyritic due to K-feldspar phenocrysts. The granite-amphibolite contact is generally flat-lying and gives the impression that the amphibolites are 'floating' in the granite substratum. The amphibolites are cut by numerous discordant aplite and granite dykes, which clearly post-date the amphibolites and their metamorphic fabric. The number of aplite dykes increases with proximity to the eastern granite contact.

Structures in the Lake 410 area are generally flat-lying planar features with dips of less than 30°. They consist of a faint foliation, lithological banding and layering and mildly discordant thrust planes which dip gently to the southeast. Steeper orientations can be found close to the granite contact.

### 13.1.2 Main Sub-Area

The licence area covers part of the Ketilidian orogenic belt. The northern half of the main sub-area is dominated by granites and granodiorites of the Julianehåb Batholith with subordinate diorites, gabbros, quartz diorites and felsic volcanic rocks. The southern part of the licence is more variable and includes supracrustal metavolcanic and metasedimentary rocks along with occurrence of granites of the Palaeoproterozoic Rapakivi Suite. These granites differ to those in the Julianehåb Batholith in that they were formed in an extensional, back-arc setting. The metavolcanic rocks at Lake 410, where there are known gold occurrence, are part of the Nanortalik Nappe which is exposed at Nalunaq and Ippatit. There are also minor occurrence of appinitic rocks at Alluitsup Paa and on Angmalortoq island.

### 13.1.3 Kangerluluk Sub-Area

The geology of this area is dominated by granitoid rocks of the Julianehåb Batholith. There are enclaves of mafic supracrustal rocks on the northern side of Kangerluluk Fjord which may have potential to host extensions of the Kangerluluk gold occurrence on the southern side of the fjord (see Section 8).

## 13.2 Mineralisation

### 13.2.1 Lake 410

Olsen and Petersen (1995) describe several types of mineralisation in the Lake 410 area:

1. A large number of stratiform semi-massive sulphide-chert horizons occur, comprising a bedded sequence of 0.1-2 m wide chert beds separated by graphitic schists with sulphide layers. They mainly consist of massive pyrrhotite with minor silicate inclusions, and sometimes disseminated pyrite and graphite. These horizons occur both within the amphibolite series and in the underlying mica-schists, are laterally

continuous for up to several km, and are undoubtedly syngenetic mineralisation, presumably of exhalative origin. Samples from one of the larger examples are weakly enriched in gold (5-64 ppb) but are not thought to be important targets.

2. Quartz veins containing minor disseminated sulphides, mainly arsenopyrite and chalcopyrite, have been found in several localities within the amphibolites. They are mainly sub-concordant sheeted veins with slight pinch and swell geometries.

One vein of note is located in the hill crest above and south of the waterfalls below Lake 410. At 2 m, this is the thickest vein that has been reported in the area (Crew, 2003 company report). Vein fragments that have been sampled in the scree have returned grades of up to 373 ppb gold and contain disseminated sulphides including arsenopyrite, chalcopyrite, chalcocite and pyrite. The vein has a well-developed sheeted structure, with a selvage of disseminated sulphides in the relatively unaltered footwall amphibolites. Intensive calc-silicate alteration is present c. 50 m stratigraphically below the vein and also 100 m above it. The vein is slightly discordant to foliation and bears some similarities to the Main Vein at Nalunaq, but it has low gold content of around 215 ppb gold and arsenic grades varying between 600 and 3,000 ppm.

Other minor quartz veins are reported to occur sporadically in the area, some of which can be traced for several hundred metres and are associated with calc-silicate alteration. None of these veins have returned significant gold grades and the locations of some of them are uncertain.

3. Copper mineralisation is present locally in the form of malachite staining in the amphibolites. It is not considered to be of economic significance although one strongly epidotised float sample collected in 1994 returned >2% copper and <5 ppb gold, but the source was not located in subsequent years.
4. An unusual 0.5 m thick magnetite sill is present in a minor stream west of Lake 210 but is not considered to be of economic significance. It has been interpreted as being of intrusive origin by Olsen and Petersen (1995) but was considered to be exhalative by Wulff (1995).

### 13.2.2 Main Sub-Area

Information for mineral occurrences in this licence area has been taken from the GEUS mineral occurrence descriptions (Gowen and Robyn 1992; Pedersen and Olsen 1992).

Mineralisation at Isortup Qoorua is associated with a structural lineament (shear zone) that is several kilometres long and strikes at 062° along a topographic depression in the central Niaqornaarsuk peninsula. The western part of the lineament is gold-bearing in a zone that is 5-8 m wide and traceable for 100 m along strike (Pedersen and Olsen, 1992). The zone is silicified, chloritised and contains a few dm-thick quartz veins. The host rock is epidotised granite. The tectonised granite and shear zone rocks contain disseminated pyrite and chalcopyrite in veinlets.

Chip sampling over the shear zone has reported grades of 0.1 ppm gold over 5.9 m. A composite sample of sulphide-mineralised quartz veins returned 1.7 ppm gold (Pedersen & Olsen 1992). The eastern part of the mineralised zone contains mineralisation that grades up to 1 ppm gold, 0.38% copper and 0.17% cobalt.

### 13.2.3 Kangerluluk Sub-Area

Information for mineral occurrences in this licence area has been taken from the GEUS mineral occurrence descriptions.

During fieldwork in 1994 for the SUPRASYS programme, a copper/gold-bearing sample (0.6 ppm gold and 0.4% copper) was collected at the head of Kangerluluk Fjord. Further analyses of grab and chip samples from the quartz vein show elevated tungsten, molybdenum and copper associated with gold, with grades of up to 1.2 % copper and 0.228 ppm gold (Stendal, 1997). Lead-zinc mineralisation can also be found in granodiorites, related to later shearing and carbonatisation. The carbonate zones contain grades (presumably from grab samples) of up to 2.2% lead, 4% zinc, 0.223 ppm gold and 114 ppm copper (unpublished; GEUS).

On the northern side of Igutsaat Fjord, at least four distinct east-west striking rust zones are exposed in the granodiorite. Iron sulphide is disseminated in the zone and occurs in hairline fractures and veinlets. The amount of sulphide does not exceed a few vol.%. Analysed samples have only shown traces of gold (Stendal 1997).

A major, east-west striking, 5-8 m thick rusty aplite sill is exposed on the southern side of Igutsaat Fjord. The sill strikes approximately 060° and dips 20° southeast. The aplite is enclosed in mafic sill rock, 0.5-1 m thick. Earlier mafic dykes are displaced several metres dextrally along the sill plane and the aplite appears to have been emplaced into a sub-horizontal shear zone in an earlier mafic sill. The rusty aplite contains 1-2 vol.% pyrite, both disseminated and in veinlets with grab samples returning grades of up to 1.39 ppm gold (Stendal 1997).

## 13.3 Exploration History

### 13.3.1 Lake 410

The first commercial exploration on the Lake 410 area was undertaken in 1986-1988 by Greenex A/S and Nanortalik Minerals with A/S Carl Nielsen as consultants. During that period, A/S Carl Nielsen collected 57 HMC samples on the Nanortalik Peninsula from first order streams. In 1988 a chip sampling programme was carried out by Greenex and Nanortalik Minerals in the Lake 410 area. This programme was focussed mainly on sampling rusty horizons and the different rock types in the area. Three chip samples from a total of 66 samples returned gold grades that were above the detection limit for gold, the highest being 27 ppb gold.

NunaOil A/S (later NunaMinerals A/S) and Cyprus Greenland Inc. acquired the Lake 410 concession under a joint venture agreement in 1993. One week was spent in the area that year, conducting reconnaissance prospecting and HMC sampling from second order streams and scree cones. A total of 54 HMC samples and 68 rock samples was collected. Three HMC samples contained >1 ppm gold, whilst scree sediment samples identified anomalous gold values of up to 3.43 g/t at the scree cones below one of the major thrust planes. Of the 68 rock samples, 10 samples returned values > 100 ppb gold with the maximum grade being 350 ppb. Samples with elevated grades were of rock types that included graphitic and sulphidic biotite schist, silicified rocks and amphibolites with disseminated sulphides, and chalcopyrite-bearing quartz veins.

In 1994, exploration focussed on locating the source of anomalous HMC samples identified in the previous year. One hundred and forty-six rock samples were collected in the Lake 410 area from a variety of types of mineralisation. Most samples returned low gold grades not exceeding 373 ppb. One chip sample returned 4.8 ppm gold, collected from a 2 m wide discordant mylonite shear zone with no visible sulphides on the north western face of the Tasiarsuup Qaqqaa mountain. Twenty-four Bulk Leach Extractable Gold (BLEG) samples and three HMC



samples were collected in the Lake 410 and 210 valleys. The best result from this was 2.6 ppm gold from a sample taken along the right side of the stream draining Lake 410.

NunaOil returned in 1995 and located two new gold-arsenic occurrences which are described by Wulff (1995) and subsequently referred to by Schlatter (1997) as the 'Lower Favourable Unit' (LFU) and 'Upper Favourable Unit' (UFU).

- The LFU is a thin (5 m) package of arsenopyrite-rich volcanic rocks overlain by a coarse-grained quartzite (later considered to be a recrystallised exhalate), silicified tuff and calc-silicate altered amphibolite. The LFU can be traced for at least 700 m along strike. Gold is elevated in the coarse-grained quartzite which itself varies in thickness from 0-1 m; rock chip samples from this unit returned grades of up to 2.47 ppm gold and 2.1% arsenic in 1995, although it was later reported that the sample locations are uncertain. Two profiles taken across the LFU in 1996 returned 1.9 ppm gold over 1.4 m and 1.2 ppm gold over 2.2 m. The arsenopyrite-rich volcanic unit in the footwall is also reported to be elevated in gold;
- The UFU consists of a succession of silica- and calc-silicate altered massive lava, red-stained fine-grained mica-rich tuff, and strongly carbonate altered calcareous pale tuff with a lower contact towards a silicified fine-grained tuff. The unit is reported to be continuous but gold grades in rock samples are below 155 ppb and it is not considered to be an important target.

A sediment sampling programme was conducted in 1995 where at each sample location two samples were collected, one larger sample for BLEG and an approximately 300 g sample of a fine fraction, sent for fire assay analyses. One sample returned 736 ppb gold, but no gold in bedrock could be located during follow up prospecting.

Nanortalik I/S held a licence over the Lake 410 area from 2002 as part of a joint venture agreement between Crew Development Corporation (Crew) and NunaMinerals. Exploration in 2002 aimed to traverse the area systematically and resample known structures to verify historical results, and ultimately define drill targets for follow up in 2003. Fifty-five rock samples were taken, only two of which returned values of over 100 ppb gold. The maximum value was 1.34 ppm in a rusty quartz vein with calc-silicate alteration and sulphides outcropping in steep terrain to the west of the Lake 410 stream. The exposed outcrop was very small (reportedly only 25 cm x 40 cm in Crew's 2003 company report) and steep terrain made sampling difficult.

Crew was encouraged by the newly discovered mineralisation and recommended that more work should be carried out to confirm its thickness and strike length. Resampling of the previously described LFU confirmed that it is only weakly mineralised on surface and is not sufficient to explain the anomalous sediment gold anomalies in the area. Drilling was therefore recommended from two platforms either side of the waterfall that drains Lake 410 at approximately 400 m elevation in order to test the LFU, and the newly discovered quartz veins.

The primary goal of Crew's 2003 campaign was to verify the aerial extent of the LFU and UFU by attempting to intersect these horizons in four drill holes from two different drill locations about 520 m apart; one in the area to the northeast of the Lake 410 waterfall and one to the southwest of the waterfall. In total, 931 m of drilling was carried out, from which 200 samples were taken. The best results were obtained from amphibolite in hole L410-001, which returned 2.12 ppm gold Au over 2 m. The first hole was sampled over its whole length, with an average sample length of around 2 m, whereas the remaining holes were sampled selectively. The LFU was renamed the Main Unit (MU) and was clearly identified in three of the four holes demonstrating

it is a fairly continuous structure. A second continuous quartz horizon was discovered approximately 1 km to the south of drill pad L410-002. This comprised quartz veining up to 2 m in thickness with graphite at its lower contact and arsenopyrite-rich amphibolite at the upper boundary. The average thickness of the quartz was estimated to be around 0.75 m. Sampling returned grades of only 53 ppb gold.

Minor prospecting was carried out in 2004 but failed to locate any significant mineralisation. A total of 41 grab samples were collected with only one sample returning >500 ppb gold. This sample graded 960 ppb gold and was taken from a 2 m long quartz vein with disseminated arsenopyrite located near the small lake south of Lake 410.

Further diamond drilling was carried out in 2005, totalling 1,310 m from five holes. Fifty-two samples were analysed for gold at the Nalunaq mine laboratory. The best result was obtained from a calc-silicate altered metabasalt with arsenopyrite and trace pyrrhotite, assaying 3.98 ppm over 0.5 m in hole L410-009, but this could not be readily correlated to MU intersections from the 2003 drilling. Other intersections of note included a 17 cm Nalunaq-style quartz vein in hole L410-007 which assayed 0.22 ppm. Re-logging of the 2003 cores resulted in the 'coarse grained quartzite' of the MU being reinterpreted as a recrystallised cherty exhalate.

As drilling failed to locate any high grade mineralisation, no further work was recommended at this location. Crew acknowledged that gold mineralisation would likely have a high nugget effect and that the wide spaced drilling may not have fully tested the structure, but the lack of any high grade rock chip samples or visible gold likely suggests any mineralised system is likely to be only weakly mineralised overall.

NunaMinerals acquired the Lake 410 area as part of their Vagar concession in 2006 (licence 2006/10) and carried out fieldwork in 2008 to investigate the potential for gold placer deposits, including at Lake 210 approximately 1.5 km southwest of Lake 410. Ground penetrating radar data and magnetic data were collected to estimate the depth to bedrock and the volume of sediment prior to sampling. A total of 108 sediment samples and 10 rock samples were collected across the concession. Of the 108 sediment samples, 67 were bulk samples weighing 300-500 kg each, of which 10 were collected from Lake 210. Assay results have not been located. Reverse circulation (RC) drilling was carried out in 2009, with 9 holes drilled at Lake 210 resulting in a total of 9 gold grains. It was recommended that no further exploration should be carried out for placer gold in this area.

Scree sediment sampling by NunaMinerals in 2008 from the western side of Lake 410 returned grades of up to 1.06 ppm gold and led to follow up prospecting and channel sampling in the 2009 field season. A total of 43.4 m of channel sampling was carried out but the best result was only 112 ppb gold from a calc-silicate banded amphibolite (sample length not recorded). It was recommended to make a detailed structural map of the area to advance the project, but it is not known if this was ever carried out.

### 13.3.2 Other Areas

Exploration for most of the licence area apart from the Lake 410 prospect has been limited to regional-scale geochemical sampling programmes and prospecting. A brief history of previous work is as follows:

- Sediment samples were collected for uranium exploration as part of the regional SYDURAN programme in the early 1980s. A minor amount of these samples were analysed by Platinova Resources (1987 – GGU open file report) for PGE

mineralisation, and all samples were analysed by NunaOil for gold and associated pathfinder elements in 1989 (Steenfelt, 1990).

- Platinova carried out exploration in the area between 1986 and 1988, targeting the appinite suite for PGEs. No significant mineralisation was discovered, but rock samples of altered gabbro and norite from near Alluitsup Paa and Angmalortoq island collected in 1987 returned 440 ppb and 180 ppb gold respectively.
- NunaOil A/S carried out heavy mineral concentrate (HMC) sampling and grab sampling of rocks in the 1990s. This work returned several gold anomalies along the Henrik Lundin Qoorua and Isortup Qoorua valleys in the northern part of the AEX's main licence sub-area. This led to discovery of mineralisation at Isortup Qoorua; a grab sample grading 3.4 ppm gold sample was reported from a shear zone here in 1992 (Olsen, 1992).
- Crew Gold held part of the Anoritoq area in their Akuliaruseq licence (number 2005-02). Due to uncertain positioning of NunaOil's HMC samples, Crew decided to carry out a sediment/soil sampling program in 2005 covering all of the Akuliaruseq peninsula up to Isortup Qoorua near the inland ice. During the sediment/soil sampling programme, geological prospecting and grab sampling was carried out which included follow up of a 109 ppm gold grab sample that won the Ujarassiorit mineral hunt in 2001. This was from the southern part of Crew's licence area and is not covered by AEX's Anoritoq licence; it is currently within a licence held by Greenland Gold s.r.o.
  - A total of 241 samples were collected by Crew of which 121 were sediment samples, 13 were soil samples and 107 were rock samples. Only two samples returned gold grades of interest, both of which were sediment samples collected along the north-western coastline in the innermost part of Unartoq Fjord. These samples returned 743 ppb and 50 ppb gold and, together with an older anomaly in HMC samples from along the same ridge, they indicate an interesting area beneath a thrust zone with intense alteration.
  - The Isortup Qoorua shear zone was not resampled by Crew, but sampling was carried out on its easterly extension. None of the samples returned elevated gold values. A new shear zone was located 500 m further south of the Isortup Qoorua shear zone, and chip samples from this returned a best grade of 551 ppb gold. The shear zone is near-vertical and has a strike of 060°, and consists of silicified, rusty rocks with pyrite and minor chalcopyrite.

## 14 ADJACENT PROPERTIES

There are two adjacent properties to the current AEX South Greenland assets as shown below in Figure 14-1. SRK ES are aware of several pending applications within this area, however information regarding the applying company is currently not known.

### 14.1 Licence 2013-06 – Obsidian Mining Ltd.

Centred about 10 km west of Nalunaq, Obsidian Mining Ltd. holds a 146 km<sup>2</sup> exploration licence, although operations are run by Alba Mineral Resources Ltd. which owns 49% of the project. The licence holds potential for graphite mineralisation and a small graphite mine was operational on Amitsoq Island in the early 1900s. There are also small platinum-bearing ultramafic dykes that cross the island. SRK ES understands that recent exploration activities have included processing testwork for graphite flake products (Alba, 2019).

### 14.2 Licence 2016-13 – Greenland Gold s.r.o

There is currently no public data available for this property. It is currently held by the Czech Geological Research Group who are thought to be targeting gold mineralisation.

#### 14.2.1 Licence 2019-11 – Northground Ltd.

Northground Ltd. holds a 121 km<sup>2</sup> exploration licence that adjoins the northern part of AEX’s Saarloq licence. Information on their activities or intentions in this area cannot be found. The licence includes the Klokken syenite intrusion but this has no records of economic mineralisation.

### 14.3 Small Scale Licences

There are currently nine active Small-Scale Exclusive Licences (“SSE”) located to the west of MEL 2006-10. These licences are held by individuals and are for the small-scale exploitation of minerals, predominantly gold.

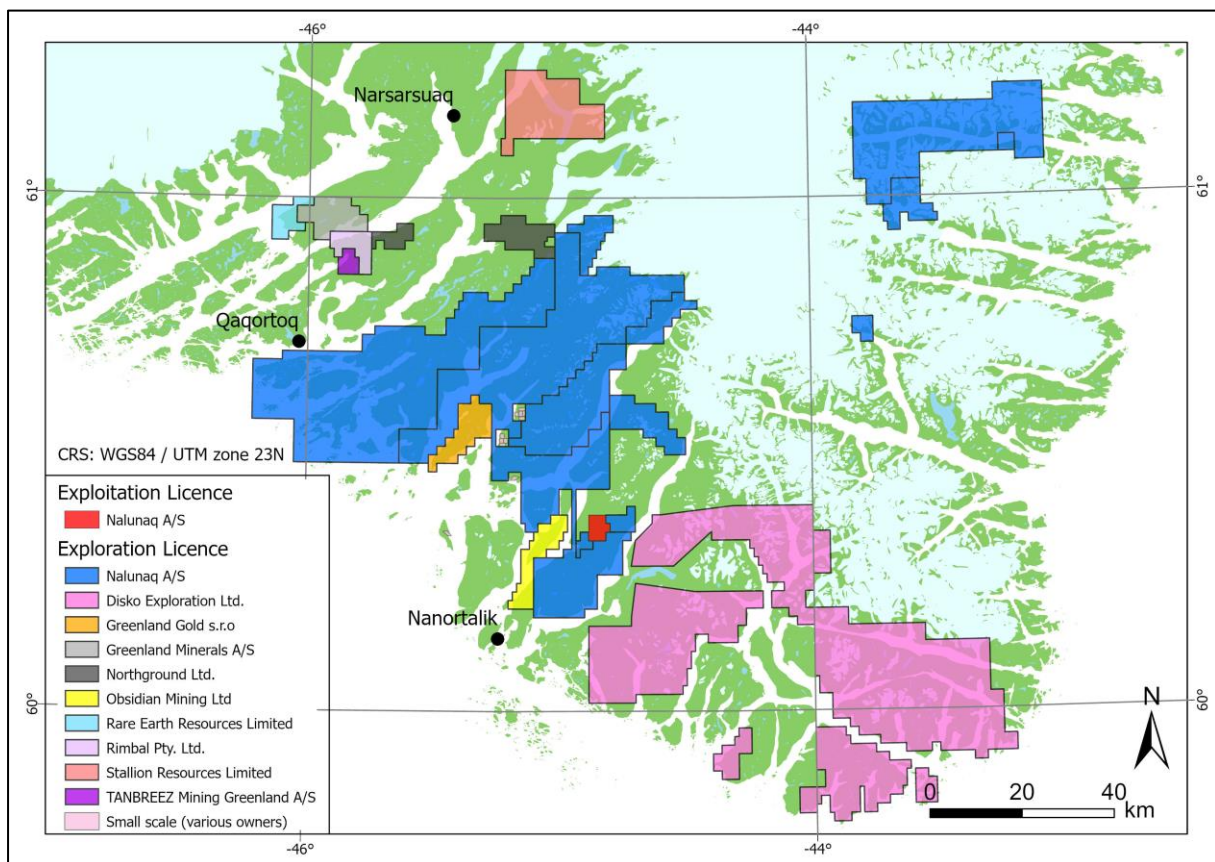


Figure 14-1: Map showing adjacent properties

## 15 ENVIRONMENT, PERMITTING, AND SOCIAL IMPACT

### 15.1 Environmental

#### 15.1.1 Environmental Considerations

As far as SRK ES is aware, AEX is not subject to any current environmental liabilities.

Following closure of the mine in 2014, annual environmental monitoring has been carried out by DCE for EAMRA. It is understood that the costs for this monitoring are taken from the closure bond that became available when Angel Mining closed the mine. Any surplus left at the end of the monitoring period will be returned to Nalunaq A/S. The final environmental monitoring took place in 2019 and the final invoice and report related to this is expected to be received in July 2020.

All work programmes are reviewed by EAMRA and their approval is required before work can commence. Furthermore, exploration activities must adhere to the “Rules for Fieldwork and Reporting Regarding Mineral Resources” as published by the Government in 2000 which includes measures to protect the environment and wildlife.

AEX has informed SRK ES that they have engaged Orbicon A/S, a Danish consulting firm, to manage their Environmental Impact Assessment (EIA), the latest deadline for which is 31 December 2022. This must be submitted and approved before mining can recommence.

### 15.2 Permitting

#### 15.2.1 Administrative Authorities

The administrative authorities within the Government of Greenland are referred to as the Greenland Minerals Authority (GMA), which have responsibility for all matters relating to mineral resources:

##### ***The Mineral Licence and Safety Authority (MLSA)***

The MLSA is responsible for issuing mineral licences and for safety matters including supervision and inspections. Licensees and other parties covered by the Mineral Resources Act communicate with the MLSA and receive all notifications, documents, and decisions from the MLSA.

##### ***The Ministry of Industry and Mineral Resources (MIMR)***

The MIMR is responsible for strategy-making, policy making, legal issues, and marketing of mineral resources in Greenland. The MMR deals with geological issues through the Department of Geology. It has the authority for issues concerning socio-economic aspects of mineral resources including Social Impact Assessments (SIAs) and Impact Beneficial Agreements (IBAs).

##### ***The Environmental Agency for Mineral Resource Activities (EAMRA)***

EAMRA is the administrative authority for environmental matters relating to mineral resource activities, including protection of the environment and nature, environmental liability, and EIAs.

#### 15.2.2 Prospecting Licence

These are intended for early stage mineral prospecting activities (excluding drilling) and are granted for periods of up to five years at a time. They do not confer any exclusive rights to exploration and a similar licence or other types of licence may be granted to others for the same area.

### 15.2.3 Exploration Licence

These provide exclusive rights for the licensee to undertake mineral exploration activities for all commodities (excluding hydrocarbons) within the licence area. They must have a minimum size of 5 km<sup>2</sup> and may consist of up to five separated sub-areas with no more than 100 km between areas.

Exploration licences are granted for an initial period of five years, after which the licensee is entitled to be granted a new period of five years for the same area. At expiry of the second licence period (years 6-10) the licensee may apply for further three-year periods for the same area up to a maximum of 22 years (years 11-13, 14-16, and 17-19 and 20-22)..

A fixed fee per square kilometre must be paid to the Government annually and this increases with the age of the licence. Additionally, the licensee is committed to a minimum exploration obligation per licence per year. This amount is defined by the Government and is the same for all exploration licences regardless of size, and it also increases with the age of the licence.

SRK ES understands that exploration licence fees and expenditure commitments have been suspended for 2020 as a result of the Covid-19 pandemic.

### 15.2.4 Exploitation Licence

An Exploitation Licence may be granted to an Exploration Licence holder who has discovered and delineated commercially exploitable Mineral Resources.

The licence conveys the owner exclusive rights to exploitation and exploration and is granted for a period of 30 years (unless a shorter period is stipulated as a condition) up to a maximum of 50 years. The licence is terminated when exploitation activities have ceased and a closure plan (agreed with the Government at the time of application for the Exploitation Licence) has been completed to the Government's satisfaction.

Suspension of exploitation activities with a view to their subsequent resumption is possible but subject to approval by the Government. Approval of suspension may be granted for up to two years at a time, and renewed approval of suspension may be granted on modified terms. If temporary suspension has lasted six years, the Government may order the licensee to implement the closure plan.

Project-specific conditions are usually appended to exploitation licences and subsequent changes to the licence terms may be described in an addendum. These need approval by the Government. This is the case for the specific conditions that relate to Nalunaq A/S' 2003-05 exploitation licence.

### 15.2.5 Permits and Authorisation

All exploration programmes in Greenland must be approved by the MLSA before they can commence. Work programme application forms must be submitted to the MLSA no later than 1 May in the year that the exploration is planned.

## 15.3 Social and Community

Greenland is actively encouraging trying to develop the mineral industry into one of the country's primary and principal business sectors (Naalakkersuisut, 2016). The Greenland government has a clear Social Impact Assessment (SIA) guideline with the main objective being: "*All mineral projects must be socially sustainable and meet high international standards with regard to financial planning, health, safety, the environment as well as social and cultural initiatives*" (Naalakkersuisut, 2016).

The Company have not started on the SIA work yet for their most advanced Nalunaq project. The deadline for a SIA to be submitted before mining can recommence is 21 December 2022, and AEX has informed SRK ES that they will be engaging Orbicon in 2020 to manage the SIA and are currently establishing the scope of work.

## 16 RECOMMENDATIONS

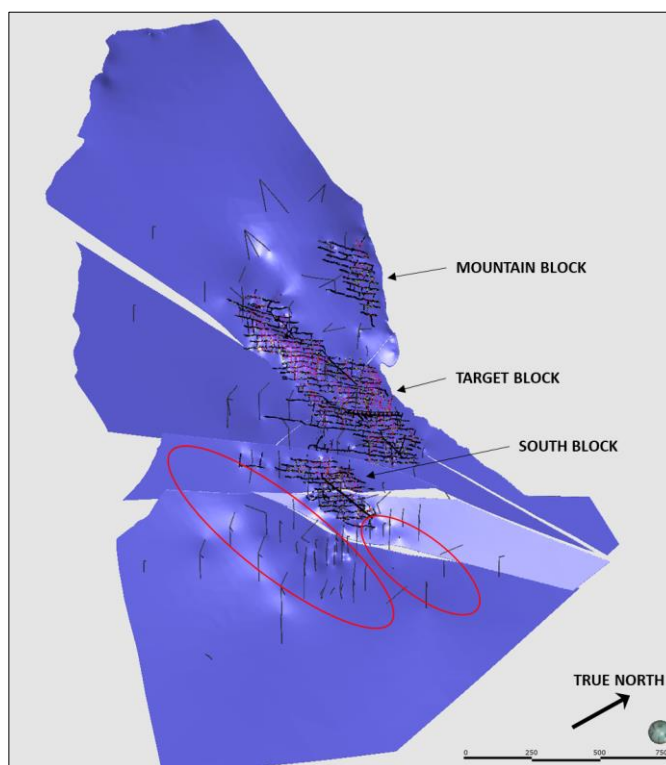
### 16.1 Exploitation Licence 2003-05: Nalunaq Mine

#### 16.1.1 Surface Work

Since 2016, AEX has made positive progress in adding confidence to the continuity of the MV structure around South Block below the 300 Level. The structure below Level 300 is open at depth and along strike. It is proposed that further surface drilling is carried out to continue the validation and investigation of continuities to the MV at depth and obtain sufficient data to plan underground development. The target areas are shown in Figure 16-1. A total of 3,000 m of surface drilling has been included in AEX’s planning (20-30 holes of 100-150 m length each).

It is also recommended that the logging and sampling of core from AEX’s 2017 and 2018 drilling programmes is reviewed. The 2019 drill programme includes a very high-grade intersection that included alteration but no substantial quartz veining. The possibility that similar intersections may have been overlooked, including in the HW and FW of the MV, and were unsampled during the previous drill programmes cannot be ruled out, therefore the core should be examined again and resampled if it appears that similar intersections have been missed.

A new mineralogical study is also proposed, with the aim of identifying key differences between gold-bearing and barren quartz veins and whether specific controls on gold mineralisation can be identified. This information, if successful, can then be applied to exploration observations and target selection.



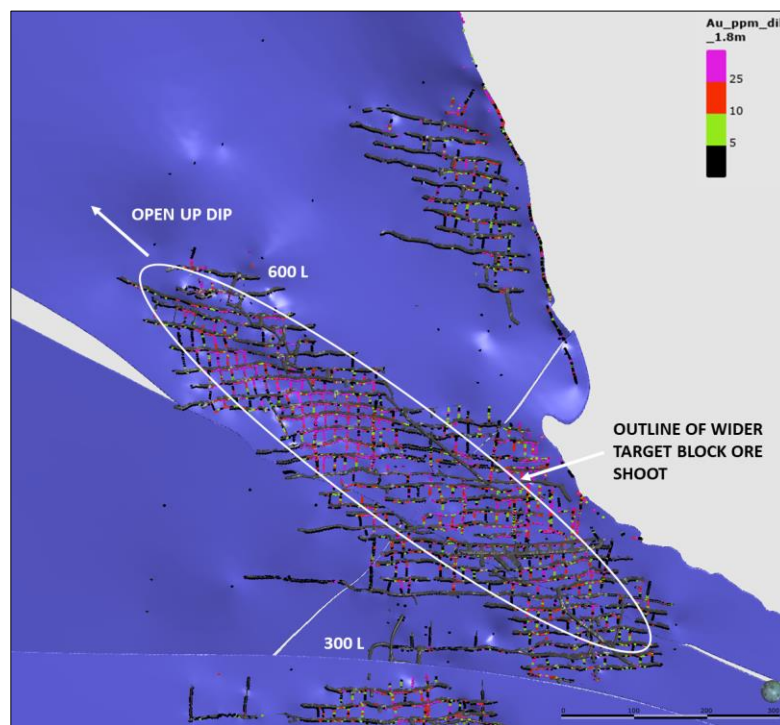
**Figure 16-1: Oblique view of proposed areas to be targeted by surface drilling (AEX pers. comm., 2020)**

### 16.1.2 Underground Work

AEX intends to commence new underground development. This underground development would be undertaken on the MV structure itself and would be designed to test continuity of the structure and develop towards mineralised intersections in adjacent drill holes, mainly in Upper Target Block and Lower South Block. A total of 2,000 m of development with drives of 3.0 x 3.5 m is planned, with the following priorities:

- Target Block west from Level 600 and above, for a total of about 1,400 m;
- South Block west towards the 2017-2018 drilling area towards Level 130. This drive would have a decline of 7-8% and would be about 500 m long; and/or
- Target Block east of Level 600 heading in the direction of Mountain Block and towards a MV intercept in historical underground drilling. The goal is to establish how far Target Block could develop in this direction within the envelope of the potential oreshoot. The drive may be relatively limited in length; AEX currently estimates about 100 m.

The focus on Target Block as the first priority is explained through the analysis of the geological model whereby development and mining by previous operators seemingly ended in an ore shoot. See Figure 16-2:



**Figure 16-2: Outline of Target Block ore shoot with underground sample grades diluted to 1.8 m (AEX, 2020)**

The next priority will be South Block. Given the results of the 2017, 2018 and 2019 drilling programmes and evidence that the MV may extend at depth and along strike, AEX plans to develop underground drifts from the existing 220 Level initially down to level 130, the level at which an intercept from 175.33 m depth in drillhole AEX1804 resulted in a fully diluted (to 1.8 m) assay result of 17.1 g/t gold.

Underground drilling is planned for identification of the MV structure in key prospective areas, such as the Upper Target Block. AEX suggests a total of 5,000 m in locations that are yet to be



decided. Where possible this drilling would make use of existing drives, ramps, or crosscuts, but AEX is planning for the development of new footwall crosscuts to create four drilling stations. These would be fairly short and developed from existing infrastructure such as the ramps.

Underground geological mapping must be continued. Some objectives may include furthering the understanding of lithological controls on mineralisation in the host rock and identifying structural offsets to the MV or other reasons why quartz veining abruptly ends along ore drives. AEX states that certain drives in Target Block will be resampled where possible to confirm historical grades and to acquire multielement geochemistry data which may be useful in understanding the geochemical signature of high vs. low gold grades. If a strong relationship can be found between certain trace elements and gold, then this could be used as an indicator for gold grade, thereby reducing uncertainty during future exploration.

AEX has suggested the use of portable XRF analysis of the wallrocks during mapping in order to acquire data on whole rock composition. This data would be used to investigate any litho-geochemical association or control to gold-mineralisation in the MV. The possibility of natural-gamma logging using a handheld device underground is also being considered. If this identifies characteristics that are particular to gold-mineralised parts of the MV and/or associated alteration, then the method could be useful as a mapping tool throughout the mine as well as in previous or future drill holes.

## 16.2 Exploration Licence 2006-10

### 16.2.1 Geochemical Database

AEX is in possession of a very extensive database of geochemical sampling that has been compiled from regional geochemical surveys as well as from various company's exploration work in the region. This is a highly useful asset for target generation and SRK is of the opinion that it has not been used to its full potential. It is not clear that area-specific statistical analysis has been used before, and this may refine existing anomalies or identify new areas of interest. However, its current state includes more than 40 different codes for probably only a handful of different sample types, meaning that a comprehensive overview and interpretation of certain types of data is difficult. AEX should invest time in reorganising this data and developing new interpretations before planning further field programmes.

### 16.2.2 Niaqornaarsuk Peninsula Sub-Area

AEX has made several of their own recommendations for further exploration in this area and SRK supports this approach. Proposed activities for the coming field seasons include:

- Acquisition of additional remote sensing data or performing hyperspectral surveys, on the assumption that these could be used to highlight extensions or new areas of alteration that may be associated with mineralisation. The wide zone of gold-bearing hydrothermal alteration in granodiorite at Femøren is a good example of this type of target, and this in itself could be investigated using ground-based hyperspectral imaging. Before further expenditure, however, it is recommended that rock samples from the area are submitted to a specialist in multi- or hyperspectral data so that effectiveness of this approach can be confirmed;
- A high resolution airborne and radiometric survey over the Niaqornaarsuk Peninsula in order to improve the understanding of the area's structure and geology. A key outcome of this will be to understand the structural setting of known gold occurrences and geochemical anomalies, how extensive these are and whether there are similar settings that could host new gold showings. It is recommended that, ideally in the same season,

the interpretation of the geophysical data is followed up with field mapping;

- Diamond drilling in the valley floors either side of Amphibolite Ridge. The objective of this is to establish whether the gold-mineralised veins that were drilled on the ridge by NunaMinerals extend along strike into areas of less extreme topography that are arguably more sensible for resource definition. Potential extensions of the altered, gold-mineralised structure in the granodiorites at Femøren could also be targeted. It is cautioned that the valley floors are likely to be covered by large thicknesses of scree or moraine and this will need to be accounted for when planning a drill programme;
- Collection of several larger samples (100-200 kg each) across high grade areas at Vein 2 and Femøren in order that they can be used for future gold deportment studies;
- Re-examination of historical geochemical data, especially NunaMinerals' scree sediment sampling results, alongside interpretations of new remote sensing or geophysics, if acquired;
- New scree sediment sampling should be extended into under-explored areas; and
- Grab sampling or channel sampling should always be undertaken if prospective features are encountered during any of the above work.

### 16.2.3 Nalunaq East Sub-Area

Several phases of prospecting have been undertaken in this area by AEX and historical workers. A few minor showings of gold have been reported but nothing that forms a coherent target as at Nalunaq. It is possible the gold-bearing structure is not exposed due to the difference in stratigraphic levels between here and Nalunaq.

The coverage of historical scree sediment sampling is limited in this area, and a new programme is recommended and may help identify target areas to follow up. The most effective approach for this follow-up, and for the most meaningful progress in general, should include systematic mapping and sampling of traverses. The aim being a thorough understanding of the location and extents of prospective structures and whether they are mineralised. The eastern side of the sub-area may benefit from more exploration coverage, being less explored than the areas closer to Nalunaq. The use of drones to acquire high-resolution imagery in areas of severe topography would be beneficial.

AEX's sampling on the north face of Ship Mountain is widely spaced, so there may be some merit in revisiting veins that gave elevated gold grades and following them with closer-spaced sampling. This will establish whether they show greater continuity than AEX's field observations from 2017 suggest, particularly whether there is continuity between gold-mineralised features. The extreme topography challenges the ability to undertake sufficiently detailed mapping or extensive sampling; all work must be performed by professional climbers.

## 16.3 Exploration Licence 2019-113

### 16.3.1 Geochemical Database

As discussed in Section 16.2.1, AEX should spend time reorganising and reinterpreting the large geochemical database that they have acquired before planning further fieldwork in this licence area.

### 16.3.2 Niaqornaarsuk Peninsula Sub-Area

The part of the peninsula that is covered by the sub-area of licence 2019-113 along the inner shores of Søndre Sermilik is unexplored. Reconnaissance exploration is required to generate

targets. Scree sediment and grab sampling are recommended as a first phase of work, with priority targets being contacts between the small amphibolite outcrops and the granodiorites, and the regional shear that parallels the fjord. This could be done from a boat, although much of the terrain is extremely steep which could hinder extensive sampling.

### 16.3.3 Ippatit Sub-Area

Despite having been subject to several previous exploration programmes, the principal sources of geochemical gold anomalies in the area have not yet been identified. It should be noted that these programmes were very short and never progressed beyond simple prospecting. SRK believes that the volume of prospective lithologies in the area and its structural setting is promising and there are several similarities to the Nalunaq project. Further exploration is therefore warranted, and the following activities are recommended:

- Target-specific processing and interpretation of multi-spectral satellite imagery that was previously used by AEX for prospectivity mapping. This may help in improving the geological mapping of the area and addressing some conflicting opinions or mapping errors that have been noted by previous works (Blomsterberg, 2005). It can also be used to highlight alteration zones that may relate to mineralised structures or marker horizons such as the large sulphide-bearing horizon at the base of the thrust nappe;
- Based on the above, a phase of geochemical sampling should be carried out. This should be planned after a more detailed review of historical geochemical data for the area to identify gaps in coverage and make a more informed judgement of how representative this data is. A new programme would most likely involve scree sampling and identification of gold (or pathfinder elements) anomalies that can be assigned to specific areas for further investigation; and
- Fieldwork thereafter may simply focus on prospecting and sampling in anomalous areas. If mineralisation is similar to that at Nalunaq, a new discovery is likely to be the result of systematic coverage of the ground on foot by teams of geologists over a fairly long period of time. The terrain in the area dictates that mountaineers may be needed to reach many of the target areas and drones will also be useful for reconnaissance of hard-to-reach places. The southern and (less-sampled) western slopes of Ippatit mountain may be a focus of this work, as might the locations to the east that were explored by Crew Gold and reported to host several occurrences of quartz veining. It is important to follow up on their interpretation that the structure hosting mineralised quartz veins may have continuity over several kilometres because this could be an attractive target (Blomsterberg, 2005).

### 16.3.4 Kangerluluk Sub-Area

The following recommendations are made for the next phases of work at the Kangerluluk project:

- Data compilation and processing to include digitising and (if possible) georeferencing the detailed geological maps and sample locations produced by Goldcorp;
- A period of fieldwork to include:
  - Structural mapping in the main prospective area, particularly along the gold-mineralised shear zone. This is required in order to understand the structural controls on mineralisation and the likelihood of there being a zone with greater continuity elsewhere or at depth;

- Reconnaissance in the southern part of the licence to find out whether the retreat of the icecap has possibly created any new exposure of the mineralised structure or veining;
- Rock sampling (channel sampling if possible) of the coastline where the terrain drops steeply into the fjord. Goldcorp reported that this was too steep for them to sample, but it may be possible with a team of mountaineers who are experienced in sampling;
- Close-spaced channel sampling in parts of the shear zone identified as being more prospective by historical work. This will provide more understanding of the nugget effect of gold mineralisation and its along-strike continuity. Sampling should also continue beyond the veining to follow up on the assertion by NunaMinerals that gold mineralisation may be found in the wallrocks and may increase the width of prospective material (Pedersen, 2010); and
- Collection of several larger samples (100-200 kg each) across high grade areas in order that they can be used for future gold deportment studies.

### 16.3.5 Jokum's Shear and Sorte Nunatak Sub-Area

These locations have interesting potential for gold deposits and have undergone very little exploration so far, limited to several days of sampling. Some of the grades reported by historical exploration are high, and the structures that host mineralisation are quite large, particularly at Jokum's Shear. The geological setting of Sorte Nunatak is somewhat similar to that of Nalunaq.

Further exploration in these areas must include sampling to establish the extent of mineralisation along strike and across the mineralised structures. This work could perhaps take place in conjunction with a programme at Kangerluluk in order to share logistical arrangements and costs. At Jokum's Shear, this would require long, continuous channel sampling like that used at AEX's Tartoq project in 2017, with the aim of establishing whether gold mineralisation is present in wide zones within the shear, or if it is restricted to very localised areas. Mountaineers may be needed in some places to aid access in steep areas. Ideally a similar approach would be used at Sorte Nunatak, but it may be difficult in the steep terrain, possibly limiting work to chip sampling or short channel sampling performed by mountaineers.

The location of both prospects in very severe, steep, and glaciated terrain presents substantial challenges to access and logistics that make it difficult to conduct more prolonged exploration and, it must be said, for the development of any future mine. Exploration targets will therefore need to demonstrate substantial grade and continuity to be able to justify more advanced exploration in these areas.

Jokum's Shear and Sorte Nunatak may have roles to play in furthering the understanding of the Nanortalik Gold Belt concept. Knowledge gained from these prospects could be applied elsewhere. At Jokum's Shear, for example, gold mineralisation within the gabbroic host rock itself is not recognised elsewhere; this style of mineralisation may therefore have been overlooked in some of AEX's other licences and is yet to be discovered.

### 16.3.6 Nørrearm Sub-Area

No further work is recommended at Nørrearm despite its relatively prospective geological setting. There is no indication of significant mineralisation here; the distinctive rusty horizon that lead, in part, to the selection of this area is most likely to be a sulphide-bearing zone along a regional-scale thrust contact and does not appear to contain minerals of economic interest.

## 16.4 Exploration Licence 2020-31

The next phase of exploration should include a detailed structural assessment of the licence area, as the Saarloq Shear Zone is likely to be the major controlling feature of any gold mineralisation. It will be particularly important to identify areas of brittle deformation as these will allow greater fluid flow and increase the potential for mineralisation.

AEX intends to conduct a programme of remote sensing analysis, prospecting and sampling and geophysical surveying over the next two years. Diamond drilling may be considered if suitable targets are defined.

As for licence 2019-113, it is strongly recommended that this area is included in a comprehensive and robust geochemical database for the area.

## 16.5 Exploration Licence 2020-36

A priority for fieldwork should be to visit areas of known gold showings to understand the various types of gold mineralisation throughout the area.

A comprehensive database should be compiled, particularly for the Lake 410 target which has seen the largest amount of exploration in this licence. This would benefit from 3D modelling and further structural assessment in order to predict continuity of structures identified by historical drilling. It is also recommended that several large samples are taken from outcrops of mineralised features at Lake 410; this prospect would benefit from mineralogical and gold deportment studies to understand whether the mineralised structures are genuinely low grade as suggested by drilling results, or whether there is a high nugget effect that resulted in low grades in sampling data.

In addition, AEX intends to conduct a programme of remote sensing analysis, prospecting and sampling and geophysical surveying over the next two years. Diamond drilling may be considered if suitable targets are defined.

## 16.6 Exploration Budget

To undertake the recommended work detailed above, the Company proposes the following exploration budget as detailed in Table 16-1 below for 2021 and 2022. Note that the Government of Greenland has waived exploration expenditure commitments for 2020 in light of the Covid-19 pandemic.

**Table 16-1: AEX exploration budget for 2021-22**

Licence/Area	Season	Activity	Budget (CAD)	Year Total (CAD)
MIN 2003-05	2021	Surface Drilling - 3,000m	600,000	600,000
	2022	Underground development - 2,000 m	11,500,000	11,500,000
Underground drilling - 5,000 m				
MEL 2006-10	2021	Surface Drilling - 5,000m <sup>1</sup>	2,600,000	3,000,000
		Remote Sensing Survey	150,000	
		Airborne Geophysical Survey	250,000	
	2022	Surface Drilling - 5,000 m <sup>1</sup>	2,600,000	3,000,000
		Remote Sensing Survey	150,000	
		Airborne Geophysical Survey	250,000	
MEL 2019-113	2021	Remote Sensing Survey	25,000	766,000
		Internal Studies + prospecting	24,000	
		Airborne Geophysical Survey	150,000	
	2022	Surface Drilling - 1,000 m <sup>2</sup>	200,000	
		Internal Studies + prospecting	24,000	
MEL 2015-17/ MEL 2018-17	2021	Prospecting	55,000	130,000
		Remote Sensing Survey	25,000	
		Airborne Geophysical Survey	50,000	
	2022	Dependant on 2020 results	TBC	TBC
MEL 2020-31	2021 & 2022	Remote sensing	918,000	
		Prospecting and sampling		
		Geophysical surveys		
		Possible diamond drilling		
MEL 2020-36	2021 & 2022	Remote sensing	1,784,000	
		Prospecting and sampling		
		Geophysical surveys		
		Possible diamond drilling		

<sup>1</sup>Drilling rates are higher than in MIN 2003-05 due to the need to set up exploration camp etc

<sup>2</sup>Dependant on results from 2020 – alternative surveys may be carried out if more appropriate

## 17 RISKS AND OPPORTUNITIES

### 17.1 Risks

All exploration projects carry inherent risk; risk factors specific to exploration in high nugget effect gold deposits such as Nalunaq are, amongst others, described in Table 17-1. These are risks that are relevant to the current exploration status of Nalunaq, rather than potential future mining operations.

**Table 17-1: Project exploration risks**

Factor	Comments
Resource Definition	The future of the project depends on the definition of sufficient new Mineral Resources. Whilst exploration potential has been defined for the project, there is no guarantee that further exploration, once applied, will result in this or parts of it being converted to Mineral Resources. The proportion of the exploration potential that could be converted to Mineral Resources, or the proportion of future resources that could be extracted by mining is currently unclear.
Geological Interpretation	New geological interpretations have been presented in this report that are relevant to the potential continuity of mineralisation. These have a degree of uncertainty at this stage and require further exploration. Should these interpretations prove to be inaccurate, then there is a risk that continuity of mineralisation may be less than interpreted.
Grade Estimation	There are inherent difficulties in estimating gold grade in high nugget effect deposits such as Nalunaq. Robust grade interpolation beyond localised areas can be problematic, thus Mineral Resource Estimates may remain at lower levels of confidence. Large samples such as those that may be produced by underground development on mineralised structures will be needed to obtain representative gold grades.
Exploration Sampling	Sampling, apart from large bulk sampling, in high nugget effect gold deposits is not likely to produce representative results. There appears to be a tendency for small samples (particularly drill core samples) at Nalunaq to under-report grade, although the opposite is also possible.
Project Location	The project is in a remote location in a global context, although not in a Greenlandic context apart from the sub-areas on the east coast. The costs of logistics and staffing are high in a global context although may be comparable to those in Nunavut, for example. The climatic conditions allow a relatively short period for surface exploration activities, although this should not affect underground exploration. Access by sea to the sub-areas on the east coast may be restricted due to a greater prevalence of pack ice.

Factor	Comments
Project Terrain	The former mine and areas of exploration potential lie within a steep mountain terrain. Regular surface diamond drilling for structure is impractical in many areas resulting in reduced surface exploration coverage. This can be mitigated in areas nearer the mine workings where underground drilling is possible via existing infrastructure or extensions of it.
Mineral Processing	AEX intends to rely on gravity separation (possibly with flotation of gravity concentration tailings) during initial production. There is a risk that gravity concentrates could contain high levels of contaminants (e.g. arsenic). This will require expert design, commissioning and operation of gravity separation equipment and include a calcining process ahead of smelting doré.
Permitting	The Nalunaq project is currently within an Exploitation Licence. Under the current terms of this licence, Nalunaq A/S is required to commence mine production by 01/01/2023, although the scale of this production is not specified. There is no guarantee that this will be possible within this timeframe, and the Government has reserved the right to revoke the licence if these conditions are not met.

## 17.2 Opportunities

Table 17-2: Project opportunities

Factor	Comments
Resource Definition	<p>It is reasonable to interpret that new Mineral Resource areas will be defined at Nalunaq and AEX's exploration work is making progress in this respect. The project benefits from extensive existing underground infrastructure, some of which requires partial rehabilitation, from which new development can take place.</p> <p>Furthermore, it seems clear that drilling from surface at Nalunaq has under-called the in-situ grade in mining blocks. This means that low or moderate grades in drilling data should not be overlooked if they occur, broadly speaking, in areas where the mineralised structure could be expected. Underground development towards such intersections provides an opportunity to increase resources.</p>



Factor	Comments
Project History	A substantial amount of knowledge and experience has been gained from previous operations at Nalunaq with respect to, for example, mining methods, metallurgy, exploration approaches, and logistical requirements. This good understanding of project-specific variables and sensitivities allows a significant reduction of risk compared to earlier-stage projects.
Remnant Mining	There is gold-bearing material in easily accessed pillars, stopes, and sweepings at Nalunaq that was left behind by previous operators and is not reported as Mineral Resources. This could be recovered to provide some early revenue if mining resumes.
Improved Mining and Processing Methods	It may be the case that improvements in mining equipment and methods since the last phase of production at Nalunaq could lead to improved ore recovery and reductions in losses or dilution. Furthermore, the ore appears to be amenable to optical sorting which could reduce dilution in material fed to the processing plant.
Regional Exploration Potential	<p>AEX has an extensive licence holding that covers historically known gold occurrences and areas of prospective geology that may host new occurrences.</p> <p>The Company also benefits from owning a very extensive collection of data and reports from past exploration and operations. This has regional coverage and is a vital tool in AEX's decision making and prioritisation of exploration efforts. It will allow new phases of exploration to be relatively well-informed and well-targeted.</p>

## 18 CONCLUDING REMARKS

### 18.1 Nalunaq

The Nalunaq gold project exhibits typical characteristics of a high grade, high nugget effect, narrow-vein, orogenic gold deposit. The project benefits from a substantial quantity of exploration data, a history of mining and mineral recovery, and significant existing underground infrastructure which aids in accessing and understanding the mineralisation and the potential for additional resources.

The vast majority of (non-compliant) reserves defined by previous operators at Nalunaq have been mined out. Whilst there is a modest tonnage of material remaining in the mine that could provide revenue, the focus of future work should be on the exploration potential and the identification of additional resources. Based on historical exploration and the work undertaken by Nalunaq A/S from 2015 to 2019, SRK believes that there is potential for additional resources.

Whilst more drilling from easily accessed surface areas may help to define continuity of mineralised structures (such as around South Block; more drilling high on the mountain may not be cost-effective), the project now needs to enter a phase where there is more emphasis

on underground exploration. For some time, there have been areas postulated as having high potential, and only new underground development and drilling into these areas will confirm these interpretations and progress towards Mineral Resource definition. For this reason, SRK ES supports the emphasis that AEX has placed on such work in their exploration plans for the future.

Looking ahead to future production following successful exploration, AEX intends to undertake mining and processing at a rate of 300 tons per day, initially with gold recovery by gravity methods only (possibly with flotation on the concentrates) and production of doré on site. This approach allows up-front capital costs to be reduced and takes advantage of the known potential for good gold recovery to be achieved using gravity methods. Ore sorting may also be introduced which will increase the grade of feed material. The revenue from this gravity recovery plant would be used to refurbish the existing and permitted underground cyanide leach plant so that the leaching of gravity tailings can resume or, alternatively, implement a flotation circuit which would yield comparable gold recoveries. There may be some gold losses whilst gravity is the main recovery method (especially if contaminants such as arsenic are reduced to acceptable levels), but AEX would ensure that gravity tailings are stored in such a way that they could be recovered and reprocessed in the future once the cyanide plant is operational.

## 18.2 Regional Exploration

AEX has amassed a substantial licence holding in South Greenland, covering the best-known orogenic gold occurrences as well as areas that have potential for new occurrences. The licences are located on or close to the boundary between the Julianehåb Batholith and the Psammite Zone of the Ketilidian Mobile Belt, a tract that has been described as the Nanortalik Gold Belt.

Of the gold prospects within AEX's regional licences, Amphibolite Ridge on the Niaqornaarsuk Peninsula is the most advanced with drilled intersections of high-grade gold-quartz veins and alteration zones in granodiorites, but it is still at an early stage of exploration. There are several other well-sampled but less advanced targets on the Niaqornaarsuk Peninsula that have strong anomalies in geochemical data and could host similar mineralisation.

Second to this, the Kangerluluk prospect has a relatively well-defined mineralised shear zone with some promising gold grades. It has only been lightly explored to date and work must now focus on establishing the continuity of mineralisation along and across the structure. Jokum's Shear, 25 km to the southwest, may be a continuation of the same structure. It provides an interesting example that helps to understand regional-scale mineralised terranes but its location in severe terrain, surrounded by glaciers. This will present challenges to the development of this prospect, which will need to be justified by discovery of substantial grade and continuity. The same is true for Sorte Nunatak which shows some similarities to Nalunaq, but it is an even more isolated position. Nørrearm provides an example of a regional-scale marker horizon which helps in the geological understanding of the area, but the feature appears not to be mineralised and no further work is recommended.

The Nalunaq East area, including Ship Mountain, is also quite under-explored despite its proximity to the gold mine. Further exploration, including geochemical sampling and prospecting on foot will be worthwhile. The potential for the Nalunaq MV structure to be discovered in this area is less than originally thought on account of the stratigraphy appearing to be at a higher level compared to Nalunaq mountain.

The Saarloq licence includes a very large, crustal-scale shear zone that demonstrates several features that may be prospective for gold mineralisation if a suitable mineralising event has

taken place. The shear zone has only been lightly explored so far and potential remains for new structurally controlled exploration targets to be developed.

The Lake 410 target in the Anoritoq licence area has seen a relatively large amount of exploration and shows significant similarities to Nalunaq although gold grades are much lower. It is worthy of further work but more needs to be done to understand the reasons for reduced grades here and whether they are likely to be elevated elsewhere. There are several other showings in this licence that require further investigation. The licence area is generally under-explored.

Finally, the Ippatit prospect may have good potential. It has been subject to fairly little exploration to date and covers quite a large area. There is a relatively high volume of prospective lithologies, several similarities to Nalunaq's geological setting, and some gold anomalies in historical geochemical data. Several gold-in-quartz showings have been discovered by previous workers which, in themselves, are rather small but may be associated to larger structures—suggesting that greater continuity is possible. Exploration should aim to identify this continuity via more geochemical sampling and systematic prospecting traverses of the ground on foot. The mountainous and glaciated terrain in target areas is challenging but, on the other hand, the prospect is more accessible than those on the eastern coast. It has year-round coastal access and is close enough to Nalunaq and the Niaqornaarsuk Peninsula for logistics to be shared between projects.

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## GLOSSARY AND UNITS

### Glossary

Anomalous	Samples that differ significantly from all the others in a group or population.
Anticline	A '∩' shaped fold or structure in stratified rocks with the oldest rocks in the centre.
Banded iron formations	Sedimentary rocks that are typically bedded or laminated and composed of at least 25% iron and layers of chert, chalcedony, jasper or quartz.
Basin	A general region with an overall history of subsidence and thick sedimentary accumulation.
Channel sampling	A means of taking a sample from a rock face by collecting the cuttings from a small channel.
CIM C	The reporting standard adopted for the reporting of the Mineral resources is that defined by the terms and definitions given in the terminology, definitions and guidelines given in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral resources and Mineral Reserves (May 2014) as required by NI 43-101. The CIM Code is an internationally recognised reporting code as defined by the Combined Reserves International Reporting Standards Committee.
Clays	A term used to describe minerals that are typically less than 2 µm (micrometres) in diameter.
Closure plans	Procedures for site closure and rehabilitation once mining has ceased.
Concentrate	Metal ore once it has been through milling and concentration so that it is ready for chemical processing or smelting.
Concentrator	Processing facility which receives ore from the mine and separates out concentrate, the remaining material being tailings
Deposit	An anomalous occurrence of a specific mineral or minerals within the Earth's crust.
Diamond drilling	The act or process of drilling boreholes using bits inset with diamonds as the rock-cutting tool.
Drill core	A solid, cylindrical sample of rock produced by diamond drilling.
Environmental Impact Assessment	A multi-disciplinary study which evaluates the effect on the environment of large construction or development project.
Fault	A fracture or a fracture zone along which there has been displacement of the two sides relative to one another parallel to the fracture. The displacement may be a few inches or many miles.
Folding	A bending or buckling in any pre-existing structure in a rock as result of deformation.
Fresh or Sulphide material	Material defined which has retained its original form unaltered by oxidation. Metal ore that are recorded as sulphides include copper, mercury and nickel.

Geological continuity	Geological features such as rock type, structures and mineralisation that can be demonstrated to be continuous between locations.
Geophysical data	Data from the branch of geology that studies the physics of the Earth, using the physical principles underlying such phenomena as seismic waves, heat flow, gravity, and magnetism.
Grab sampling	Samples collected from surface outcrops, mine dumps etc., Used in connection with examination of the characteristic minerals in the deposit rather than for valuation.
Grade	The proportion of a mineral within a rock or other material. For gold mineralisation, this is usually reported as grams of gold per tonne of rock (g/t)
Grass roots	Early stages of exploration including activities such as mapping and geochemical sampling
Indicated Mineral Resource	That part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed
Inferred Mineral Resource	The part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.
Intrusive	Rocks that while molten, penetrated into or between other rocks, but solidified before reaching the surface.
Iron ore	Rocks and minerals from which metallic iron can be extracted.
Joint	A fracture in a rock between the sides of which there is no observable relative movement.
JORC Code	The 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia
Measured Mineral Resource	A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Metamorphosed	Rocks which are changed by a process of heat and pressure within the earth.
Mineral Reserve	A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.
Mineral Resource	A concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such a form and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
Ore Reserve	The economically mineable part of a Measured or Indicated Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, and include consideration of and modification by realistically assumed, mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.
Orebody	A continuous mass of mineralisation estimated to be economically mineable. The volume of rock containing the mineral resource.
Oxide Material	Zone of defined material which has been altered through to result in minerals bearing at least one oxygen atom and one other element in its chemical formula. Found near surface this material is usually resulting from exposure to the water table where oxygen is prevalent
Pellet plants	Processing facility that takes as its input iron concentrate and produces iron ore pellets
Precambrian sediments	From the period of time from the formation of the Earth (4,500Ma) to about 590Ma.
Pre-feasibility Study	A geological, technical and economic study to determine whether a deposit can be exploited.
Probable Ore Reserve	The economically mineable part of an Indicated, and in some cases Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, and include consideration of and modification by realistically assumed, mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could be reasonably justified;

Proved Ore Reserves	The economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, and include consideration of and modification by realistically assumed, mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could be reasonably justified.
Scoping Study	An early stage review of a project to assess the viability of different options.
Sedimentary	Rock formed at the earth's surface from solid particles, whether mineral or organic, which have been moved from their position of origin and re-deposited.
Strata	Layer of rock.
Stratigraphy	The sequence or layers of rocks
Stripping ratio	The unit amount of overburden/waste that must be removed to gain access to a unit amount of ore or mineral material.
Syncline	A U-shaped fold or structure in stratified rocks, with youngest rocks in the centre.
Synclinoriums	A basin shaped fold system.
Trench	The excavation of a horizontally elongate pit (trench), typically up to 2 m deep and up to 1.5 m wide in order to access fresh or weathered bedrock and take channel samples across a mineralised structure. The trench is normally orientated such that samples taken along the longest wall are perpendicular to the mineralised structure.

## Units

a.s.l.	Above sea level
Ga	Billion years ago
g/t	Grams per tonne
mm	Millimetre
cm	Centimetre
m	Metre
km	Kilometre
Ma	Million years ago
Mt	Million metric tonnes
nT	nanotesla
ppb	Parts per billion
ppm	Parts per million